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Fuzzy Logic and Knowledge Based Systems

The impact of Artificial Intelligence on NPC difficulty in First-Person Shooter games, an objective orientation of gameplay

Fuzzy Inference Systems

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Abstract

This report explores the use of fuzzy logic within computer games, specifically the adjustment of Artificial Intelligence (AI) characteristics which determine the scaling of difficulty of non-player-controlled opponents or NPC's within the first-person shooter (FPS) genre. The focus of the NPC difficulty applies mostly to the AI of NPC's within objective based game modes, which are commonly featured in FPS games for a variety of device platforms. Throughout this document, the multiple Mamdani styled fuzzy inference systems and their rule bases that have been used and computed to decide the difficulty of NPC's will be detailed and justified in relevance to typical player capabilities. To make note, each sub fuzzy inference system (FIS) computes one crisp output from three inputs, these crisp outputs are read-in as three inputs for the last system, which computes the NPC difficulty as the final crisp output.

Introduction

Summarily, fuzzy logic provides an alternate method to computing logic than in comparison to binary logic, which specifies the membership of data to a set or its complementary set using crisp boundaries, which are used to categorise data into crisp sets. The way in which fuzzy logic differentiates from binary logic, is simply from the application of fuzzy sets and subsets which "exploit the tolerance for imprecision, uncertainty and partial truth" of data. Data of this nature is often categorised "linguistically" using "unsharp boundaries", in which the data's belonginess to a set is a matter of "degree", rather than binary allocation [1].

Given the popularity of fuzzy logic [1], especially within artificial intelligent systems (AI), I have utilised fuzzy logic as a logic application for understanding the AI characteristics of non-player-controlled characters (NPC's) within first-person shooter games; with specific focus upon the required AI characteristics of an NPC, for it to perform dynamically within objective orientated game modes. And more importantly, to investigate and measure the significance or weighting of each characteristic, that amounts to the overall difficulty of an NPC when relative to outperforming different experience levels of players.

For this study I have created a series of interconnected Mamdani styled fuzzy inference systems [2], each of which sub-systems focus upon a different AI characteristic of an NPC; the characteristics explore the sensual ability of the NPC, the objective ability of the NPC, as well as the weapon lethality of the weapon(s) the NPC equips. For each inference system, invokes a list of "inference rules" stored within each system rule base, which exist to configure the overall difficulty level of an NPC using "approximate reasoning" [3]. The design for each inference system is further detailed and justified in this report, alongside the testing conducted to help better the accuracy of each systems crisp output value. To note, the MATLAB application software was used for the development of all four fuzzy inference systems and their rule bases; the Microsoft Office software application 'Excel' was used also, for the design and development of the rules contained within each system rule base. Excel was further used to initially create a yield of data to be read-in from a file and wrote out to a file as output data, that was shared as inputs and outputs between the inference systems; the final crisp output values are considered to be the test data.

Literature review

Introduction

In further exploration of fuzzy logic, fuzzy logic is a logic system that is an "extension of multivalued logic" that utilises linguistic variables [1] that are often defined as 'fuzzy sets', which involve vagueness, uncertainty and or approximation [4] in the form of "imprecise, inconsistent and inexact information" [5] or data. Fuzzy systems are designed to produce crisp outputs in the form of comprehensive data, from the imprecise data that they handle; imprecise data is considered to be values of data that lie between binary values or crisp sets and are often referred to as 'intermediate truth values' [4]. These intermediate values may or may not overlap, but in the environment of which they do, crisp outputs can be computed by calculating the degree of membership (mu) to each of the subsets the data is bound by in the fuzzy set. The degree of membership that the data is to a fuzzy subset, is determined by the membership function that governs the fuzzy set and its defuzzification method that it implements [6]; this is fuzzy logic. It is without doubt that fuzzy logic exists as an alternative method for binary logic, which conforms to 'The Law of The Excluded Middle', that determines that for a given subject, it either belongs to a specified set, or the complement of that specified set; there is no intermediate value of belongingness to said sets [7]. For which, binary logic makes use of crisp sets to categorise information and data using crisp boundaries, whereas fuzzy logic adopts fuzzy sets to compute a membership of belonginess that information or data may have to a fuzzy set's subsets.

The concept of data being governed by rules and having a degree of association to sets of data is the is the focal point of this series of literature reviews. In which the nature of the literature content will surround AI within video games, relative to varying NPC characteristics that provide different difficulties to players. This methodology purposes to demonstrate real-world game development considerations for AI characteristics, that enable dynamic NPC difficulty levelling to cater for the vast experience levels of players. Providing differentiating difficulty levels of NPC's in games, is necessary for successful game development, as players are given satisfaction which encourages game replayability and longevity [8]. In fact, the quality and vastness of AI has become an "important selling point" of video games [9] and it is important to acknowledge the factors of AI within NPC's that create this impact, as well as the logical reasoning of the rules used to determine the characteristics that are engaged. Therefore, due to the significance of game satisfaction on game longevity and further success of video games of all genres, this literature review will explore player satisfaction in context of scaling AI characteristics of NPC's. However, given the niche amount of resources available to the particularity of this subject, the scope of the literature reviews will make attempt to satisfy the first-person shooter game genre, where possible.

Before reviewing the literature, it is imperative to outline that the use of fuzzy logic for AI systems within video games, is essential for enabling a 'dynamic' of NPC behaviours and difficulties, as it poses to be a method of providing realism to video games through mimicking 'the way humans think' [10], which factors probability. An example of mimicking the way humans think in the context of the reporting subject, is for a NPC to have interaction with one or more objectives (dependant on the game mode), as well as to be aware of and be able to combat against other NPC's and players, whether or not they are contesting objective sites. However, as an NPC presents to be considerably human like in this example, what implication does this have on its level of difficulty? How can this difficulty be determined and how can it be measured? These are some of the factors that my fuzzy inference systems must consider, hence why I am going to investigate varying aspects of NPC difficulty, in the proceeding literature reviews.

Reviewing literature

As my initial source of interest, I had wanted to explore the difficulty adjustment of NPC's in video games, specifically within the first-person shooter game genre; as my reporting focus. As I understood, NPC difficulty across game genres, incorporates varying "mechanics and game design patterns" dependant on the genre a game belongs to; these similarities are referred to "genre conventions" [11]. For which, I was wanting to gain an understanding for the conventions which make up the AI characteristics of NPC's, within FPS games. The article "Dynamic Scripting Applied to a First-Person Shooter" [12] explores the development of an AI system for use within FPS games, that is fully adapted to shown player abilities in any given situation; which aims to provide an "immersive and unpredictable game experience" for players. The article also makes mentioning of "rule-based behaviours" [12], which informs the way in which NPC difficulty can be determined with the use of rules governing AI characteristics or "components". To note, the article predominantly focuses upon dynamically changing NPC difficulty from adjusting rule weighting, that governs the AI characteristics after an encounter in-game. However, the difficulty I configure for my NPC within my fuzzy inference systems (FIS) is static, therefore meaning a player would have to select the difficulty of the NPC it desires to oppose to; this difficulty would not be adaptive or changeable in-game, but does not restrict the relevancy of the article to my own FIS. The article supports this claim via mentioning that "commercial video game AI is typically based on non-adaptive techniques" [12]; the commonality of static NPC difficulty in FPS games is exemplified within the Call of Duty game series [13], as the figure below presents.

Available in appendix A

Within the scope of being tasked to design and build a fuzzy logic system using one or more FIS, the article initially enables me to acknowledge how NPC difficulty can be determined; that is through the levelling of AI characteristics of an NPC, that are aligned by rules. One example of the rules shown within the article, demonstrates the relation between the NPC's sensual ability, to detect and see a player character and to engage with it when it is within combat range. Combat range is made relative to the weapon the NPC has 'wielded', whereby the article details differing amounts of damage that can be dealt to a player with a "rocket launcher" or "machine gun" [12].

Available in appendix B

In further relation to the weapon types the article explores, there is a noticeable trade-off between damage dealt and fire rate. The article describes this trade-off as the machine gun shooting "faster but making less damage" than the rocket launcher. There are also considerations for the "distance from the point of impact" [12], which degrades damage values for further distances; thus, presenting the real-world physics of damage falloff. Having a combat range, provides emphasis on the movement behaviours of an NPC. For which 'movement' is one of the "four distinct entities or components" of typical FPS game AI. As noted by the authors, typical FPS game AI components are "behaviour, movement, animation and combat" based, all of which when combined, form a difficulty of NPC [12]. The movement of an NPC is detailed as the combination of speed of the NPC's movement, and navigation throughout an environment; in consideration of my FIS, movement could be adapted to player mobility and navigation to objective sites in the form of priority. Also, the "objective" or 'behavioural' AI characteristics of an NPC could determine the NPC's ability to conform to an 'objective orientation of gameplay', whereas the "animation" and "combat" AI characteristics [12] could collaboratively determine an NPC's ability to control weapons and respond to player engagement.

Concluding my findings of the article, the AI characteristics of NPC's in 'typical' FPS games mostly provides focus upon the sensual abilities of NPC's, which is determined by the "movement", "control" and "combat" behaviours of an NPC. There is some focus on "objective" behaviours however, "objective" behaviours in the context that the article presents, are out of the scope of my investigation, given that NPC 'objectives' focus upon acknowledging and interacting with obtainable items; like that of "health" and "ammo" [12]. Objective game modes within FPS games typically involve the interaction of a player with designated objectives sites; such interaction is commonly used to increment an objective scoring system [15] and would be the focus of objective based AI characteristics in my FIS. An example of objective site interaction can be seen within Battlefield V [16].

Available in appendix C

The lack of 'scenarios' the paper explores is a limitation on exemplifying objective behaviours of NPC's within FPS games and is acknowledged by the authors as an issue caused by "time constraints" [12]. Nevertheless, the article provides insight into the weighting of AI characteristics on NPC difficulty, which is a concept I had wanted to adopt in my own FIS, to ensure balancing is present between the abilities of players and NPC's; this fulfils its usefulness to my FIS.

Following on from NPC difficulty adjustment, for my second source of interest I had primarily wanted to investigate the significance of weaponry within video games, in relation to the difficulty that NPC's present when combating player-controlled characters within action-orientated engagements. Also, I had wanted to gain an understanding upon the effects that varying lethality of weaponry has, on player choices of gameplay and wanted to further explore the range of AI characteristics of NPC's that may be restraint or enhanced, depending on the weaponry they have equipped. This focus arises from the commonality of weapons within shooter games, and the vast variety of weapon specification that can be used. The article "Weapon Design Patterns in Shooter Games" [18] examines the categories of conventional weaponry in shooter games and the ways in which each class of weapon "influence" a specific gameplay style, for both NPC's and players. Although the article studies the shooter game genre specifically, the principles of weaponry within the article can be applied to the FPS genre also, as games bound by the genre can be considered "action-orientated" and 'focus heavily on the use of weapons' [18]. To note, this article provides scope upon weaponry within video games, that may be considered an extension to the previously explored themes and concepts of "movement, animation and combat" AI components of NPC's within FPS games [12].

At first glance, the article describes shooter games to 'borrow weapon categories' from "real world patterns", from which weapons within games are often described in reference to "real-life weapons" [18]. However, the article later proceeds to discuss the differentiation between the functionality of weapons in the real and virtual world; this is exemplified by the article's notation of a "shotgun", having a "much shorter effectiveness range than its real-life counterpart" [18]. This infers that weaponry within games, do not fulfil the measures of weapons in real-world environments and supports my consideration for weapon range effectiveness within my FIS. Moreover, the article details weaponry variance as "aspects" which can be "considered universal among weapon patterns"; these aspects are accounted for as variables of weapon lethality and are described to vary "between different weapons within a pattern" [18]. Some of the variables listed make considerations for the amount of 'damage a weapon deals', the 'range of a weapon', how different weapons equipped 'affects the players movement' and also how the 'continuity of weapon damage' dealt is presented; all of said variables constitute to lethality level of weaponry and thus ability of players and NPC's. In consideration of my FIS, the amount of damage a weapon deals, factors base damage of a weapon relative to the 'range' of impact of the projectiles; as previously mentioned in this report, the variable is described as 'weapon range effectiveness', which attempts to adopt the real-world physics of damage falloff. In further relation to my FIS, player movement restraints and enhancements are also considerations of the weapons they have equipped; heavier weaponry dictates slower movement speeds and 'mobility' of NPC's. However, not considered within my FIS is the way in which weapon damage dealt is presented: "on hit, delayed and continuous"; this is due to being out of the scope of determining NPC difficulty. But in discussion, FPS games typically adopt an “on hit” presentation of dealing damage, for the sake of the fast pacing of gameplay. Hence the authorial acknowledgement of players requiring to “build up quick reflexes” [18].

Furthermore, in advancement of the article, discussion is provided upon the influences on gameplay that different types of weaponry or “weapon patterns” have, in relation to enemies; these influences are detailed as “consequences” [18]. One of the exampling weaponry profiles discussed is that of “sniping” weapons, a weapon designed to combat enemies “from a long distance”. The authors describe the consequences of combating sniping weapons through the distance that a player is encouraged to maintain from relative NPC’s. This distance then evolves into the influence on players to seek for “cover” which become ‘passive’ to long-range combat. From offering “good cover and a good view of locations” [18], weapons of this specification can hinder a player’s ability to engage an interaction with objectives; this is a concept I explore within my FIS, within the acknowledgment of NPC’s ‘objective offensive and defensive pace’. Meanwhile, another example of weapon class that is exemplified within the article, is that of a “close combat weapon”, which is designed to combat players within a “close range”. This inverses the role between the NPC and player, whereby the short range of effectiveness that the weapon type issues, introduces the ‘diminishment of shot strength over distance’; this encourages NPC’s to seek for cover and creates the cause for NPC’s to move “tactically and strategically”. Moreover, an increased level of “aggression” within movement and overall play style would be typically shown, for satisfying the requirement of “minimising distance in firefights” [18]; this is a concept that can be applied for achieving interaction with objectives sites [15] also.

In conclusion of what the article presents, the authors have informed the significance of weapon lethality on gameplay, through the exploration of “weapon patterns” which invoke “consequences” on gameplay for NPC’s and players. There is also substance in regard to the restraints and enhancements that different types of weaponry provide, whether the weapons are fictional or non-fictional based and consideration for NPC difficulty is shown throughout the concept of weapon pattern “aspects” [18]. The authors have reinforced many considerations that I have explored within my weapon lethality and NPC difficulty FIS and therefore the article has fulfilled its purpose for this particular investigation.

In further relation of NPC difficulty adjustment, for my last source of interest I was wanting to identify player satisfaction in context of scaling AI characteristics of NPC’s. As previously mentioned, this investigation was founded upon the fact that the quality and vastness of AI has become an “important selling point” of video games [9], in which has encouraged game replayability and longevity [8]. Being so significant to game success, I had wanted to develop an understanding for the NPC difficulties that satisfy different experience levels of players and to acknowledge the levels of player satisfaction that my FIS can provide, from each NPC difficulty that it computes. The book “AI in Computer Games: Generating Interesting Interactive Opponents by the use of Evolutionary Computation”, explores player satisfaction in “predator/prey” video games, in focus of the contribution that “behaviour and strategy” has on NPC difficulty [19]; in which the author addresses “interactive and cooperative characters to generate more realism to games and satisfaction to the player” [20]. The book also examines NPC “behaviours”, in the focus of them contributing to the “vast majority of features that make a game interesting” [21] and is a topic I am wanting to explore, nonetheless. However, for this investigation I will be discussing the contents of the book in reference to chapter two mostly, this is due to the nature of chapter two presenting ideas in regard to “entertainment metrics in computer games” [21]. Many chapters in the book do not provide relevance to my interest of study and will not be referred to accordingly.

Within the starting chapter of the book, the author describes AI techniques or characteristics to produce characters with “intelligent capabilities” and continues to infer that the interactivity and cooperation of such characters, can enhance game realism and an increased level of satisfaction for players [20]. Within this body of text, the author refers to “machine learning techniques” which accounts for dynamically adjusting NPC difficulty in-game, however, “intelligent capabilities” of NPC’s can also be populated using static NPC difficulties and AI characteristics. Moreover, the chapter explores the idea that there has been primary focus on the “graphical representation on game worlds” within game development instead of “non-player characters behaviour”; whereby players are seeking for more “intelligent opponents and richer interactivity” and has resulted in the “increasing popularity of multi-player online games” [20]. The chapter continues to make comments on “unrealistic behaviours” being “easily noticeable” and the cause of a lower level of entertainment for a player [20]; in consideration of my sensual ability FIS, the ‘reaction time’ and ‘radius of awareness’ variables can be adjusted to make up unrealistic behaviours and is apparent to better suit the entertainment level of lower skilled players, who present less capability.

Chapter two within the article discusses this relation between “believability of NPC’s and satisfaction of the player” [20], in the form of criteria the author believes to “generate entertainment for the player” [21]. The author describes one criterion of entertainment as when a game or its NPC’s are “neither to hard or too easy” and introduces the idea that a game is considered interesting when NPC’s are able to kill players “sometimes, but not always” [21]. Another example of criterion that the chapter mentions, is the NPC's behavioural state of being "aggressive rather than static", which "increases game interest" through 'presenting strategic navigation through the game world' [21]. In consideration of my 'objective potential' FIS, the concept of providing game interest though NPC behavioural states, is adapted as 'objective defensive and offensive pace'; varying levels of 'aggressiveness' can be configured, to cater for the entertainment level of differing player capability.

To conclude my findings of the studied chapters of the book, the author has identified criteria which accounts for the satisfaction level of players within "predator/prey games" and has related each criterion to NPC behaviours that are scalable [22]. Providing scope on the scalability of the criterion, has enabled me to acknowledge the level of satisfaction that varying skill levels of players receive from differing NPC difficulty and has reinforced my consideration for having many NPC difficulties. Aside from the lack of discussion concerning NPC believability and player satisfaction on varying levels of player capability, the chapters that I have explored, satisfy the purpose of this review.

System overview

Design considerations

For the fuzzy logic system, I have developed multiple Mamdani styled FIS which explore and represent different AI characteristics of NPC's in FPS games and the NPC difficulty they accumulate. All of the sub-FIS present one of three categories of AI characteristics, in which their outputs are utilised as inputs for the final FIS system and are used to compute an overall NPC difficulty. To note, the difficulty of NPC that is computed is dependent on the data passed into each of the systems, in which data is passed from a '.xls' extension file. Moreover, each sub-FIS has a basis that correlates to the mentioned topics discussed in the literature reviews, which are proven essential to conventional AI characteristics in FPS games [11] and game replayability [8]. Therefore, the systems I have configured make considerations for the sensual and objective abilities of NPC's, as well, a system has been dedicated to the weapon lethality of weaponry, that NPC's are able to equip. In the proceeding sub-sections of the system overview, I will be detailing the input and output variables used to accumulate and represent NPC difficulty and provide justification for each of their ranges.

Fuzzy Inference sub-System: NPC Sensual Skill

Available in appendix D

For the 'NPC Sensual Skill' sub-FIS, I have configured three inputs variables that are used to infer the sensual ability of an NPC. The inputs variables are suitably used as a representation for the raw ability of an NPC, in which 'sensual' provides relevance to the typical senses: 'touch', 'sight' and 'hearing' of NPC's within FPS games. In relation to the sub-FIS, 'touch' is explored in relation to the NPC's ability to control weapons, whereas 'sight' is explored in relation to the NPC's ability to react or respond to detected player stimuli, within a given proximity; player detection is further explored, in relation to the NPC's ability to 'hear' players within said proximity. Meanwhile, the sub-FIS issues one output variable labelled 'NPC Sensual Skill', which aims to represent the combined sensing abilities of an NPC; the crisp output value the sub-FIS computes, is then used to form one of the three input variables in the last FIS, 'NPC Difficulty'.

Value of variables justification

Available in appendix E

In accordance to the table above, the input variable 'weapon recoil patterns and sight kick control' has a range between '0' and '100' and is presented as a percentage; in relation to the intervals, '0' infers 'very poor' and '100' infers 'very good', the intervals are representatives of NPC weapon accuracy. The range presented enables weapon accuracy to be comprehended accordingly to the number of bullets missed and the number of bullets hit, when an NPC attempts to shoot a player character. This was taken into consideration of the number of bullets that typically reside in the magazine clips of guns in FPS games, whereby the median magazine size I found was '27 bullets', across my study of the weapon specifications within the games: Call of Duty: Black Ops 4 '26.96 bullets' [23], Rainbow Six Siege '25.28 bullets' [24] and Counter Strike: Global Offensive '28.91 bullets' [25]. An exampling weapon accuracy of an NPC can be '75%', in relation to the possible intervals, I have justified this value to belong to the interval or set 'very good'; this is due to an NPC being able to hit '20' out of the possible '27' bullets it may have in its guns magazine, this infers that a player would die relatively quickly, if weapon damage was not factored by range (discussed later).

Moreover, the input variable ‘reaction time and responsiveness’ has a range between ‘0.21’ and ‘2’ and is presented as a time duration measured in seconds. In relation to the intervals, ‘0.21’ infers ‘very fast, and ‘2’ infers ‘very slow’, the intervals in this context are representing an NPC’s responsiveness to detecting player stimuli. The range shown enables NPC responsiveness to players, to be understood in relation to what is considered a fast-human reaction time and an exaggerated reaction time. This was taken into consideration of human reaction time, whereby I led an investigation into a study regarding simple reaction time (SRT), to explore the “minimal time needed to respond to a stimulus” [26]; I found the average minimal time required in the scope of this study to be ‘”217.9” milliseconds (0.217) seconds, which was shown in the most youthful population of the study (18-24 years of age) [26]. Therefore, I used this measure from the study to justify my choice of not having the starting range at any value below the 0.21 second boundary, as anything quicker would make the conditions of a game unfair for most age groups of players. Meanwhile, the maximum range value ‘2’, is justified as being a slow reaction time in consideration of the study but caters for players who may be unknowledgeable of game world spaces or are considered ‘new’ to a given FPS game.

In focus of the input variable ‘radius of player awareness’, the variable presents a range between ‘0’ and ‘100’ and is displayed as a measure of distance in metres. Relating to the intervals, ‘0’ infers ‘very close’ and ‘100’ infers ‘very far’, in which the intervals represent the NPC’s proximity of detecting player stimuli; stimuli accounts for the detection of sounds produced by a player character, or the sighting of a player character, as mentioned previously. The range I have configured allows the NPC’s proximity of awareness, to be considered in parallel to real-word environments; in which I had led an investigation into video games, in relation to the ways in which they can be ‘highly representational of the real-world’ [27]. From my findings, I was able to acknowledge that some games attempt to use “relative sizes” to the real-world [27] and so I based my justification on ‘very far’ to be relative to ‘100’ metres and beyond, given that FPS games generally imitate real-world environments; this relation can be commonly seen within the Call of Duty series [28]. In consideration for the size of FPS game-worlds or maps, ‘100’ relative metres and beyond is a significant amount of map coverage. Opposingly ‘0’ represents the lowest possible value for the NPC’s range of awareness, as range can not be negative in this given context; being relative to a NPC’s position instead of its facing direction. The interval ‘very close’ would typically be used to combat players considered ‘new’ to a game, where NPC’s would have to be in very-close combat with players to engage.

Relating to the output variable ‘NPC Sensual Skill’, the variable has a range between ‘1’ and ‘5’ and represents the sensual ability of an NPC as a measure of skill level and is dependent on the values computed from each of the specified input variables. Relative to the intervals, ‘1’ infers ‘very low skill’ and ‘5’ infers ‘very high skill’; I had chosen this scaling method to simply illustrate each level as a unit, whereby the maximum range ‘5’ correlates to the number of skill levels or intervals there are as outputs. I had chosen ‘1’ to be the starting range value, as is it better suited to representing the lowest level of sensual ability, in comparison to ‘0’ which infers no sensing ability or ‘no skill’.

Fuzzy Inference sub-System: NPC Objective Potential

Available in appendix F

For the ‘NPC Objective Potential’ sub-FIS, I have also configured three inputs variables, these are used to infer the objective ability of an NPC. Each input variable within the sub-FIS is used to compile how well an NPC can present a gameplay style that adopts an objective focus; this caters for the objective-based game modes within FPS games, as referred to in previous sections of this report. In which the objective ability of an NPC, is composed up of its ‘priority to interact with an objective site’, the ‘pace of gameplay it presents at of around objective sites’ and its ‘responsiveness to new occurrences of objective sites’. Furthermore, the sub-FIS also computes one output variable, titled ‘NPC Objective Potential’, which aims to represent the combination of objective capabilities that an NPC exercises in-game; the crisp output value the sub-FIS computes, is also used to form one of the three input variables in the last FIS, ‘NPC Difficulty’.

Value of variables justification

Available in appendix G

For the input variable ‘new objective responsiveness time’ as seen within the table, the range situates between ‘0’ and ‘10’ and is shown as a measure of time duration, in seconds. In relation to the intervals, ‘0’ infers ‘very fast’, and

‘10’ infers ‘very slow’, the intervals in this context are representing an NPC’s responsiveness to new occurrences of objective sites. The range shown enables NPC responsiveness to be understood in relation to what is considered a fast and prolonged acknowledgement; how fast an NPC acknowledges the location of a new objective site, accounts for how quickly an NPC responds to navigating to the site. However, for an NPC to exercise a quickened navigation to an objective site, the NPC must demonstrate a ‘high priority’ for objective interaction. Moreover, I believe that the unit of seconds provides a suitable means for measuring NPC responsiveness, given that the range considers many seconds for acknowledgment. In which the minimum value ‘0’ accounts for an instantaneous acknowledgement, which aims to increase the competitiveness within the gameplay, at the time an NPC and player arrive at a newly discovered objective site; this assumes that a player will gain a larger sense of interest, from the basis of fastened gameplay [21]. Meanwhile, the maximum value ‘10’ can be justified as a ‘very slow’ responsiveness time, which purposes to advantage ‘newer’ players who are less knowledgeable of objective site whereabouts and the type of interaction an objective site requires to score points [15].

Moreover, the ‘objective defensive and offensive pace’ input variable presents a range between ‘0’ and ‘100’, which is shown as a percentage; this variable exists to represent the ‘aggressiveness’ of an NPC, in relation to defending and offending objectives sites, whether an NPC is on one or around one. In relation to the intervals, ‘0’ infers ‘passive’ and ‘100’ infers ‘aggressive’, these values consider the “behaviour” and “movement” AI components of NPC’s in FPS games [12] and determine whether an NPC is effective or ineffective for maintaining an interaction with objectives sites; I believe that the use of percentages satisfy this measure for capability. For which the minimum value ‘0’, correlates to a minimal capability for being able to maintain and compete for objective site control and is better suited to ‘newer’ players; oppositely, the maximum value ‘100’ enables a constant sense of challenge for players, from NPC’s showcasing ‘aggressive’ paces and continuous attempts to pressure players for objective site control, this is tailored for highly experienced players. To make note, the level of objective site interaction is mostly factored by objective priority level, as previously detailed.

In continuation of the discussion upon objective priority, the ‘objective priority level’ input variable has a given range of ‘1’ and ‘5’ which represents an NPC’s focus on an objective orientation of gameplay; this is set as a measure of priority level. In focus of these intervals, ‘1’ infers ‘very low priority’ and ‘5’ infers ‘very high priority’, the intervals in this context are representing an NPC’s consideration for interacting with objective sites. The range shown enables NPC interaction with objective sites, to be understood in relation to an NPC’s regularity of presence or navigation to objective site locations. For which, the minimum range value ‘1’ dictates that an NPC has minimal to no objective interaction; whereas the maximum range value ‘5’ dictates that an NPC will show a continuing attendance to objective sites. This ensures that ‘newer’ players can learn and adapt to objective focuses in game modes, meanwhile experienced players can be provided with a sense of competition and therefore satisfaction when winning games [20].

Relating to the output variable ‘NPC Objective Potential’, the variable has a range between ‘0’ and ‘100’ and represents the objective ability of an NPC, as a measure of potential in percentage and is dependent on the values computed from each of the specified input variables. Relative to the intervals, ‘0’ infers ‘very low potential’ and ‘100’ infers ‘very high potential’; I had chosen to use percentages to illustrate each interval as a comparative value and because of objective potential not having any other suitable unit of measure. Thereby, the maximum range value ‘100’ correlates to an NPC being absolutely objective focused, meaning that it would provide a ‘very high’ amount of challenge; ideal for challenge focused players. Meanwhile, the minimum range value ‘0’ would situate for ‘newer’ players, for the only purpose of learning objective site interaction and rotation; this is due to an NPC resembling no interest or consideration for objective sites, or game victories behaviourally.

Fuzzy Inference sub-System: NPC Weapon Lethality

Available in appendix H

For the ‘NPC Weapon Lethality’ sub-FIS, I have also configured three inputs variables, these are used to infer the weapon lethality of the weapon(s) an NPC equips. The lethality of a weapon is computed from each input variable value passed into the sub-FIS and is used to indicate how able an NPC is to kill a player based on a weapons specification or “aspects”. A weapons lethality is factored by ‘weapon damage falloff’, ‘weapon fire rate’ and ‘weapon mobility’; these are conventional gun mechanics within FPS games and are considered to differ between each weapon class [18]. Furthermore, the sub-FIS computes weapon lethality as the only output variable and is referred to as ‘NPC Weapon Lethality’; in which, the crisp output value the sub-FIS computes, is also used to form one of the three input variables in the last FIS, ‘NPC Difficulty’.

Value of variables justification

Available in appendix I

Relating to the input variable ‘weapon damage falloff’, the variable has a range between ‘0’ and ‘100’ and presents the measure of distance in metres. For the intervals, ‘0’ infers ‘very short range’ and ‘100’ infers ‘very long range’, in which the intervals represent the NPC’s weapon range effectiveness of an equipped weapon and is relative to damage it issues as a variable of the distance from the impact (player) [12] [30]. The range I have configured allows the NPC’s weapon range effectiveness, to be considered in parallel to real-word environments and mechanics; in which my previously led investigation for the ‘radius of player awareness’, enabled me to justify that ‘100’ relative metres was a vast distance in relation to FPS map sizes and so the same range value was reproduced given its suitability for representing the damage dealt for “sniping” weapons at the range and beyond. Meanwhile the minimum range value ‘0’, made considerations for weapon types of a “melee” basis, in which do not emit projectiles and require an “extremely close-range of combat” [18]. In relation to players, combating NPC’s with long-range weaponry would present more difficulty as opposed to very-short-range weaponry in typical FPS game scenarios, as gameplay choices are more likely to be influenced [18]. However, considerations have to be made for a weapons mobility and fire rate also.

In further light of ‘weapon fire rate’, the input variable has a given range between ‘0’ and ‘2000’, representing the number of bullets an NPC weapons can project in a minute; this is referred to as Rounds Per Minute (RPM) and is used as the unit of measure. I elected this unit of measure as it is typically used within FPS games for representing the fire rate of weapons also [31]. In relation to the intervals, ‘0’ infers ‘very slow rate’ and ‘2000’ infers ‘very fast rate’, for which, this range enables the NPC’s weapon fire rate to be understood as being able to kill player quickly or slowly, relative to an NPC’s weapon control and weapon damage falloff. The maximum range value ‘2000’ therefore infers that an NPC would be able to kill a player extremely fast; this value can be translated into ‘20’ Rounds Per Second (RPS) and beyond. Such fire rate would typically be present within shorter ranged weapons like a “machine gun”, for which there is typically a trade-off between weapon damage falloff and fire rate [12]; this caters for balancing. Meanwhile, the minimum range value ‘0’ accounts for a non-fire rate, which accommodates for the non-emittance of projectiles from ‘melee’ weapons [18]. In focus of players, NPC’s presenting slow firing weaponry would provide less challenge in combat, which better suits ‘newer’ players who are assumed to be less knowledgeable and capable of managing weapon mechanics; whereas NPC’s equipped with fast firing weaponry, aim to challenge ‘experienced’ players for their precision of weapon control.

For the ‘weapon mobility’ input variable, its range situates between ‘0’ and ‘100’ and presents percentages as the unit of measure; I chose to use percentages for comparative sake, for which a relative unit of measure like that of Miles Per Hour (MPH) or Kilometres Per Hour (KPH), is not able to consider the agility effects of weapons on NPC’s. For the intervals, ‘0’ infers ‘very slow rate’ and ‘100’ infers ‘very fast rate’, in which represents an NPC’s level of manoeuvrability; this takes into consideration of the class of the weapon that an NPC has equipped, which affects NPC movement speed, object mantling speed and Aim Down Sights (ADS) time. The range I have given ‘weapon mobility’, enables an understanding for how quickly or slowly an NPC is able to navigate through the world and manoeuvre itself and weapon to combat players. Thereby the minimum range value ‘0’, dictates that a player is unable to move in any dimension and accounts for weapons “placed in stationary locations” [18]. This makes NPC’s completely immobile and restraint from killing players out of the range of the weapon, from wherever it is located. Whereas the maximum range value ‘100’, dictates that an NPC will be very agile and manoeuvrable, such mobility level would typically be shown within ‘melee’ weapons, showing to be the most lightweight and smaller sized weaponry; this enables an NPC to compensate for a lack of range, whereby they become more able to “minimize the distance of firefights” [18].

In consideration of the ‘NPC Weapon Lethality’ output variable, I had selected its range to be between ‘0’ and ‘100’ as a representation of percentages, which is the unit of measure for the variable. Alike the ‘weapon mobility’ variable, I had chosen to use percentages to provide comparison between all the possible weapon specifications, for which, there is no other suitable unit of measure for satisfying how lethal or effective a weapon is. However, in relation to the intervals, ‘0’ infers ‘very low lethality’ and ‘100’ infers ‘very high lethality’; the maximum range value ‘100’ correlates to an NPC’s equipped weapon to be the most effective weapon for all-round combat, meaning that an NPC would present ‘very high’ amounts of combat challenge (if accurate), which is considered ideal for challenge capable players. Meanwhile, the minimum range value ‘0’ correlates to an NPC’s equipped weapon to be the least effective weapon for all-round combat; in relation to typical FPS games, some objectives modes involve the requirement for carrying items, which replaces the current weapon of NPC’s or players and is implemented for the purpose of scoring points [15] [32] (***Available in appendix J***). These items cannot be used to directly inflict damage onto players typically and is why I have made the necessary considerations for them; this justifies my choice for lower weapon lethality's, to be better suited to 'newer' players.

Fuzzy Inference sub-System: NPC Difficulty

Available in appendix K

For the 'NPC Difficulty' FIS, I have configured the three inputs variables of the system, to be equivalent to each output variable of every sub-FIS; this enables an overall NPC difficulty to be calculated. The calculation of NPC difficulty requires the FIS to read-in computed crisp values representing each sub-FIS output; all of these values are stored within a single '.xls' extension file for convenience. As noticed, the FIS computes NPC difficulty relative to an NPC's 'sensual ability', 'objective potential' and 'lethality of the weapon' it equips. All of these parameters account for the previously detailed AI components, which make up the difficulty of NPC's in typical FPS games [12]. To note, the only output variable of the FIS is referred to as 'NPC Difficulty' and for each crisp output value that the FIS computes, represents a final value inferring the difficulty of an NPC; these values are the last crisp values that the fuzzy logic system issues and are used to determine how easy or hard an NPC is, in relation to the average player of FPS games.

Value of variables justification

Available in appendix L

In relation to the 'NPC Difficulty' output variable, I have set the range to be within '0' and '100' to present percentages, as the variables unit of measure. Similarly, as used within the 'weapon lethality' and 'objective potential' sub-FIS, I have nominated the use of measuring NPC difficulty in percentage, as it enables acknowledgments and comparisons to be made between computed NPC difficulties and the passed values which make up the input variables within each sub-FIS. Relating to the intervals, '0' infers 'new' and '100' infers 'veteran'; each interval is used to represent the difficulty of an NPC, relative to the 'sensual skill', 'objective potential' and 'weapon lethality' input variable values. The range of NPC difficulty aims to cater for the satisfaction of all experience levels of player, for which, scaling the AI characteristics or input variable values of every sub-FIS, will compute a different difficulty of an NPC [22]; the way in which each difficulty of NPC is decided, is in correspondence to each systems rule base.

Experimental design and evaluation

Initial fuzzy system design: MATLAB

In relation to the membership functions used within the initial system, I had made use of Gaussian, Trapezoidal and Triangular membership functions (MF's) to determine the degree of membership of passed data to each fuzzy set. In relation to the Gaussian membership function, I had initially used 'gaussmf' to enable more accelerative-based distribution in two of three sub-FIS variable outputs; all of which were measured as units of percentage, I believed Gaussian to be a suitable MF for illustrating this. However, 'gaussmf' was later redacted from all systems, due to acknowledging the sets to be variables of constant change; 'trimf' and 'trapmf' better adjusted to this. For which, Triangular MF was used originally to represent ever-changing data that would show constant adjustment in set membership; an example given the 'weapon mobility' input variable, which also showcases numerous overlapping regions that allows data to belong to numerous sets, simultaneously. I used 'trinmf' as I found it to be effective in showing this relation between data and its bound sets. Lastly, Trapezoidal MF suited the requirement for representing no change in degree of membership to a set, for a given range; its implementation was typically included at the starting and ending ranges of a variable, to enable more gradual distribution from the use of plateau regions. This technique is commonly seen within the final system configuration also. For the initial fuzzy system variable declarations, fuzzy sets, rule bases and defuzzification methods, see ***appendices M***, ***O*** and ***R*** (in order).

System functionality testing

In advance of testing for the accuracy of data, I had conducted a series of practise tests to ensure the working order of each system, once I had believed each system to be initially configured. The testing took into consideration for whether each sub-FIS would write data to a given file and whether the final FIS would read-in that same data before writing the final data to it; all of the data being read-in and wrote out could be observed within MATLABS's command window (if successful), during the systems compilation process. The file type used to make the testing feasible was a '.xls' extension file, or spreadsheet document, for which each system had a separate column allocated for writing data. The test cases I am referring to can be seen within ***appendix N***.

Rule base adjustments

For each rule base originally, there were '125' possible combinations of inputs to decide outputs; this was generated from each sub-FIS and FIS containing '5' sets within '3' input variables. I used these rules initially to propose a basic rule base that considers all combinations of NPC difficulty that could be computed, in relation to what seemed logical. However, in later considerations for the rules I had decided upon, I had noticed repetition to be occurring in output for certain inputs, as well as considerably long system compiling times; an example of this is shown within the 'NPC Sensual Skill' sub-FIS, in focus of an NPC presenting 'very poor accuracy'. The concept as to why repetition was apparent, was due to my justification of the output always being 'very low skill' in the event that the NPC's weapon control is 'very poor'; for which I have considered an NPC to be non-threatening to a player, when it misses almost every bullet in context of a gun magazine size, which is typically '27' bullets within FPS games [23] [24] [25]. Also, within the 'NPC Objective Potential' sub-FIS, I have justified NPC's to have a 'very low potential' when their objective priority is 'very low'; this satisfies that an NPC is useless in regard to scoring points [15]. In acknowledgment of these conditions, I have redacted said rules due to their unnecessity for determining NPC difficulty and to enhance the efficiency of the system; the system now boasts a totalling '433' rules from the previous total of '500'. Moreover, I found that the 'AND' operator was better suited to my rules; it was logical to use the 'AND' operator due to each variable accounting for an individual AI characteristic, each of which when 'combined', formulates an NPC difficulty. In which, the 'OR' operator could not satisfy a difficulty based on one characteristic, this also applied to the output variables of each sub-FIS also. A comparison between the original and present rule bases, can be found in ***appendix O.***

Membership function testing

In consideration of membership functions and each fuzzy system, I have incorporated varying membership functions to better suit the representation and membership association of data to sets; in which, each set for each system handles variables with differing units of measure and range, as previously discussed. The purpose of alternating MF's situates for determining the best computable range of crisp output values and for acknowledging the implications that each MF has relative to NPC difficulty. Thereby in relation to the 'sensual skill' sub-FIS, the 'reaction and responsiveness time' variables distribution has deduced to '0.21-2' seconds, from '0-2' since the initial system design. This has compensated for the ignorance of data below '0.21', as it is the fastest response time I have configured, for establishing association to the 'very fast' set; this was set out in accordance to my previous study of SRT [26]. Meanwhile, the MF's for this sub-FIS did not need adjusting, as the membership boundaries configured using 'trapmf' and 'trimf', had already satisfied my expectations. Moreover, in regard to the 'objective potential' sub-FIS, both the 'objective pace' and 'objective potential' variables, were adjusted to a combination of Trapezoidal and Triangular MF's; for which were better suited for representing constant change and gradual distribution. The adjustment for these MF's led to 'gaussmf' being removed from the sub-FIS entirely, for which the MF did not provide a sensible degree of membership to each bound set; this was measured in accordance to the data sample that was passed into the system. Moreover, in focus of the 'weapon lethality' sub-FIS, the 'weapon damage falloff' and weapon lethality' variables were also regulated to change in MF. For which, 'weapon lethality' was recalibrated for the use of 'Trapezoidal and Triangular MF's, as another variable subject to steadily alterations; it occurred to me that the application of the Gaussian accelerative-based distribution, was illogical for use throughout the entirety of this system also. Meanwhile, in relevance to 'weapon damage falloff', the Trapezoidal MF's were replaced for Triangular MF's, at the mid-intervals of the variable. This adaptation enabled weapon damage falloff to be represented and calculated more accurately, as a factor of gradual distance rather than regional distance; this was previously represented by a series of plateaus. Furthermore, damage falloff now adheres to the requirement of damage being relative to the distance from the impact [12]. Lastly, in reference to the 'difficulty' FIS, the 'objective potential', 'weapon lethality' and 'difficulty' variables have had their MF's altered since the initial system design. For both 'objective potential' and 'weapon lethality' variables, the Gaussian MF was once again revoked, for the misrepresentation of membership association; for being accelerative-based. In this correspondence, I had opted again for the use of Trapezoidal and Triangular MF's, given their previous success for yielding increased accuracy and more so for enabling the set boundaries to be aligned in intervals of '20%'; this allows for more normal distribution, as I desired. Meanwhile, in continuance of normal distribution, for computing NPC difficulty, I had reconfigured the set ranges to satisfy this distribution, for which each difficulty of NPC is also partitioned into intervals of '20%'. This was more beneficial in comparison to the previous configuration, in which discouraged difficulty balancing; this was shown from the sets 'new' and 'veteran', having a significantly smaller share of distribution as opposed to the other difficulties. In this context, the normal distribution has considered the requirement for player satisfaction, in all skill and experience levels [22]. Therefore, I justify this alteration to be better suited for suitably determining NPC difficulty.

Defuzzification method testing

Regarding defuzzification methods, throughout the development span of my systems, I have adjusted each systems defuzzification method in attempt to better the crisp outputs values, in relevancy to my expectations of the NPC difficulty that the FIS computes. For which, there are five possible defuzzification methods that could be applicated, they are: Mean of Maximum (MOM), Largest of Maximum (LOM), Smallest of Maximum (SOM), Centroid and Bisector. For my initial system design, I had used the Centroid defuzzification method for the FIS and each sub-FIS as advised to be "good enough" for setting up [33]. However, when computing my test data (***Available in appendix P***) the results I was provided with did not all correlate to what I was expecting; from adopting the testing method 'trial and error', I alternated the defuzzification method for each system to cater for my expectations, the testing for each method can be found in ***appendix Q***. Meanwhile, discussion upon the final defuzzification methods I have selected for each system, can be found within the proceeding body of text; the defuzzification method configurations for the initial and final systems, can be seen comparatively within ***appendix R***.

NPC Sensual Skill sub-FIS – MOM: For the 'sensual skill' sub-FIS, I have selected MOM as the defuzzification method, as it enables the skill level output to reach the maximum skill level '5'; this is possible due to its calculation of the mean of the maximum antecedent values and thus calculating an averaged crisp output, the consequent value. The crisp output categorises sensual skill characteristics to the given skill range (1-5), this enables the ease to identify each skill level; I therefore believe that it is a suitable defuzzification method for the small yield of output sets.

NPC Objective Potential sub-FIS – Centroid: For the 'objective potential' sub-FIS, I have selected Centroid as the defuzzification method, as it enables the objective potential output to reach the maximum output range 'very high potential'; however, the method does not allow the maximum value to reach its potential range of '100', this is due to the trapezoidal membership functions I have implemented. In which, the maximum degree of membership to the start and end sets (relative to the ranges), typically starts before or after the range boundaries of the variable; this is represented as a plateau. But, in comparison to all of the other defuzzification methods available, Centroid provides more gradational difference in respect of computing crisp output values, which enables a larger yield for variation and accuracy within the data. This is used to better determine where an NPC's objective potential situates, in the later consideration for calculating its overall difficulty. Meanwhile, LOM enabled the crisp output to reach the maximum range value '100', but the output demonstrated less gradual difference between the crisp output values. Regardless whether the maximum range value can be reached or not, for a given combination of antecedents, they can compute a majoritive membership to 'very high potential'; which does not pose restraints on the yield of the NPC's overall difficulty.

NPC Weapon lethality sub-FIS – LOM: For the 'weapon lethality' sub-FIS, I have selected LOM as the defuzzification method, primarily as it enables the crisp output value of the system, to reach the maximum output range value '100'. This benefits my implementation of trapezoidal membership functions mostly, in the ways of which a crisp output value can represent the largest value across all of the input variables, which has the maximum degree of membership to a set. This is represented as a plateau for this type of membership function and enables the largest value of its range to be output, where suited. I have considered LOM to be the ideal method of defuzzification in regard to weapon lethality, as it issues balance between each input variable. For which, when either input variable value is respectively 'very high', the weapon lethality increases dramatically and therefore presents an increase in NPC difficulty also. The application of LOM considers this scaling and provides a fairer yield for weapon ability, in relation to each NPC skill level. Whereas, in comparison of the MOM, SOM, Centroid and Bisector methods, the weapon lethality is determined to be too advanced for the desired NPC skill level; I had determined that this was not a factor of the sub-FIS rule base and was simply a variable of calculation. Unlike 'objective potential's' attempted use for the LOM method, LOM in correspondence to 'weapon lethality', caters for more gradual difference in crisp output value; this is another reason for why I consider it to be a suitable defuzzification method.

NPC Difficulty FIS – Centroid: For the 'difficulty' FIS, I have elected Centroid as the defuzzification method, as it offers a higher degree for accuracy in relation to computing the difficulty of an NPC, as opposed to the application of all other defuzzification methods. Given this context, I have considered accuracy to be the most significant variable in the determination of an NPC's difficulty, given that any subtle variation in crisp value could cause the category of NPC's difficulty to change. If the abilities of an NPC are not categorised suitably, players may be matched by NPC's that demonstrate to be too easy or too hard, regardless of their selection. As discussed throughout this document, player satisfaction is an important consideration for game success; in which NPC's should be able to balance player performance, in perspective of being able to kill a player "sometimes, but not always" [21]. The use for Centroid in the final FIS, adheres to this requirement and is considered a sensible defuzzification method, nonetheless.

Final fuzzy system configuration

For the final configuration of my fuzzy logic system, the input and output variable declarations and their fuzzy sets can be found within ***appendix S*** and the rule bases for the final FIS and each sub-FIS, can be found within ***appendix O***.

Critical reflection

In correlation to each systems performance on the testing I have conducted, each system has evidenced the capability of producing crisp outputs, that adhere to all of the expected outcomes generated. For which, testing the compatibility of every defuzzification method with each system, has proven to be beneficial for the final configuration of each system and for the determination of crisp output values. As can be noticed throughout the testing, the defuzzification methods that I had elected for each system, were the better suited and the most considerate methods for each systems rule base and for representing each AI characteristic, in correspondence to the conventional requirements of FPS games [12]. Moreover, from testing each defuzzification method, my design decisions have become more comprehensive; for which will aid me in the development of future systems, if applicable. Remaining relevant to design choices, my initial system design considered the entire possibility of rule combination for each inference system; given the nature of how complex the rules within each system are, I had originally ignored reducing the rule base, as thought to be impossible. However, from my later observation of repetition occurring in rules being fired, had enabled me to reduce my rule base by '13.4%' which is considerably a lot less. As shown within the original and final designs for the 'sensual skill' and 'objective potential' sub-FIS, rules were and are still decided in relation to logical conditions. For which, some of these conditions default the system output values to be have the most association to a particular set, this is due where the system only makes consideration for one of the three input variables. For removing this type of rule from the entire fuzzy logic system and replacing them for a single rule, the system performance has benefit dramatically, as previously mentioned, compiling times are much faster. The concept of reducing the number of rules for each system, has enabled me to acknowledge the effect on performance that real-world fuzzy applications have; in which will be made useful to me, in the scenario that I develop a significantly larger scaled system. Similarly, the recalibration of sets in regard to set distribution, membership functions and ranges, has enabled my results to demonstrate an increased level of accuracy in the final crisp outputs; this can be seen comparatively between the expected outcomes.

In the final acknowledgements for testing, to appropriate my testing I have accounted for '30' test cases with a broad variety of data for exercising each sets range; I found this to be a suitable sample size, but in my future involvement with fuzzy applications, I may consider conducting more test cases to further increase the reliability of my findings. Also, in regard for testing rules and the suitability of membership functions, I may also consider using the fuzzy logic toolbox in future developments, to prototype my systems; this will enable testing to be faster through the drag and drop interface, as opposed to coding. In which, making changes to the code base distracted a lot of time from the remaining project. Meanwhile, for the resulting success of my fuzzy logic system, I believe that it could be used within industry to determine the difficulty of NPC's in FPS games, given its architecture to be based on real-world implementation of existing AI. However, as a limitation for its appliance, many FPS games now use 'dynamic scripting' for the dynamic difficulty adjustment of NPC's in FPS games; for which the system will require to be adapted for this use, but it is possible as referred to previously [12]. But for the system configuration provided, its application would be more prominent within games supporting statically set difficulties, this technique is equally as common [13] and effective for scaling challenge and satisfaction, nonetheless [21].

Conclusion

In conclusion of the fuzzy logic system, I believe that the system that I have developed is very comprehensive in the particularity of subject that it explores; given that objective characteristics of NPC's and objective based game modes within FPS games, lack in reporting bodies. As mentioned, I feel that my system is a practical example that could be used within real-world environments, for which the system remains changeable. Throughout the systems development, I have gained a mass of knowledge surrounding conventional components of FPS games and the AI components that make up NPC difficulty in FPS games. Moreover, my understanding of player satisfaction has been better informed by the design choices of FPS games, for which are implemented in consideration for most and if not, all player experience levels. In relation to software, I have developed a sense of capability for using MATLAB and would like to thank De Montfort University for providing the software, as well as Dr. Archie Khuman for the instructive use of the software; without this support, the system may have never existed.

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Appendices

Appendix A:

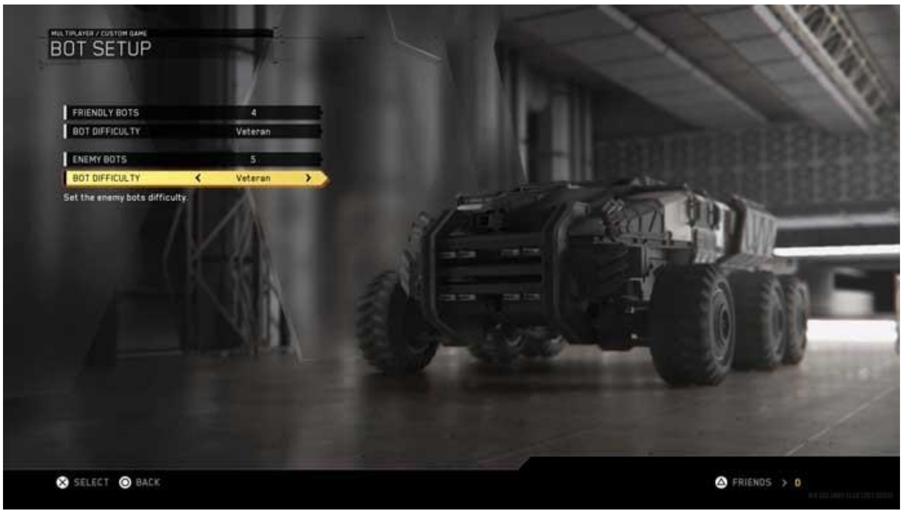


Figure 1: Selecting NPC difficulty within Call of Duty: Infinite Warfare custom game lobby [14]

Appendix B:

Name	AdvanceGunAttack
Condition	Character has machine gun ammo and can see an opponent
Effect	Advances towards the opponent and shoots with the machine gun if opponent is in range

Figure 2: 'AdvanceGunAttack' rule conditions and effects [12]

Appendix C:

Figure 3: Capturing an objective in the 'operations' game mode within Battlefield V multiplayer [17]

Appendix D:

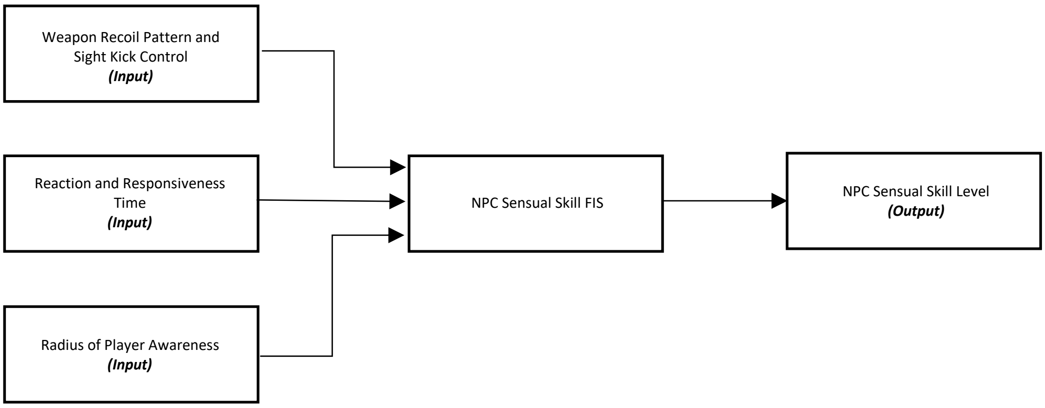


Figure 4: 'NPC Sensual Skill' fuzzy inference sub-system topology

Appendix E:

Variable name	*Variable type*	*Variable range*	*Variable intervals*
Weapon Recoil Pattern and Sight Kick Control	Input	0 – 100 (%)	Very Poor, Poor, Medium, Good, Very Good
Reaction and Responsiveness Time	Input	0.21 – 2 (seconds)	Very Fast, Fast, Medium, Slow, Very Slow
Radius of Player Awareness	Input	0 – 100 (metres)	Very Close, Close, Medium, Far, Very Far
NPC Sensual Skill	Output	1 – 5 (level)	Very Low Skill, Low Skill, Medium Skill, High Skill, Very High Skill

Table 1: 'NPC Sensual Skill' sub-FIS variable ranges and intervals

Appendix F:

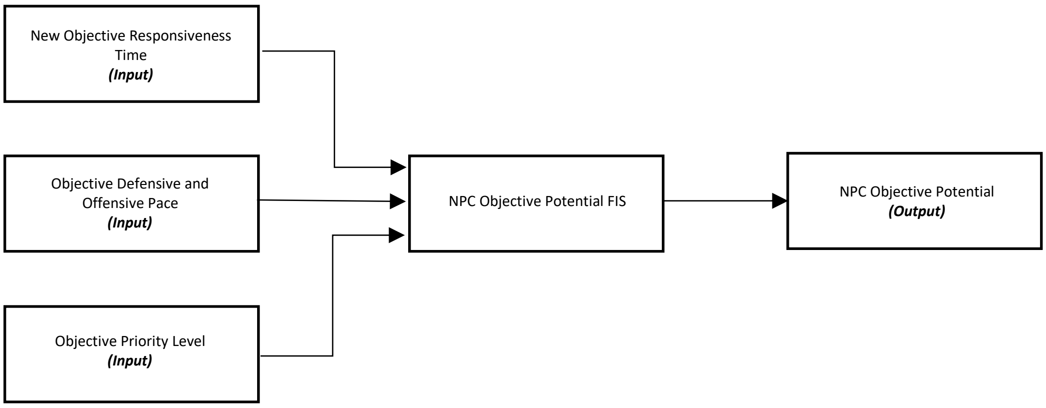


Figure 5: 'NPC Objective Potential' fuzzy inference sub-system topology

Appendix G:

Variable name	*Variable type*	*Variable range*	*Variable intervals*
New Objective Responsiveness Time	Input	0 – 10 (seconds)	Very Fast, Fast, Medium, Slow, Very Slow
Objective Defensive and Offensive Pace	Input	0 – 100 (%)	Passive, Slow, Medium, Fast, Aggressive
Objective Priority Level	Input	1 – 5 (level)	Very Low Priority, Low Priority, Medium Priority, High Priority, Very High Priority
NPC Objective Potential	Output	0 – 100 (%)	Very Low Potential, Low Potential, Medium Potential, High Potential, Very High Potential

Table 2: 'NPC Objective Potential' sub-FIS variables and intervals

Appendix H:

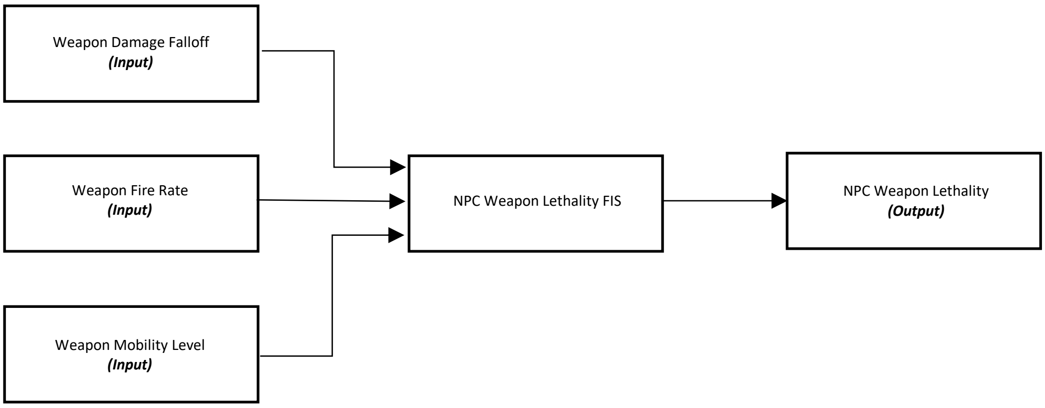


Figure 6: 'NPC Weapon Lethality' fuzzy inference sub-system topology

Appendix I:

Variable name	***Variable type***	***Variable range***	***Variable intervals***
Weapon Damage Falloff	Input	0 – 100 (metres)	Very Short Range, Short Range, Medium Range, Long Range, Very Long Range
Weapon Fire Rate	Input	0 – 2000 (RPM)	Very Slow Rate, Slow Rate, Medium Rate, Fast Rate, Very Fast Rate
Weapon Mobility	Input	0 – 100 (%)	Very Slow Rate, Slow Rate, Medium Rate, Fast Rate, Very Fast Rate
NPC Weapon Lethality	Output	0 – 100 (%)	Very Low Lethality, Low Lethality, Medium Lethality, High Lethality, Very High Lethality

Table 3: 'NPC Weapon Lethality' sub-FIS variables and intervals

Appendix J:

Figure 7: Planting a bomb in the 'Search and Destroy' game mode within Call of Duty: 4 [32]

Appendix K:

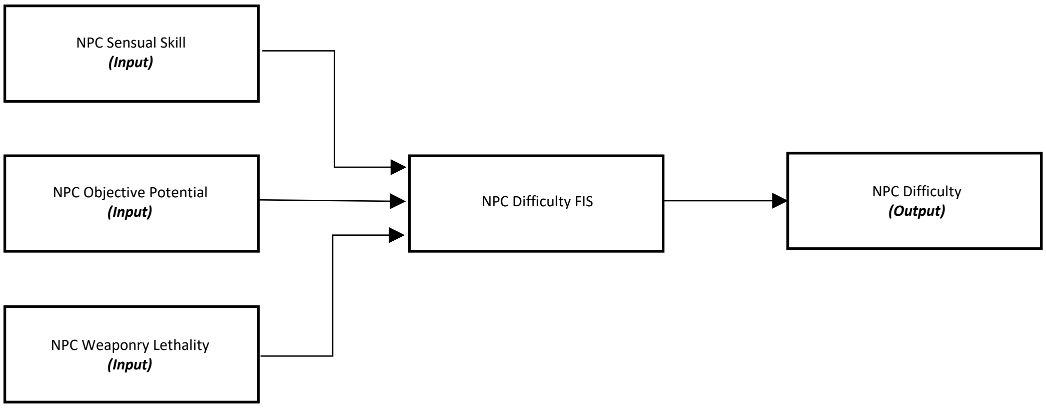


Figure 8: 'NPC Difficulty' fuzzy inference system topology

Appendix L:

Variable name	*Variable type*	*Variable range*	*Variable intervals*
NPC Sensual Skill	Input	1 – 5 (level)	Very Low Skill, Low Skill, Medium Skill, High Skill, Very High Skill
NPC Objective Potential	Input	0 – 100 (%)	Very Low Potential, Low potential, Medium Potential, High Potential, Very High Potential
NPC Weapon Lethality	Input	0 – 100 (%)	Very Low Lethality, Low Lethality, Medium Lethality, High Lethality, Very High Lethality
NPC Difficulty	Output	0 – 100 (%)	New, Novice, Regular, Hardened, Veteran

Table 4: 'NPC Difficulty' FIS variables and intervals

Appendix M:

Initial system variable declarations: NPC Sensual Skill sub-FIS

```
a = newfis('NPC Sensual Skill'); % NPC sensual ability inference system

a=addvar(a,'input','Weapon Recoil Pattern and Sight Kick Control (accuracy %)',[0 100]); % Weapon handling accuracy

a=addmf(a,'input',1,'Very Poor','trapmf',[-10 0 10 20]); % Very poor accuracy
a=addmf(a,'input',1,'Poor','trimf',[10 20 30]); % Poor accuracy
a=addmf(a,'input',1,'Medium','trimf',[20 40 50]); % Medium accuracy
a=addmf(a,'input',1,'Good','trimf',[40 50 70]); % Good accuracy
a=addmf(a,'input',1,'Very Good','trapmf',[60 70 100 110]); % Very good accuracy

a=addvar(a,'input','Reaction and Responsiveness Time (seconds)',[0 2]); % Response time from player awareness

a=addmf(a,'input',2,'Very Fast','trapmf',[0.21 0.21 0.25 0.3]); % Very fast reaction time
a=addmf(a,'input',2,'Fast','trimf',[0.25 0.4 0.6]); % Fast reaction time
a=addmf(a,'input',2,'Medium','trimf',[0.4 0.6 0.8]); % Medium reaction time
a=addmf(a,'input',2,'Slow','trimf',[0.6 1 1.4]); % Slow reaction time
a=addmf(a,'input',2,'Very Slow','trapmf',[1 1.5 2 2.5]); % Very slow reaction time

a=addvar(a,'input','Radius of Player Awareness (metres)',[0 100]); % Radius of awareness (sight and hear)

a=addmf(a,'input',3,'Very Close','trapmf',[-15 0 5 10]); % Very close radius of awareness
a=addmf(a,'input',3,'Close','trapmf',[0 10 20 30]); % Close radius of awareness
a=addmf(a,'input',3,'Medium','trapmf',[15 25 40 55]); % Medium radius of awareness
a=addmf(a,'input',3,'Far','trapmf',[35 45 65 75]); % Far radius of awareness
a=addmf(a,'input',3,'Very Far','trapmf',[55 70 100 110]); % Very far radius of awareness

a=addvar(a,'output','NPC Sensual Skill (skill level)',[1 5]); % NPC sensing ability

a=addmf(a,'output',1,'Very Low Skill','trimf', [0 1 2]); % Very low sensing ability
a=addmf(a,'output',1,'Low Skill','trimf',[1 2 3]); % Low sensing ability
a=addmf(a,'output',1,'Medium Skill','trimf',[2 3 4]); % Good sensing ability
a=addmf(a,'output',1,'High Skill','trimf',[3 4 5]); % High sensing ability
a=addmf(a,'output',1,'Very High Skill','trimf',[4 5 6]); % Very high sensing ability
```

Initial system variable declarations: NPC Objective Potential sub-FIS

```
b = newfis('NPC Objective Potential'); % NPC objective potential inference system

b=addvar(b,'input','New Objective Responsiveness Time (seconds)',[0 10]); % Responsiveness to occurence of new objectives

b=addmf(b,'input',1,'Very Fast','trapmf',[-2 0 1 1.5]); % Very fast responsiveness
b=addmf(b,'input',1,'Fast','trapmf',[0.75 1.25 1.75 2.25]); % Fast responsiveness
b=addmf(b,'input',1,'Medium','trapmf',[1.5 2 2.5 3]); % Medium responsiveness
b=addmf(b,'input',1,'Slow','trapmf',[2.5 3 4 5]); % Slow responsiveness
b=addmf(b,'input',1,'Very Slow','trapmf',[4 5 10 11]); % Very slow responsiveness

b=addvar(b,'input','Objective Defensive and Offensive Pace (pace %)',[0 100]); % Behaviour of gameplay approach around or on current objective

b=addmf(b,'input',2,'Passive','gaussmf',[7.5 0]); % Passive behaviour
b=addmf(b,'input',2,'Slow','gaussmf',[7.5 25]); % Slow behaviour
b=addmf(b,'input',2,'Medium','gaussmf',[7.5 50]); % Medium behaviour
b=addmf(b,'input',2,'Fast','gaussmf',[7.5 75]); % Fast behaviour
b=addmf(b,'input',2,'Aggressive','gaussmf',[7.5 100]); % Aggressive behaviour

b=addvar(b,'input','Objective Priority Level',[1 5]); % Priority to have objective gameplay orientation

b=addmf(b,'input',3,'Very Low Priority','trimf',[0 1 2]); % Very low priority
b=addmf(b,'input',3,'Low Priority','trimf',[1 2 3]); % Low priority
b=addmf(b,'input',3,'Medium Priority','trimf',[2 3 4]); % Medium priority
b=addmf(b,'input',3,'High Priority','trimf',[3 4 5]); % High priority
b=addmf(b,'input',3,'Very High Priority','trimf',[4 5 6]); % Very high priority

b=addvar(b,'output','NPC Objective Potential (%)',[0 100]); % NPC objective ability

b=addmf(b,'output',1,'Very Low Potential','gaussmf', [7.5 0]); % Very low objective ability
b=addmf(b,'output',1,'Low Potential','gaussmf',[7.5 25]); % Low objective ability
b=addmf(b,'output',1,'Medium Potential','gaussmf',[7.5 50]); % Good objective ability
b=addmf(b,'output',1,'High Potential','gaussmf',[7.5 75]); % High objective aility
b=addmf(b,'output',1,'Very High Potential','gaussmf',[7.5 100]); % Very high objective ability
```

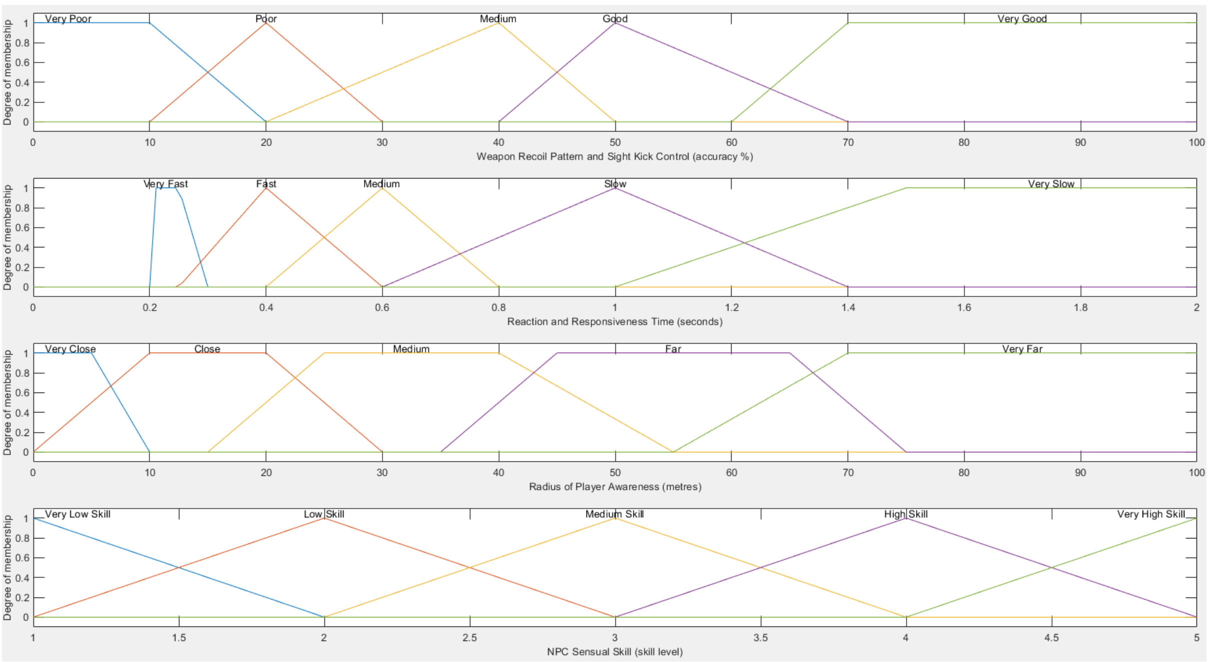
Initial system variable declarations: NPC Weapon Lethality sub-FIS

```
c = newfis('NPC Weaponary Lethality'); % NPC weapon lethality inference system

c=addvar(c,'input','Weapon Damage Falloff (range effectiveness in metres)',[0 100]); % Weapon damage effectiveness at range

c=addmf(c,'input',1,'Very Short Range','trapmf',[-10 0 10 20]); % Very short effectiveness range
c=addmf(c,'input',1,'Short Range','trapmf',[10 15 25 30]); % Short effectiveness range
c=addmf(c,'input',1,'Medium Range','trapmf',[20 30 50 60]); % Medium effectiveness range
c=addmf(c,'input',1,'Long Range','trapmf',[50 55 75 80]); % Long effectiveness range
c=addmf(c,'input',1,'Very Long Range','trapmf',[70 80 100 110]); % Very long effectiveness range

c=addvar(c,'input','Weapon Fire Rate (rounds per minute)',[0 2000]); % Weapon fire rate

c=addmf(c,'input',2,'Very Slow Rate','trapmf',[-100 0 120 180]); % Very slow firing rate (< 3 RPS)
c=addmf(c,'input',2,'Slow Rate','trapmf',[120 180 360 420]); % Slow firing rate (2 - 7 RPS)
c=addmf(c,'input',2,'Medium Rate','trapmf',[360 420 660 720]); % Medium firing rate (6 - 12 RPS)
c=addmf(c,'input',2,'Fast Rate','trapmf',[660 720 1200 1260]); % Fast firing rate (11 - 21 RPS)
c=addmf(c,'input',2,'Very Fast Rate','trapmf',[1200 1260 2000 2100]); % Very fast firing rate (> 20 RPS)

c=addvar(c,'input','Weapon Mobility (level %)',[0 100]); % Weapon manoeuvrability level

c=addmf(c,'input',3,'Very Slow Rate','trimf',[-10 0 20]); % Very slow movement
c=addmf(c,'input',3,'Slow Rate','trimf',[0 20 40]); % Slow movement
c=addmf(c,'input',3,'Medium Rate','trimf',[20 40 60]); % Medium movement
c=addmf(c,'input',3,'Fast Rate','trimf',[40 60 80]); % Fast movement
c=addmf(c,'input',3,'Very Fast Rate','trapmf',[60 80 100 110]); % Very fast movement

c=addvar(c,'output','NPC Weaponary Lethality (%)',[0 100]); % NPC weapon lethality level

c=addmf(c,'output',1,'Very Low Lethality','gaussmf',[7.5 0]); % Very ineffective for killing
c=addmf(c,'output',1,'Low Lethality','gaussmf',[7.5 25]); % Ineffective for killing
c=addmf(c,'output',1,'Medium Lethality','gaussmf',[7.5 50]); % Useful for killing
c=addmf(c,'output',1,'High Lethality','gaussmf',[7.5 75]); % Effective for killing
c=addmf(c,'output',1,'Very High Lethality','gaussmf',[7.5 100]); % Very effective for killing
```

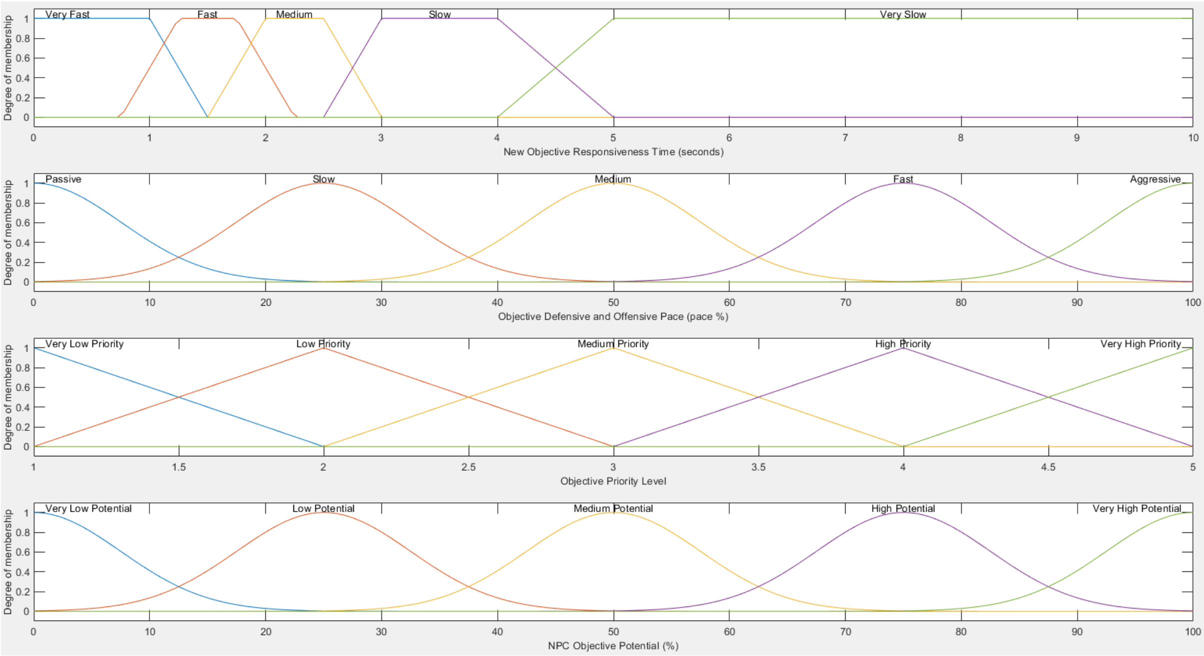
Initial system variable declarations: NPC Difficulty FIS

```
d = newfis('NPC Difficulty (%)'); % NPC difficulty inference system

d=addvar(d,'input','NPC Sensual Skill (skill level)',[1 5]); % NPC sensing ability

d=addmf(d,'input',1,'Very Low Skill','trimf',[0 1 2]); % Very low sensing ability
d=addmf(d,'input',1,'Low Skill','trimf',[1 2 3]); % Low sensing ability
d=addmf(d,'input',1,'Medium Skill','trimf',[2 3 4]); % Good sensing ability
d=addmf(d,'input',1,'High Skill','trimf',[3 4 5]); % High sensing ability
d=addmf(d,'input',1,'Very High Skill','trimf',[4 5 6]); % Very high sensing ability

d=addvar(d,'input','NPC Objective Potential (%)',[0 100]); % NPC objective ability

d=addmf(d,'input',2,'Very Low Potential','gaussmf',  [7.5 0]); % Very low objective ability
d=addmf(d,'input',2,'Low Potential','gaussmf',[7.5 25]); % Low objective ability
d=addmf(d,'input',2,'Medium Potential','gaussmf',[7.5 50]); % Good objective ability
d=addmf(d,'input',2,'High Potential','gaussmf',[7.5 75]); % High objective aility
d=addmf(d,'input',2,'Very High Potential','gaussmf',[7.5 100]); % Very high objective ability

d=addvar(d,'input','NPC Weaponary Lethality (%)',[0 100]); % NPC weapon lethality level

d=addmf(d,'input',3,'Very Low Lethality','gaussmf',[7.5 0]); % Very ineffective for killing
d=addmf(d,'input',3,'Low Lethality','gaussmf',[7.5 25]); % Ineffective for killing
d=addmf(d,'input',3,'Medium Lethality','gaussmf',[7.5 50]); % Useful for killing
d=addmf(d,'input',3,'High Lethality','gaussmf',[7.5 75]); % Effective for killing
d=addmf(d,'input',3,'Very High Lethality','gaussmf',[7.5 100]); % Very effective for killing

d=addvar(d,'output','NPC Difficulty (%)',[0 100]); % NPC difficulty (output of outputs)

d=addmf(d,'output',1,'New','trapmf',[-10 0 5 15]); % New player
d=addmf(d,'output',1,'Novice','trimf',[10 25 40]); % Novice player
d=addmf(d,'output',1,'Regular','trimf',[35 50 65]); % Regular player
d=addmf(d,'output',1,'Hardened','trimf',[60 75 90]); % Hardened player
d=addmf(d,'output',1,'Veteran','trapmf',[85 95 100 110]); % Veteran player
```

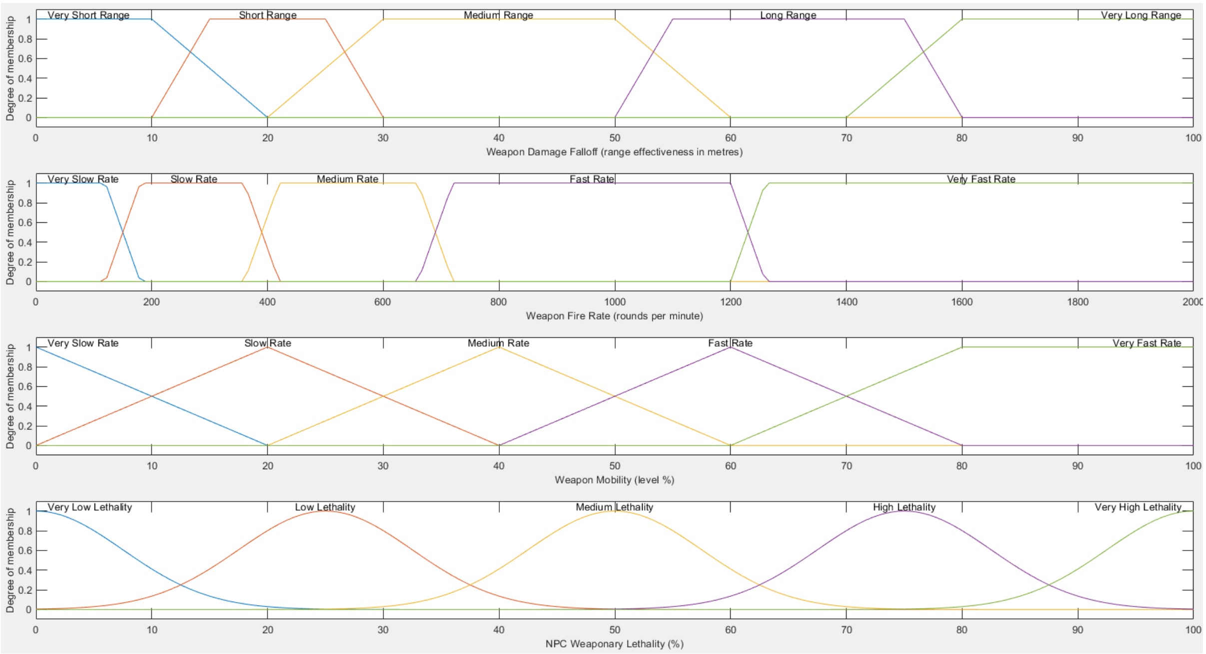
<u>Initial system fuzzy set distribution: NPC Sensual Skill sub-FIS</u>



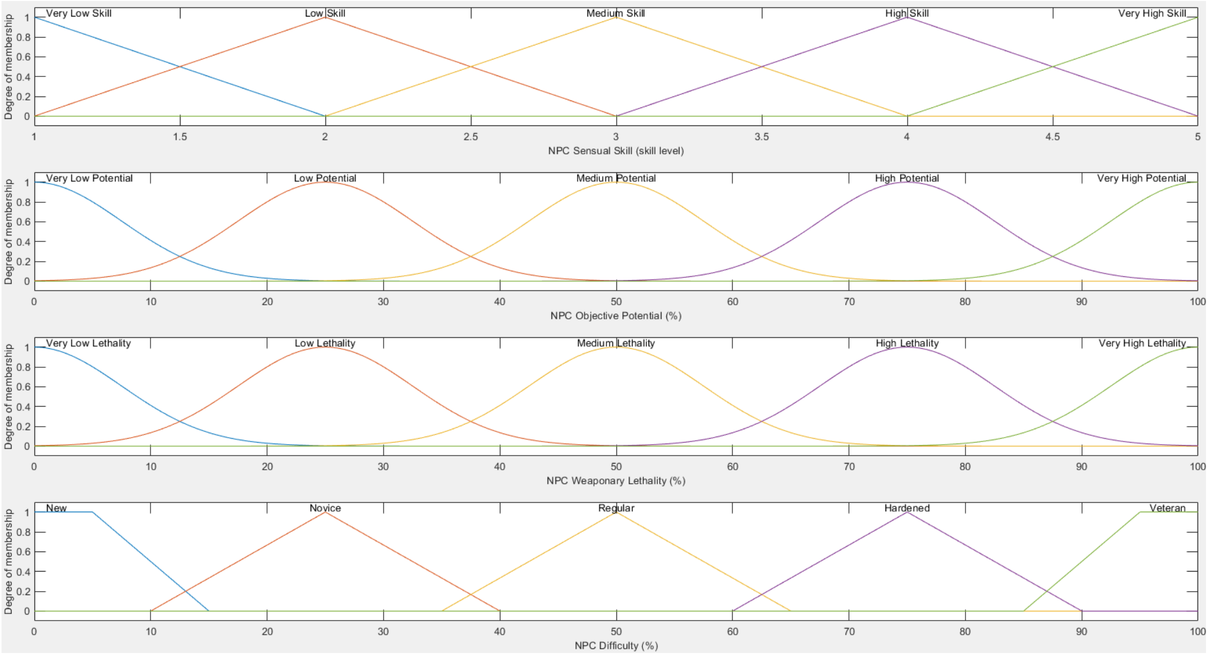
<u>Initial system fuzzy set distribution: NPC Objective Potential sub-FIS</u>



<u>Initial system fuzzy set distribution: NPC Weapon Lethality sub-FIS</u>



<u>Initial system fuzzy set distribution: NPC Difficulty FIS</u>



Appendix N:

'NPC Sensual Skill' input variables			*'NPC Objective Potential' input variables*			*'NPC Weapon Lethality' input variables*		
Recoil and kick management (%)	*Reaction and responsiveness time (secs)*	*Radius of environmental awareness (m)*	*New objective responsiveness (secs)*	*Objective defensive and offensive pace (%)*	*Objective priority level (level)*	*Weapon damage falloff (m)*	*Weapon fire rate (RPM)*	*Weapon mobility level (%)*
60	7	87	4	56	5	7	755	90
17	4	30	2.1	5	2	26	1200	40
72	1	54	1	88	4	79	450	74

Table 5: System functionality test, data samples for writing to file

<u>'NPC Sensual Skill' sub-FIS writing data</u>

```
1) In(1): 60.00, In(2) 7.00, In(3) 87.00,  => Out: 3
2) In(1): 17.00, In(2) 4.00, In(3) 30.00,  => Out: 1.34
3) In(1): 72.00, In(2) 1.00, In(3) 54.00,  => Out: 4.00
```

<u>'NPC Objective Potential' sub-FIS writing data</u>

```
1) In(1): 4.00, In(2) 56.00, In(3) 5.00  => Out: 50.0
2) In(1): 2.10, In(2) 5.00, In(3) 2.00  => Out: 7.52
3) In(1): 1.00, In(2) 88.00, In(3) 4.00  => Out: 92.0
```

<u>'NPC Weapon Lethality' sub-FIS writing data</u>

```
1) In(1): 7.00, In(2) 755.00, In(3) 90.00,  => Out: 30.00
2) In(1): 26.00, In(2) 1200.00, In(3) 40.00,  => Out: 56.00
3) In(1): 79.00, In(2) 450.00, In(3) 74.00,  => Out: 100.00
```

<u>'NPC Difficulty' FIS reading-in and writing data</u>

```
1) In(1): 3.00, In(2) 50.00, In(3) 30.00,  => Out: 30.00
2) In(1): 1.34, In(2) 7.52, In(3) 56.00,  => Out: 17.94
3) In(1): 4.00, In(2) 92.09, In(3) 100.00,  => Out: 92.48
```

Appendix O:

Initial system rule base: sub-FIS (NPC Sensual Skill)

'1. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'2. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'3. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'4. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'5. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'6. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'7. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'8. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'9. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'10. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'11. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'12. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'13. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'14. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'15. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'16. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'17. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'18. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'19. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'20. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'21. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'22. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'23. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'24. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'25. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'26. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'27. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'28. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'29. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'30. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'31. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'32. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'33. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'34. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'35. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'36. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'37. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'38. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'39. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'40. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'41. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'42. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'43. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'44. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'45. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'46. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'47. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'48. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'49. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'50. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'51. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'52. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'53. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'54. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'55. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'56. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'57. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'58. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'59. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'60. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'61. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'62. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'63. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'64. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'65. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'66. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'67. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'68. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'69. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'70. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'71. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'72. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'73. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'74. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'75. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'76. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'77. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'78. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'79. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'80. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'81. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'82. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'83. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'84. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'85. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'86. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'87. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'88. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'89. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'90. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'91. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'92. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'93. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'94. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'95. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'96. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'97. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'98. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is High Skill) (1)

'99. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'100. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'101. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'102. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'103. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'104. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'105. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'106. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'107. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'108. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'109. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'110. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'111. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'112. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'113. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'114. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'115. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'116. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'117. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)

'118. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'119. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'120. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'121. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)

'122. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Medium Skill) (1)

'123. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is High Skill) (1)

'124. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

'125. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

Initial system rule base: sub-FIS (NPC Objective Potential)

'1. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'2. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'3. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'4. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'5. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'6. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'7. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'8. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'9. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'10. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'11. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'12. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'13. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'14. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'15. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'16. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'17. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'18. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'19. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'20. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'21. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'22. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'23. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'24. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'25. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'26. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'27. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'28. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'29. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'30. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'31. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'32. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'33. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'34. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'35. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'36. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'37. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'38. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'39. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'40. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'41. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'42. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'43. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'44. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'45. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'46. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'47. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'48. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'49. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'50. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)

'51. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'52. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'53. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'54. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'55. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'56. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'57. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'58. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'59. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'60. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'61. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'62. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'63. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'64. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'65. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'66. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'67. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'68. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'69. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'70. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'71. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'72. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'73. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'74. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'75. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'76. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'77. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'78. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'79. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'80. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'81. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'82. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'83. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'84. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'85. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'86. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'87. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'88. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'89. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'90. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'91. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'92. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'93. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'94. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'95. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'96. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'97. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'98. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'99. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'100. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'101. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)

'102. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'103. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'104. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'105. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'106. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'107. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'108. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'109. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'110. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'111. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'112. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'113. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'114. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'115. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'116. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'117. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'118. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'119. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'120. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'121. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'122. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'123. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'124. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'125. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)'

Initial system rule base: sub-FIS (NPC Weapon Lethality)

'1. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'2. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'3. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'4. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'5. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'6. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'7. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'8. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'9. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'10. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'11. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'12. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'13. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'14. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'15. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'16. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'17. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'18. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'19. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'20. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'21. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'22. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'23. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'24. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'25. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'26. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'27. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'28. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'29. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'30. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'31. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'32. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'33. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'34. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'35. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'36. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'37. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'38. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'39. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'40. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'41. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'42. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'43. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'44. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'45. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'46. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'47. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'48. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'49. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'50. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'51. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)

'52. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'53. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'54. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'55. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'56. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'57. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'58. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'59. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'60. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'61. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'62. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'63. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'64. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'65. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'66. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'67. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'68. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'69. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'70. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'71. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'72. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'73. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'74. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'75. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'76. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'77. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'78. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'79. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'80. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'81. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)

'82. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'83. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'84. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'85. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'86. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'87. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'88. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'89. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'90. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'91. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'92. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'93. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'94. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'95. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'96. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'97. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'98. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'99. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'100. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'101. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'102. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'103. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'104. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'105. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'106. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'107. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'108. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'109. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'110. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'111. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'112. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'113. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'114. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'115. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'116. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'117. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'118. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'119. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'120. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'121. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)

'122. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'123. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'124. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

'125. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)

Initial system rule base: sub-FIS (NPC Difficulty)

'1. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'2. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)

'3. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)

'4. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)

'5. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)

'6. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'7. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)

'8. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)

'9. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)

'10. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)

'11. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'12. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)

'13. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)

'14. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)

'15. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)

'16. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'17. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)

'18. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)

'19. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)

'20. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)

'21. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'22. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)

'23. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)

'24. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)

'25. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)

'26. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'27. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)

'28. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)

'29. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)

'30. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)

'31. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'32. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)

'33. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)

'34. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)

'35. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)

'36. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'37. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)

'38. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)

'39. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)

'40. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)

'41. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'42. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)

'43. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)

'44. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)

'45. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)

'46. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'47. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)

'48. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)

'49. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)

'50. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)

'51. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'52. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'53. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'54. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)
'55. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'56. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'57. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'58. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'59. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'60. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)
'61. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'62. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'63. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'64. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'65. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)
'66. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'67. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'68. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'69. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'70. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'71. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'72. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'73. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'74. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'75. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'76. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'77. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'78. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'79. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'80. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'81. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'82. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'83. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'84. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'85. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'86. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'87. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'88. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'89. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'90. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'91. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'92. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'93. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'94. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'95. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'96. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'97. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'98. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'99. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'100. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'101. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'102. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'103. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'104. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'105. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'106. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'107. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'108. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'109. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'110. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'111. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'112. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'113. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'114. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'115. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'116. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'117. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'118. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'119. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'120. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'121. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'122. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'123. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'124. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'125. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)

Final system rule base: sub-FIS (NPC Sensual Skill)

'1. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Poor) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)
'2. If (Radius of Player Awareness (metres) is Very Close) then (NPC Sensual Skill (skill level) is Very Low Skill) (1)
'3. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'4. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'5. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'6. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'7. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'8. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'9. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'10. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'11. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'12. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'13. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'14. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'15. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'16. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'17. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'18. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'19. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'20. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'21. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'22. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Poor) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'23. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'24. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'25. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'26. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'27. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'28. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'29. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'30. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'31. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'32. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'33. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'34. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'35. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'36. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'37. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'38. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'39. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'40. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'41. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'42. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Medium) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'43. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'44. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'45. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'46. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'47. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'48. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'49. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'50. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)

'51. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'52. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'53. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'54. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'55. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'56. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'57. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'58. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'59. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'60. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is High Skill) (1)
'61. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'62. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'63. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'64. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'65. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'66. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'67. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'68. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'69. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'70. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Slow) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'71. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'72. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'73. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'74. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Medium) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'75. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Low Skill) (1)
'76. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'77. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is High Skill) (1)
'78. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'79. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Close) then (NPC Sensual Skill (skill level) is Medium Skill) (1)
'80. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Medium) then (NPC Sensual Skill (skill level) is High Skill) (1)
'81. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)
'82. If (Weapon Recoil Pattern and Sight Kick Control (accuracy %) is Very Good) and (Reaction and Responsiveness Time (seconds) is Very Fast) and (Radius of Player Awareness (metres) is Very Far) then (NPC Sensual Skill (skill level) is Very High Skill) (1)

<u>Final system rule base: sub-FIS (NPC Objective Potential)</u>

'1. If (Objective Priority Level is Very Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'2. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'3. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'4. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'5. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'6. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'7. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'8. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'9. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'10. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'11. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'12. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'13. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'14. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'15. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'16. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'17. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'18. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'19. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'20. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'21. If (New Objective Responsiveness Time (seconds) is Very Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'22. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'23. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'24. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'25. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'26. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'27. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'28. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'29. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'30. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'31. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'32. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'33. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'34. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'35. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'36. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'37. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'38. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'39. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'40. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'41. If (New Objective Responsiveness Time (seconds) is Slow) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'42. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'43. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'44. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'45. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'46. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'47. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'48. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'49. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'50. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)

'52. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'53. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'54. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'55. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'56. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'57. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'58. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'59. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'60. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'61. If (New Objective Responsiveness Time (seconds) is Medium) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'62. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'63. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'64. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'65. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'66. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'67. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'68. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'69. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'70. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'71. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'72. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'73. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'74. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'75. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'76. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'77. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'78. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'79. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'80. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'81. If (New Objective Responsiveness Time (seconds) is Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'82. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Very Low Potential) (1)
'83. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'84. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'85. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Passive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'86. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'87. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'88. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'89. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Slow) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'90. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Low Potential) (1)
'91. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'92. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'93. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Medium) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is High Potential) (1)
'94. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'95. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'96. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'97. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Fast) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'98. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Low Priority) then (NPC Objective Potential (%) is Medium Potential) (1)
'99. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Medium Priority) then (NPC Objective Potential (%) is High Potential) (1)
'100. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)
'101. If (New Objective Responsiveness Time (seconds) is Very Fast) and (Objective Defensive and Offensive Pace (pace %) is Aggressive) and (Objective Priority Level is Very High Priority) then (NPC Objective Potential (%) is Very High Potential) (1)

Final system rule base: sub-FIS (NPC Weapon Lethality)

'1. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'2. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'3. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'4. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'5. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'6. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'7. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'8. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'9. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'10. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'11. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'12. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'13. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'14. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'15. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'16. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'17. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'18. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'19. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'20. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'21. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'22. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'23. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'24. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'25. If (Weapon Damage Falloff (range effectiveness in metres) is Very Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'26. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'27. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'28. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'29. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'30. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'31. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'32. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'33. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'34. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'35. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'36. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'37. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'38. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'39. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'40. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'41. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'42. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'43. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'44. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'45. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'46. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'47. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'48. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'49. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'50. If (Weapon Damage Falloff (range effectiveness in metres) is Short Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'51. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Very Low Lethality) (1)
'52. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'53. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'54. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'55. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'56. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'57. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'58. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'59. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'60. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'61. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'62. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'63. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'64. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'65. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'66. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'67. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'68. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'69. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'70. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'71. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'72. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'73. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'74. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'75. If (Weapon Damage Falloff (range effectiveness in metres) is Medium Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)
'76. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'77. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'78. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'79. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'80. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'81. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Low Lethality) (1)
'82. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'83. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'84. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'85. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'86. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'87. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'88. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'89. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'90. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'91. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)
'92. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'93. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'94. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'95. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)
'96. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'97. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'98. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1)
'99. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)
'100. If (Weapon Damage Falloff (range effectiveness in metres) is Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)
'101. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1)

'102. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'103. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'104. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'105. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'106. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'107. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Medium Lethality) (1) '
'108. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'109. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'110. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Slow Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'111. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'112. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'113. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'114. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'115. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Medium Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'116. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'117. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'118. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'119. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'120. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'121. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Slow Rate) then (NPC Weaponary Lethality (%) is High Lethality) (1) '
'122. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Slow Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'123. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Medium Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'124. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1) '
'125. If (Weapon Damage Falloff (range effectiveness in metres) is Very Long Range) and (Weapon Fire Rate (rounds per minute) is Very Fast Rate) and (Weapon Mobility (level %) is Very Fast Rate) then (NPC Weaponary Lethality (%) is Very High Lethality) (1)'

Final system rule base: sub-FIS (NPC Difficulty)

'1. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'2. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)
'3. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)
'4. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)
'5. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)
'6. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'7. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)
'8. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)
'9. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)
'10. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)
'11. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'12. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)
'13. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)
'14. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)
'15. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)
'16. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'17. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)
'18. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)
'19. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)
'20. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is New) (1)
'21. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'22. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is New) (1)
'23. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is New) (1)
'24. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is New) (1)
'25. If (NPC Sensual Skill (skill level) is Very Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'26. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'27. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'28. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'29. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)
'30. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'31. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'32. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'33. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'34. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)
'35. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'36. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'37. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'38. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'39. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)
'40. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'41. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'42. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'43. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'44. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'45. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)
'46. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'47. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'48. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'49. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'50. If (NPC Sensual Skill (skill level) is Low Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)

'51. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'52. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'53. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'54. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Novice) (1)
'55. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Novice) (1)
'56. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'57. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'58. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Novice) (1)
'59. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'60. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)
'61. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'62. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'63. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'64. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'65. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Regular) (1)
'66. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'67. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'68. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'69. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'70. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'71. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'72. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'73. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'74. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'75. If (NPC Sensual Skill (skill level) is Medium Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'76. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'77. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'78. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'79. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Regular) (1)
'80. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'81. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'82. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'83. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'84. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'85. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'86. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'87. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'88. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'89. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'90. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'91. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'92. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'93. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'94. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'95. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'96. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'97. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'98. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'99. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'100. If (NPC Sensual Skill (skill level) is High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'101. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)

'102. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'103. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Regular) (1)
'104. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'105. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'106. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'107. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'108. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'109. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'110. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Low Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'111. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is New) (1)
'112. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'113. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'114. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Hardened) (1)
'115. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Medium Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'116. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'117. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'118. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'119. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'120. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'121. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very Low Lethality) then (NPC Difficulty (%) is Novice) (1)
'122. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Low Lethality) then (NPC Difficulty (%) is Regular) (1)
'123. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Medium Lethality) then (NPC Difficulty (%) is Hardened) (1)
'124. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is High Lethality) then (NPC Difficulty (%) is Veteran) (1)
'125. If (NPC Sensual Skill (skill level) is Very High Skill) and (NPC Objective Potential (%) is Very High Potential) and (NPC Weaponary Lethality (%) is Very High Lethality) then (NPC Difficulty (%) is Veteran) (1)

Appendix P:

Reaction and responsiveness time (secs)	***Radius of environmental awareness (m)***	***New objective responsiveness (secs)***	***Objective defensive and offensive pace (%)***	***Objective priority level (level)***	***Weapon damage falloff (m)***	***Weapon fire rate (RPM)***	***Weapon mobility level (%)***	***Expected difficulty (skill level)***
2.5	15	10	14	1	10	180	20	New
1.4	47	3.3	37	2	20	350	40	Novice
1.9	51	2.25	54	3	50	600	50	Regular
0.21	100	0	100	5	100	2000	100	Veteran
2	26	4.1	32	2	20	500	50	Regular
1.3	45	2.5	65	3	50	600	45	Regular
1	41	1.75	57	4	40	675	30	Hardened
0.5	75	1	83	4	60	900	40	Veteran
0.9	60	1.5	70	4	50	600	30	Hardened
1.8	30	5.2	40	1	15	400	35	Novice
2	12	8.4	20	2	15	300	15	New
0.85	20	3	50	1	100	40	40	New
1.5	41	4	62	4	15	1100	50	Regular
0.7	62	0.65	74	4	30	1400	90	Veteran
0.65	84	1.25	86	4	80	450	35	Hardened
1.9	33	2.8	47	3	70	550	20	Novice
1.2	42	1.65	74	2	65	700	40	Hardened
2.2	7	7	51	1	15	30	70	New
1.95	30	2.75	60	3	40	480	30	Novice
1	50	1	70	5	70	540	35	Hardened
2.45	18	6.2	9	1	25	660	20	New
1.85	25	7.4	22	1	10	300	30	New
0.4	95	1.1	91	4	60	1100	30	Veteran
1.65	43	2.45	60	4	40	375	50	Hardened
1.7	60	4.7	40	3	30	450	60	Novice
1.55	65	1.9	55	4	50	500	30	Regular
0.45	71	0.6	78	5	50	750	70	Veteran
2.35	37	4.5	30	3	35	600	20	Novice
2.1	20	9.2	16	2	90	60	10	New
0.7	86	0.6	72	5	20	1350	80	Hardened

Table 6: Test data, used to determine each input variable value within every sub-FIS. This data is located within the file 'MultipleNPCSkills'

Appendix Q:

<u>Defuzzification method: expected outcomes</u>

Defuzzification method: expected outcomes				
Test number	***NPC Sensual Skill***	***NPC Objective Potential***	***NPC Weapon Lethality***	***NPC Difficulty***
1	Very Low Skill	Very Low Potential	Very Low Lethality	New
2	Low Skill	Low Potential	Low Lethality	Novice
3	Medium Skill	Medium Potential	High Lethality	Regular
4	Very High Skill	Very High Potential	Very High Lethality	Veteran
5	Medium Skill	Low Potential	High Lethality	Regular
6	Medium Skill	Medium Potential	High Lethality	Regular
7	High Skill	Medium Potential	High Lethality	Hardened
8	Very High Skill	Very High Potential	High Lethality	Veteran
9	High Skill	High Potential	High Lethality	Hardened
10	Medium Skill	Very Low Potential	Medium Lethality	Novice
11	Very Low Skill	Very Low Potential	Medium Lethality	New
12	Very Low Skill	Very Low Potential	Medium Lethality	New
13	Medium Skill	Medium Potential	High Lethality	Regular
14	High Skill	Very High Potential	Very High Lethality	Veteran
15	High Skill	Very High Potential	High Lethality	Hardened

16	Low Skill	Low Potential	Medium Lethality	Novice
17	High Skill	Medium Potential	High Lethality	Hardened
18	Very Low Skill	Very Low Potential	Medium Lethality	New
19	Low Skill	Medium Potential	High Lethality	Novice
20	High Skill	Very High Potential	High Lethality	Hardened
21	Very Low Skill	Very Low Potential	Medium Lethality	New
22	Very Low Skill	Very Low Potential	Medium Lethality	New
23	Very High Skill	Very High Potential	Very High Lethality	Veteran
24	Medium Skill	High Potential	High Lethality	Hardened
25	Low Skill	Low Potential	High Lethality	Novice
26	Medium Skill	Medium Potential	High Lethality	Regular
27	Very High Skill	Very High Potential	Very High Lethality	Veteran
28	Low Skill	Low Potential	Medium Lethality	Novice
29	Very Low Skill	Very Low Potential	High Lethality	New
30	High Skill	Very High Potential	Medium Lethality	Hardened

Table 7: Final system expected defuzzification method outcomes

NPC Sensual Skill sub-FIS: defuzzification method comparison

NPC Sensual Skill: crisp output values					
Test number	***Centroid***	***Bisector***	***MOM***	***SOM***	***LOM***
1	1.32	1.28	1	1	1
2	2.343737495	2.24	2	1.52	2.48
3	3	3	3	3	3
4	4.68	4.72	5	5	5
5	2.547668754	2.6	3	2.52	3.48
6	3.5	3.52	3.47804878	2.6	4.36
7	3.5	3.48	3.5	2.52	4.48
8	4.621621622	4.64	4.76	4.52	5
9	4	4	4	3.52	4.48
10	3	3	3	2.52	3.48
11	1.32	1.28	1	1	1
12	1.32	1.28	1	1	1
13	3.468185389	3.4	3	2.76	3.24
14	4.116940092	4.12	4	3.52	4.48
15	4	4	4	3.76	4.24
16	2	2	2	2	2
17	3.5	3.48	3.5	2.52	4.48
18	1.32	1.28	1	1	1
19	2.343737495	2.24	2	1.52	2.48
20	3.6668	3.8	4	4	4
21	1.32	1.28	1	1	1
22	1.32	1.28	1	1	1
23	4.68	4.72	5	5	5
24	3	3	3	2.68	3.32
25	1.951373855	1.96	2	1.72	2.28
26	3	3	3	2.52	3.48
27	4.226093255	4.32	4.88	4.76	5
28	2.452343339	2.4	2	1.32	2.68
29	1.32	1.28	1	1	1
30	4	4	4	3.52	4.48

Table 8: 'NPC Sensual Skill' sub-FIS crisp output values, exploring each defuzzification method

KEY:

- Expected: **[GREEN]**

- Not expected: **[RED]**

Summary:

- Centroid: (**28 / 30)** expected outcomes
- Bisector: (**26 / 30)** expected outcomes
- MOM: (**30 / 30)** expected outcomes
- SOM: (**28 / 30)** expected outcomes
- LOM: (**28 / 30)** expected outcomes

NPC Objective Potential sub-FIS: defuzzification method comparison

NPC Objective Potential: crisp output values					
Test number	***Centroid***	***Bisector***	***MOM***	***SOM***	***LOM***
1	10.56097561	10	5	0	10
2	30	30	30	23	37
3	50	50	50	46	54
4	89.43902439	90	95	90	100
5	28.64200477	29	30	28	32
6	50	50	50	45	55
7	57.55600815	55	50	43	57
8	80.55530973	83	91.5	83	100
9	70	70	70	70	70
10	10.56097561	10	5	0	10
11	12.41176471	12	10	0	20
12	10.56097561	10	5	0	10
13	50	50	50	42	58
14	88.77777778	89	93	86	100
15	83.90909091	87	93	86	100
16	38.38709677	37	30	22	38
17	50	50	50	46	54
18	10.56097561	10	5	0	10
19	40	40	40	20	60
20	89.43902439	90	95	90	100
21	10.56097561	10	5	0	10
22	10.56097561	10	5	0	10
23	88.77777778	89	93	86	100
24	60	60	60	40	80
25	30	30	30	20	40
26	55.78947368	53	50	45	55
27	88.00680272	88	91	82	100
28	30	30	30	20	40
29	11.59574468	11	8	0	16
30	89.12403101	90	94	88	100

Table 9: 'NPC Objective Potential' sub-FIS crisp output values, exploring each defuzzification method

KEY:

- Expected: **[GREEN]**
- Not expected: **[RED]**

Summary:

- Centroid: (**30 / 30)** expected outcomes
- Bisector: (**30 / 30)** expected outcomes
- MOM: (**30 / 30)** expected outcomes
- SOM: (**28 / 30)** expected outcomes
- LOM: (**25 / 30)** expected outcomes

NPC Weapon Lethality sub-FIS: defuzzification method comparison

NPC Weapon Lethality: crisp output values					
Test number	***Centroid***	***Bisector***	***MOM***	***SOM***	***LOM***
1	10.56097561	10	5	0	10
2	30	30	30	30	30
3	50	50	50	40	60
4	89.43902439	90	95	90	100
5	40	40	40	20	60
6	50	50	50	40	60
7	56.875	55	50	40	60
8	70	70	70	64	76
9	50	50	50	40	60
10	25.73972603	27	30	20	40
11	22.34065934	22	20	0	40
12	50	50	50	50	50
13	40	40	40	20	60
14	87.58823529	88	90	80	100
15	70	70	70	65	75
16	50	50	50	44	56
17	70	70	70	64	76
18	30	30	30	20	40
19	50	50	50	40	60
20	63.96046852	66	70	64	76
21	36.875	35	30	20	40
22	22.34065934	22	20	0	40
23	70	70	70	60	80
24	40	40	40	20	60
25	50	50	50	40	60
26	50	50	50	40	60
27	70	70	70	60	80
28	50	50	50	45	55
29	50	50	50	40	60
30	50	50	50	50	50

Table 10: 'NPC Weapon Lethality' sub-FIS crisp output values, exploring each defuzzification method

KEY:

- Expected: **[GREEN]**
- Not expected***:*** **[RED]**

Summary:

- Centroid: **(12 / 30)** expected outcomes
- Bisector: **(12 / 30)** expected outcomes
- MOM: **(12 / 30)** expected outcomes
- SOM: **(12 / 30)** expected outcomes
- LOM: **(30 / 30)** expected outcomes

NPC Difficulty FIS: defuzzification method comparison

NPC Difficulty: crisp output values					
Test number	***Centroid***	***Bisector***	***MOM***	***SOM***	***LOM***
1	10.64595035	10	5	0	10
2	30	30	30	30	30
3	50	50	50	40	60

4	89.35404965	90	95	90	100
5	40	40	40	20	60
6	59.8123138	60	50	40	60
7	60	60	60	40	80
8	81.00416687	83	90.5	81	100
9	70	70	70	60	80
10	30	30	30	20	40
11	12.41176471	12	10	0	20
12	10.64595035	10	5	0	10
13	50	50	50	40	60
14	89.25063078	90	94.5	89	100
15	73.63472163	72	70	64	76
16	30	30	30	22	38
17	60	60	60	40	80
18	12.41176471	12	10	0	20
19	30	30	30	20	40
20	74.30337079	73	70	64	76
21	12.41176471	12	10	0	20
22	12.41176471	12	10	0	20
23	87.58823529	88	90	80	100
24	60	60	60	40	80
25	30	30	30	20	40
26	57.5443038	56	50	40	60
27	83.41584158	85	90	80	100
28	30	30	30	25	35
29	12.41176471	12	10	0	20
30	70	70	70	70	70

Table 11: 'NPC Difficulty' FIS crisp output values, exploring each defuzzification method

KEY:

- Expected: **[GREEN]**
- Not expected***:*** **[RED]**

Summary:

- Centroid: (**30 / 30)** expected outcomes
- Bisector: (**29 / 30)** expected outcomes
- MOM: (**30 / 30)** expected outcomes
- SOM: (**26 / 30)** expected outcomes
- LOM: (**13 / 30)** expected outcomes

Appendix R:

Initial system: defuzzification method configuration (initial membership function configuration)

Initial system: crisp output values (initial membership function configuration)				
	Method: Centroid	***Method: Centroid***	***Method: Centroid***	***Method: Centroid***
Test number	***NPC Sensual skill***	***NPC Objective Potential***	***NPC Weapon Lethality***	***NPC Difficulty***
1	3	7.56665662	5.673475681	8.134223937
2	2.343737495	25.0197307	25.00917265	25.13273509
3	3	49.97507373	50	49.99619446
4	4.68	94.32652429	94.32652432	92.18737958
5	2.547668754	24.14657762	37.5100924	25.26814644
6	3.5	49.99997622	50	49.99999759
7	3.5	52.71779757	59.11210857	55.14439258
8	4.621621622	81.05260729	74.99082735	83.6213957
9	4	73.61677838	50	74.35958418
10	3	7.239296662	22.38726019	24.80383139

11	1.32	6.043022614	20.34158791	15.33474218
12	1.356651584	5.673475681	50	15.99829639
13	3.468185389	49.99983481	37.5100924	37.82408436
14	4.116940092	93.83013415	94.32652432	92.30774408
15	4	80.07808781	74.98982881	75.04366372
16	2	35.71681439	50	25.0000842
17	3.5	49.71204779	74.98916685	62.38194895
18	1.360740741	5.678551749	25.01294185	16.06869287
19	2.343737495	37.51165095	50	37.50029202
20	3.6668	91.89087445	67.29147134	71.5781046
21	1.46446281	6.934317471	35.25230345	18.47540388
22	1.32	5.766986167	19.42531381	15.33474218
23	4.68	86.31704564	74.98705815	81.34989057
24	3	56.87993472	37.5100924	37.52556694
25	1.951373855	25.0167517	50	24.30921018
26	3	51.35629221	50	49.99999999
27	4.226093255	94.14445951	74.98705815	78.18428826
28	2.452343339	25.01294353	50	25.21840756
29	1.332903226	6.939541882	50	15.68298584
30	4	93.18599348	50	74.80492042

Table 12: Initial system defuzzification method configuration (initial membership function configuration), crisp output values

Final system: defuzzification method configuration

Final system: crisp output values				
	Method: Centroid	***Method: MOM***	***Method: LOM***	***Method: Centroid***
Test number	***NPC Sensual skill***	***NPC Objective Potential***	***NPC Weapon Lethality***	***NPC Difficulty***
1	1	10.56097561	10	10.64595035
2	2	30	30	30
3	3	50	60	50
4	5	89.43902439	100	89.35404965
5	3	28.64200477	60	40
6	3.47804878	50	60	59.8123138
7	3.5	57.55600815	60	60
8	4.76	80.55530973	76	81.00416687
9	4	70	60	70
10	3	10.56097561	40	30
11	1	12.41176471	40	12.41176471
12	1	10.56097561	50	10.64595035
13	3	50	60	50
14	4	88.77777778	100	89.25063078
15	4	83.90909091	75	73.63472163
16	2	38.38709677	56	30
17	3.5	50	76	60
18	1	10.56097561	40	12.41176471
19	2	40	60	30
20	4	89.43902439	76	74.30337079
21	1	10.56097561	40	12.41176471
22	1	10.56097561	40	12.41176471
23	5	88.77777778	80	87.58823529
24	3	60	60	60
25	2	30	60	30
26	3	55.78947368	60	57.5443038
27	4.88	88.00680272	80	83.41584158
28	2	30	55	30
29	1	11.59574468	60	12.41176471

30	4	89.12403101	50	70

Table 13: Final system defuzzification method configuration, crisp output values

Initial vs final system: expected outcomes (initial system – initial membership function configuration)

Initial vs final system: crisp output values (initial system – initial membership function configuration)			
	NPC Difficulty: crisp out values		
Test number	***Initial system (initial MF's)***	***Final system***	***Expected difficulty***
1	8.134223937	10.64595035	New
2	25.13273509	30	Novice
3	49.99619446	50	Regular
4	92.18737958	89.35404965	Veteran
5	25.26814644	40	Regular
6	49.99999759	59.8123138	Regular
7	55.14439258	60	Hardened
8	83.6213957	81.00416687	Veteran
9	74.35958418	70	Hardened
10	24.80383139	30	Novice
11	15.33474218	12.41176471	New
12	15.99829639	10.64595035	New
13	37.82408436	50	Regular
14	92.30774408	89.25063078	Veteran
15	75.04366372	73.63472163	Hardened
16	25.0000842	30	Novice
17	62.38194895	60	Hardened
18	16.06869287	12.41176471	New
19	37.50029202	30	Novice
20	71.5781046	74.30337079	Hardened
21	18.47540388	12.41176471	New
22	15.33474218	12.41176471	New
23	81.34989057	87.58823529	Veteran
24	37.52556694	60	Hardened
25	24.30921018	30	Novice
26	49.99999999	57.5443038	Regular
27	78.18428826	83.41584158	Veteran
28	25.21840756	30	Novice
29	15.68298584	12.41176471	New
30	74.80492042	70	Hardened

Table 14: Initial (initial membership function configuration) vs final system crisp output values, comparing to expected outcomes

KEY:

- Expected: **[GREEN]**
- Not expected***:*** **[RED]**

Summary:

- Initial system: (**25 / 30)** expected outcomes
- Final system: (**30 / 30)** expected outcomes

Initial system: defuzzification method configuration (membership functions updated)

Initial system: crisp output values (membership functions updated)				
	Method: Centroid	***Method: Centroid***	***Method: Centroid***	***Method: Centroid***
Test number	***NPC Sensual skill***	***NPC Objective Potential***	***NPC Weapon Lethality***	***NPC Difficulty***
1	1.32	10.56097561	10.56097561	12.60805255
2	2.343737495	30	30	30

3	3	50	50	50
4	4.68	89.43902439	89.43902439	87.39194745
5	2.547668754	28.64200477	40	30
6	3.5	50	50	50
7	3.5	57.55600815	56.875	58.77860045
8	4.621621622	80.55530973	70	79.04115556
9	4	70	50	70
10	3	10.56097561	25.73972603	27.0158196
11	1.32	12.41176471	22.34065934	19.35413244
12	1.32	10.56097561	50	18.81075078
13	3.468185389	50	40	40
14	4.116940092	88.77777778	87.58823529	85.9363711
15	4	83.90909091	70	70
16	2	38.38709677	50	30
17	3.5	50	70	60
18	1.32	10.56097561	30	18.81075078
19	2.343737495	40	50	38.34554102
20	3.6668	89.43902439	63.96046852	63.15652475
21	1.32	10.56097561	36.875	19.00819904
22	1.32	10.56097561	22.34065934	19.35413244
23	4.68	88.77777778	70	81.18924922
24	3	60	40	40
25	1.951373855	30	50	29.34726061
26	3	55.78947368	50	50
27	4.226093255	88.00680272	70	73.17992284
28	2.452343339	30	50	30
29	1.32	11.59574468	50	18.81075078
30	4	89.12403101	50	70

Table 15: Initial system defuzzification method configuration (membership functions updated), crisp output values

Initial vs final system: expected outcomes (initial system – membership functions updated)

Initial vs final system: crisp output values (initial system - membership functions updated)			
	NPC Difficulty: crisp out values		
Test number	***Initial system (MF's updated)***	***Final system***	***Expected difficulty***
1	12.60805255	10.64595035	New
2	30	30	Novice
3	50	50	Regular
4	87.39194745	89.35404965	Veteran
5	30	40	Regular
6	50	59.8123138	Regular
7	58.77860045	60	Hardened
8	79.04115556	81.00416687	Veteran
9	70	70	Hardened
10	27.0158196	30	Novice
11	19.35413244	12.41176471	New
12	18.81075078	10.64595035	New
13	40	50	Regular
14	85.9363711	89.25063078	Veteran
15	70	73.63472163	Hardened
16	30	30	Novice
17	60	60	Hardened
18	18.81075078	12.41176471	New
19	38.34554102	30	Novice
20	63.15652475	74.30337079	Hardened
21	19.00819904	12.41176471	New

22	19.35413244	12.41176471	New
23	81.18924922	87.58823529	Veteran
24	40	60	Hardened
25	29.34726061	30	Novice
26	50	57.5443038	Regular
27	73.17992284	83.41584158	Veteran
28	30	30	Novice
29	18.81075078	12.41176471	New
30	70	70	Hardened

Table 16: Initial (membership functions updated) vs final system crisp output values, comparing to expected outcomes

KEY:

- Expected: **[GREEN]**
- Not expected***:*** **[RED]**

Summary:

- Initial system: (**24 / 30)** expected outcomes
- Final system: (**30 / 30)** expected outcomes

Appendix S:

Final system variable declarations: NPC Sensual Skill sub-FIS

```
a = newfis('NPC Sensual Skill'); % NPC sensual ability inference system

a=addvar(a,'input','Weapon Recoil Pattern and Sight Kick Control (accuracy %)',[0 100]); % Weapon handling accuracy

a=addmf(a,'input',1,'Very Poor','trapmf',[-10 0 10 20]); % Very poor accuracy
a=addmf(a,'input',1,'Poor','trimf',[10 20 30]); % Poor accuracy
a=addmf(a,'input',1,'Medium','trimf',[20 40 50]); % Medium accuracy
a=addmf(a,'input',1,'Good','trimf',[40 50 70]); % Good accuracy
a=addmf(a,'input',1,'Very Good','trapmf',[60 70 100 110]); % Very good accuracy

a=addvar(a,'input','Reaction and Responsiveness Time (seconds)',[0.21 2]); % Response time from player awareness

a=addmf(a,'input',2,'Very Fast','trapmf',[0.2 0.21 0.25 0.3]); % Very fast reaction time
a=addmf(a,'input',2,'Fast','trimf',[0.25 0.4 0.6]); % Fast reaction time
a=addmf(a,'input',2,'Medium','trimf',[0.4 0.6 0.8]); % Medium reaction time
a=addmf(a,'input',2,'Slow','trimf',[0.6 1 1.4]); % Slow reaction time
a=addmf(a,'input',2,'Very Slow','trapmf',[1 1.5 2 2.5]); % Very slow reaction time

a=addvar(a,'input','Radius of Player Awareness (metres)',[0 100]); % Radius of awareness (sight and hear)

a=addmf(a,'input',3,'Very Close','trapmf',[-15 0 5 10]); % Very close radius of awareness
a=addmf(a,'input',3,'Close','trapmf',[0 10 20 30]); % Close radius of awareness
a=addmf(a,'input',3,'Medium','trapmf',[15 25 40 55]); % Medium radius of awareness
a=addmf(a,'input',3,'Far','trapmf',[35 45 65 75]); % Far radius of awareness
a=addmf(a,'input',3,'Very Far','trapmf',[55 70 100 110]); % Very far radius of awareness

a=addvar(a,'output','NPC Sensual Skill (skill level)',[1 5]); % NPC sensing ability

a=addmf(a,'output',1,'Very Low Skill','trimf', [0 1 2]); % Very low sensing ability
a=addmf(a,'output',1,'Low Skill','trimf',[1 2 3]); % Low sensing ability
a=addmf(a,'output',1,'Medium Skill','trimf',[2 3 4]); % Good sensing ability
a=addmf(a,'output',1,'High Skill','trimf',[3 4 5]); % High sensing ability
a=addmf(a,'output',1,'Very High Skill','trimf',[4 5 6]); % Very high sensing ability
```

Final system variable declarations: NPC Objective Potential sub-FIS

```
b = newfis('NPC Objective Potential'); % NPC objective potential inference system

b=addvar(b,'input','New Objective Responsiveness Time (seconds)',[0 10]); % Responsiveness to occurence of new objectives

b=addmf(b,'input',1,'Very Fast','trapmf',[-2 0 1 1.5]); % Very fast responsiveness
b=addmf(b,'input',1,'Fast','trapmf',[0.75 1.25 1.75 2.25]); % Fast responsiveness
b=addmf(b,'input',1,'Medium','trapmf',[1.5 2 2.5 3]); % Medium responsiveness
b=addmf(b,'input',1,'Slow','trapmf',[2.5 3 4 5]); % Slow responsiveness
b=addmf(b,'input',1,'Very Slow','trapmf',[4 5 10 11]); % Very slow responsiveness

b=addvar(b,'input','Objective Defensive and Offensive Pace (pace %)',[0 100]); % Behaviour of gameplay approach around or on current objective

b=addmf(b,'input',2,'Passive','trapmf',[-10 0 10 30]); % Passive behaviour
b=addmf(b,'input',2,'Slow','trimf',[10 30 50]); % Slow behaviour
b=addmf(b,'input',2,'Medium','trimf',[30 50 70]); % Medium behaviour
b=addmf(b,'input',2,'Fast','trimf',[50 70 90]); % Fast behaviour
b=addmf(b,'input',2,'Aggressive','trapmf',[70 90 100 110]); % Aggressive behaviour

b=addvar(b,'input','Objective Priority Level',[1 5]); % Priority to have objective gameplay orientation

b=addmf(b,'input',3,'Very Low Priority','trimf',[0 1 2]); % Very low priority
b=addmf(b,'input',3,'Low Priority','trimf',[1 2 3]); % Low priority
b=addmf(b,'input',3,'Medium Priority','trimf',[2 3 4]); % Medium priority
b=addmf(b,'input',3,'High Priority','trimf',[3 4 5]); % High priority
b=addmf(b,'input',3,'Very High Priority','trimf',[4 5 6]); % Very high priority

b=addvar(b,'output','NPC Objective Potential (%)',[0 100]); % NPC objective ability

b=addmf(b,'output',1,'Very Low Potential','trapmf', [-10 0 10 30]); % Very low objective ability
b=addmf(b,'output',1,'Low Potential','trimf',[10 30 50]); % Low objective ability
b=addmf(b,'output',1,'Medium Potential','trimf',[30 50 70]); % Good objective ability
b=addmf(b,'output',1,'High Potential','trimf',[50 70 90]); % High objective aility
b=addmf(b,'output',1,'Very High Potential','trapmf',[70 90 100 110]); % Very high objective ability
```

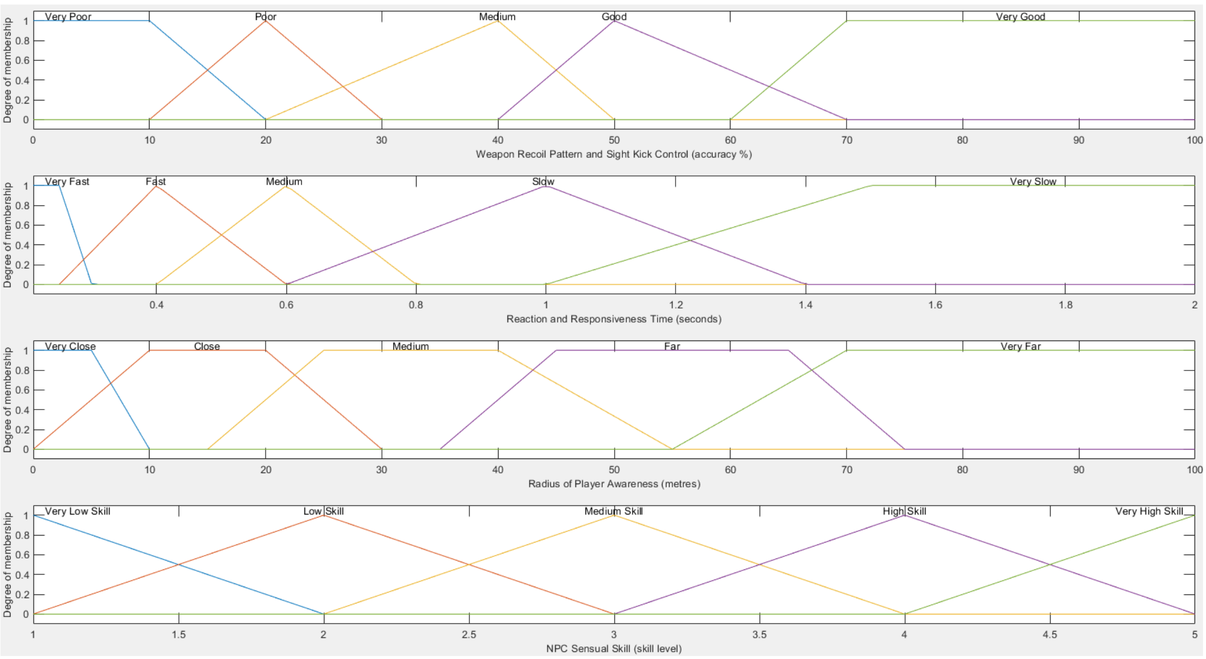
<u>Final system variable declarations: NPC Weapon Lethality sub-FIS</u>

```
c = newfis('NPC Weaponary Lethality'); % NPC weapon lethality inference system

c=addvar(c,'input','Weapon Damage Falloff (range effectiveness in metres)',[0 100]); % Weapon damage effectiveness at range

c=addmf(c,'input',1,'Very Short Range','trapmf',[-10 0 10 20]); % Very short effectiveness range
c=addmf(c,'input',1,'Short Range','trimf',[10 20 30]); % Short effectiveness range
c=addmf(c,'input',1,'Medium Range','trimf',[20 40 60]); % Medium effectiveness range
c=addmf(c,'input',1,'Long Range','trimf',[50 65 80]); % Long effectiveness range
c=addmf(c,'input',1,'Very Long Range','trapmf',[70 80 100 110]); % Very long effectiveness range

c=addvar(c,'input','Weapon Fire Rate (rounds per minute)',[0 2000]); % Weapon fire rate

c=addmf(c,'input',2,'Very Slow Rate','trapmf',[-100 0 120 180]); % Very slow firing rate (< 3 RPS)
c=addmf(c,'input',2,'Slow Rate','trapmf',[120 180 360 420]); % Slow firing rate (2 - 7 RPS)
c=addmf(c,'input',2,'Medium Rate','trapmf',[360 420 660 720]); % Medium firing rate (6 - 12 RPS)
c=addmf(c,'input',2,'Fast Rate','trapmf',[660 720 1200 1260]); % Fast firing rate (11 - 21 RPS)
c=addmf(c,'input',2,'Very Fast Rate','trapmf',[1200 1260 2000 2100]); % Very fast firing rate (> 20 RPS)

c=addvar(c,'input','Weapon Mobility (level %)',[0 100]); % Weapon manoeuvrability level

c=addmf(c,'input',3,'Very Slow Rate','trimf',[-10 0 20]); % Very slow movement
c=addmf(c,'input',3,'Slow Rate','trimf',[0 20 40]); % Slow movement
c=addmf(c,'input',3,'Medium Rate','trimf',[20 40 60]); % Medium movement
c=addmf(c,'input',3,'Fast Rate','trimf',[40 60 80]); % Fast movement
c=addmf(c,'input',3,'Very Fast Rate','trapmf',[60 80 100 110]); % Very fast movement

c=addvar(c,'output','NPC Weaponary Lethality (%)',[0 100]); % NPC weapon lethality level

c=addmf(c,'output',1,'Very Low Lethality','trapmf',[-10 0 10 30]); % Very ineffective for killing
c=addmf(c,'output',1,'Low Lethality','trimf',[10 30 50]); % Ineffective for killing
c=addmf(c,'output',1,'Medium Lethality','trimf',[30 50 70]); % Useful for killing
c=addmf(c,'output',1,'High Lethality','trimf',[50 70 90]); % Effective for killing
c=addmf(c,'output',1,'Very High Lethality','trapmf',[70 90 100 110]); % Very effective for killing
```

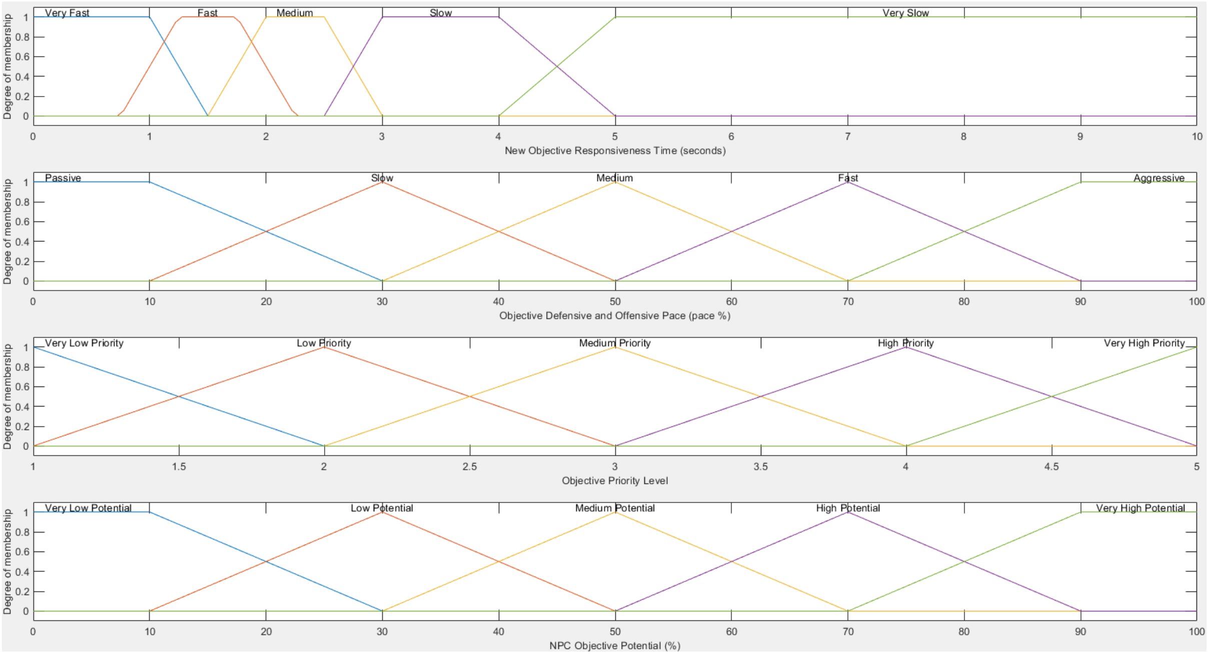
<u>Final system variable declarations: NPC Difficulty FIS</u>

```
d = newfis('NPC Difficulty (%)'); % NPC difficulty inference system

d=addvar(d,'input','NPC Sensual Skill (skill level)',[1 5]); % NPC sensing ability

d=addmf(d,'input',1,'Very Low Skill','trimf',[0 1 2]); % Very low sensing ability
d=addmf(d,'input',1,'Low Skill','trimf',[1 2 3]); % Low sensing ability
d=addmf(d,'input',1,'Medium Skill','trimf',[2 3 4]); % Good sensing ability
d=addmf(d,'input',1,'High Skill','trimf',[3 4 5]); % High sensing ability
d=addmf(d,'input',1,'Very High Skill','trimf',[4 5 6]); % Very high sensing ability

d=addvar(d,'input','NPC Objective Potential (%)',[0 100]); % NPC objective ability

d=addmf(d,'input',2,'Very Low Potential','trapmf', [-10 0 10 30]); % Very low objective ability
d=addmf(d,'input',2,'Low Potential','trimf',[10 30 50]); % Low objective ability
d=addmf(d,'input',2,'Medium Potential','trimf',[30 50 70]); % Good objective ability
d=addmf(d,'input',2,'High Potential','trimf',[50 70 90]); % High objective aility
d=addmf(d,'input',2,'Very High Potential','trapmf',[70 90 100 110]); % Very high objective ability

d=addvar(d,'input','NPC Weaponary Lethality (%)',[0 100]); % NPC weapon lethality level

d=addmf(d,'input',3,'Very Low Lethality','trapmf',[-10 0 10 30]); % Very ineffective for killing
d=addmf(d,'input',3,'Low Lethality','trimf',[10 30 50]); % Ineffective for killing
d=addmf(d,'input',3,'Medium Lethality','trimf',[30 50 70]); % Useful for killing
d=addmf(d,'input',3,'High Lethality','trimf',[50 70 90]); % Effective for killing
d=addmf(d,'input',3,'Very High Lethality','trapmf',[70 90 100 110]); % Very effective for killing

d=addvar(d,'output','NPC Difficulty (%)',[0 100]); % NPC difficulty (output of outputs)

d=addmf(d,'output',1,'New','trapmf',[-10 0 10 30]); % New player
d=addmf(d,'output',1,'Novice','trimf',[10 30 50]); % Novice player
d=addmf(d,'output',1,'Regular','trimf',[30 50 70]); % Regular player
d=addmf(d,'output',1,'Hardened','trimf',[50 70 90]); % Hardened player
d=addmf(d,'output',1,'Veteran','trapmf',[70 90 100 110]); % Veteran player
```

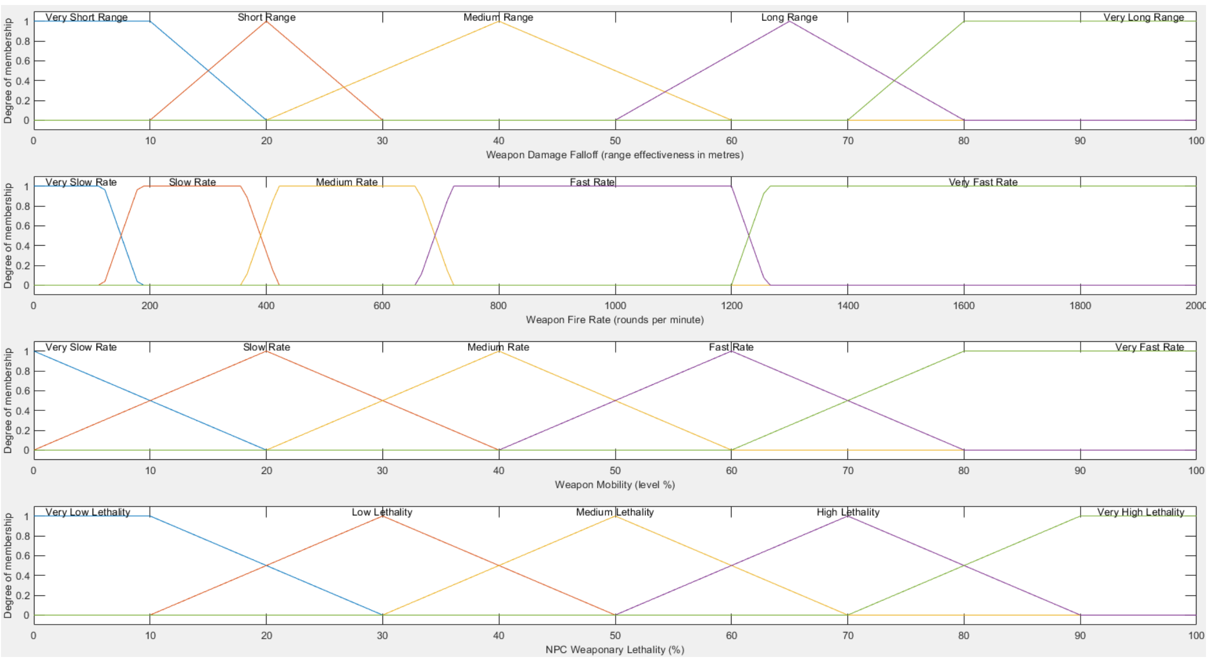
<u>Final system fuzzy set distribution: NPC Sensual Skill sub-FIS</u>



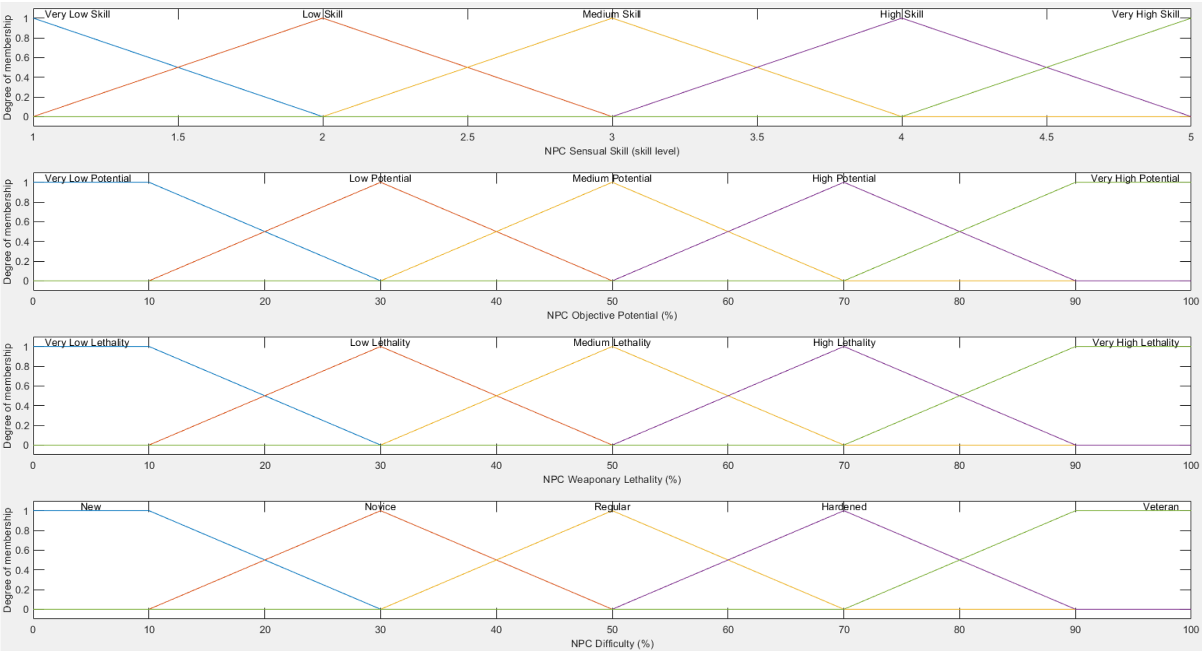
Final system fuzzy set distribution: NPC Objective Potential sub-FIS



Final system fuzzy set distribution: NPC Weapon Lethality sub-FIS



Final system fuzzy set distribution: NPC Difficulty FIS


Very Low Skill
Low Skill
Medium Skill
High Skill
Very High Skill
Degree of membership
NPC Sensual Skill (skill level)
Very Low Potential
Low Potential
Medium Potential
High Potential
Very High Potential
NPC Objective Potential (%)
Very Low Lethality
Low Lethality
Medium Lethality
High Lethality
Very High Lethality
NPC Weaponary Lethality (%)
New
Novice
Regular
Hardened
Veteran
NPC Difficulty (%)