PSYCHOLOGY SS-2003

**PROJECT REPORT**

*“Train your brain, workout wit to be fit, hone the stone with the game of thrones***”**

**MIIDY**

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**INTRODUCTION:**

Gaming is an affective way of developing and changing a person physically and mentally. Physically, it depends on how much time one is spending in gaming. Excessive time might produce physical consequences producing sleep, eat, and hygiene irregularities. Talking about how it effects a person mentally involves association of both positive and negative effect. In psychological terms this mental effect relates to internal mind processes which can either strengthen up your abilities or may cause to develop negative emotions and social relationships.

“MIIDY” game, can enhance certain aspects of psychological factors of our daily life. Playing this game would beneficially increase and improve major character-building concepts that are needed to manage daily life circumstances in a well-balanced manner.

**BACKGROUND:**

Developing an idea of a game that could bring about a change in a person’s ability by maintaining certain psychological aspects. We have designed this game in such a way that it can help to maintain or improve mental strengths of a person.

Psychological factors being focused during ideation of this game are: better development of working memory for improved and focused recalling. Better storage in short term memory so that it could be retrieved without any difficulties. Moreover, we have also tried to increase general knowledge through an additional feature. For better learning and performance, we have used tried to reward them which will built in up their interest.

**TARGETED POPULATION:**

We have designed this game for every age group as it is having an easy to interact interface. But gaming is usually preferred and played by teenage group, thus this application would be effectively used by teenagers.

**LANGUAGE USED IN THE APPLICATION:**

The purpose of this application is to simply benefit individuals by improving and enhancing their psychological stages. The language used is English and numerical representation is also being.

**CONCEPTS OF PSYCHOLOGY USED IN OUR IDEA:**

* **Process of memory:**

Memory is the ability to take in information, store it, and recall it later. It is a person’s mental ability to store, retain and recall information. There are three main processes that characterizes how memory works:

1. **Encoding:** Encoding refers to the process through which information is learned. How information is taken in and understood. Information is usually encoded through visual, acoustic, semantic, and tactile encoding.
2. **Storage:** Storage refers to how, where, how much, and how long encoded information is retained within the memory system. Encoded information is first stored in short term memory and then if needed stored in long term memory.
3. **Retrieval:** Retrieval refers to how an individual is accessing the stored information.

* **Serial position effect:**

Serial position effect refers to how our memory is affected by the sequence through which it is encoded. We best remember the first and last items rather than what is in the middle. In serial position effect, we have two kinds:

1. **Primacy Effect**: Remembering stuff at beginning of list better than middle.
2. **Recency Effect**: remembering stuff at the end of the list rather than middle.

* **Semantic memory:**

Semantic memory refers to the remembrance of concepts, ideas and facts that are commonly known as general knowledge. Semantic memory is a type of long-term declarative memory that involves retrieval of information corresponding to a fact. Semantic memory allows you to remember the facts that you are learning and tested on.

* **Recalling memory:**

Recalling from memory refers to the concept of retrieving information with a specific cue that could help to recall the information easily that you were unable to do. There are three main types of recall:

1. **Cued recall**: A cue is being provided to recall from memory.
2. **Serial recall:** Serial recall refers to retrieving information in the order in which they occurred.
3. **Free recall**: Free recall refers to the process of retrieving information in any order after seeing al list of items.

* **Learning, Stimulus, and response:**

Learning refers to the process of attaining new knowledge or modifying the existing one. It also refers to a permanent change because of any experience. Learning increases the potential for improved performance. One core concept in learning given by Ivan Pavlov is learning through some specific stimulus which leads to a response. In stimulus-response learning learner responds to the stimuli and acts accordingly as it generates some sort of response.

* **Punishment and reinforcement:**

A concept given by B.F. Skinner according to which, Punishment in psychology refers to the idea of decreasing likelihood of a specific behaviour. An act of reducing the chances of certain behaviour occurrence in future. Punishment is focused on reducing unwanted behaviour. Punishment can be classified into two categories: Positive punishment means to add an element to decrease the possibility of an unfavourable behaviour. Whereas negative punishment involves removal of an element to reduce unwanted behaviour.

On the other hand, reinforcement in psychology focuses on the possibilities of increasing a particular behaviour. Reinforcement focuses on enhancing a positive attitude or behaviour. Reinforcement is also classified into two types: Positive reinforcement refers to adding something valuable or desirable to increase the probability of occurrence of a certain behaviour. Whereas negative reinforcement involves removal of an unfavourable event after analysing a certain behaviour.

* **Short term memory to long term memory:**

Short term memory involves recalling small amount of information from recent time. Short term memory leads to storing limited amount of information at a time. On the other hand, long term memory refers to storing unlimited information for longer period.

Short term memory’s conversion to long term memory involves changes within the brain protecting it from interference. By rehearsing and recalling information over and over, the information tends to store in long term memory.

**USER INTERFACE OF MIIDY**

1-

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Graphical user interface, application

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Graphical user interface, application, website

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**STEPS TO TAKE IN ORDER TO EXECUTE THE IDEA:**

To begin, if a person is visiting our site for the first time, they must create an account by entering all their relevant information. The user can begin playing the game if they already have an account. Here is a thorough overview of the welcome page:

**WELCOME TO THE MIIDY**

1. ALREADY HAVE AN ACCOUNT?
2. WANT TO CREATE A NEW ACCOUNT?

**ALREADY HAVE AN ACCOUNT**

* ENTER YOUR EMAIL
* ENTER YOUR PASSWORD
  + VIEW YOUR PERFORMANCE / SCOREBOARD
  + START PLAYING

**WANT TO CREATE A NEW ACCOUNT**

|  |  |
| --- | --- |
| NAME | \*\*\*\* |
| AGE | \*\* |
| EMAIL | \*\*\*@\*\*\*.com |
| PASSWORD | \*\*\*\*\*\* |
| **REGISTER** | |

Once the user is done with creating an account, they can invite their friends to play the game and compete them. Next user will be presented with two alternatives from which to choose.

1. Sort from **ALPHABETS** to **NUMBERS**.
2. Sort from **NUMBERS** to **ALPHABETS**.

The user will be next asked if they wish to sort the results in ascending or descending order. Sorting must be completed in shortest amount of time possible, with a maximum time of 3 minutes.

Now the user will be presented with a popup window after they have made their decision. It would contain all the mappings of numbers with the corresponding alphabets that the user is expected to sort. The popup window will be shown like this:

|  |  |
| --- | --- |
| **ALPHABETS** | **NUMBERS** |
| A | 9 |
| F | 28 |
| G | 1000 |
| Q | 234 |
| D | 6 |
| K | 1947 |
| P | 53 |

It should be noted that the user will experience fresh mappings each time they play. **FOR EXAMPLE:** if letter **A** was mapped to number **9** the first time, it can be mapped to number **1** second time.

**CONCEPT USED:** **Concept of process of memory (Encoding, Storage, Retrieval) / Serial position effect (primacy, Recency effect):** The game will be like a marathon. There is a beginning, a very long middle that blurs together, and now it is the end. The primacy effect is the beginning; you remember it because that is where you started. The recency effect is the finish; you remember the end. Your brain will now cluster them in the memory where the recalling will be done, and retrieval will be from the short-term memory in case of primacy and long term in case of recency effect. Game will be pure like filling the water in a glass, if glass is being filled the starting is there, the primacy effect, middle part is there and when you overload it again and again the middle part spill out and only the last drops filled will be there, the recency effect.

Before we begin, it should be remembered that there will be an opportunity to get a clue. For instance, if letter **K** is mapped to the number **1947** and the user forgets about it, they can utilize the option of clue. As an example, here is an overview:

**SORTING FROM ALPHABETS TO NUMBERS**

|  |  |
| --- | --- |
| **K** | Year of Independence of Pakistan |

|  |  |
| --- | --- |
| **F** | Your age |

**SORTING FROM NUMBERS TO ALPHABETS**

|  |  |
| --- | --- |
| **1947** | Starting letter of your name |

|  |  |
| --- | --- |
| **28** | Starting letter of side dish with a burger |

**CONCEPT USED**: **Semantic memory**: Semantic memory test come into play as the game begins, to check how strongly your mind can bind the things up. As we all experience memory loss and memory challenge, this memory game is a great diversion and will serve as a gym for your brain, where you will be working out to push your brain to the next level.

However, take in mind that using a clue will result in a **LOWER SCORE**. If clue is used for first time, **5** points will be reduced from your overall score. If it is used for the second time, **7** points will be reduced and so on. Here is an overview:

**CLUE USED FOR:**

|  |  |
| --- | --- |
| **1st time** | Total Score Earned – 5 points |
| **2nd time** | Total Score Earned – 7 points |
| **3rd time** | Total Score Earned – 9 points |

Now when the game begins, the user will begin sorting using their intellect. The identical popup window will be displayed for 10 seconds, a maximum of three times during the game, to allow the user to recall the mappings and play more efficiently.

**CONCEPT USED: Recalling the memory**: Recalling refers to the mental process of retrieval of information from the past. A specific cue is necessary to recall the information that you are unable to. The popup windows will serve as a cue to retrieve otherwise there will be no point of the game if a person cannot recall what were the mappings.

Simultaneously, the user will see a timer that will ring and focused when the time approaches half of the maximum time.

**CONCEPT USED: Learning, stimulus, and response**: The core concept behind game-based learning is teaching through repetition, failure, and accomplishment of goals. Repetitive timer appearance will lead the user to mark the answers in given allotted time and ringing alarms to notify the time limit will eventually create a stimulus of alert in user to speed up and make fast remaining moves.

When the game is finished, the user record will be maintained of the sorting they chose and how long it took them to complete the sorting to show that how quickly they are progressing at using their stages of memory. The results will be shown in the form of percentages. The user will be awarded with the badges and points if percentage increases. If the percentage goes lower below the certain level, the points and badges will start disappearing depending on the following criteria.

|  |  |
| --- | --- |
| **Previous Rate** | 84.5% |
| **Current Score** | 75/100 |
| **Current Score Rate** | 75.0% |
| **Current Rate** | ((75.0 + 84.5) \* 100)/200 = 79.75% |

**SCORE LOWERED BETWEEN:**

* **5-15%:** Bronze Badge will be removed (50 points from overall score if badge was not earned).
* **16-30%:** Silver Badge will be removed (100 points from overall score if badge was not earned).
* **31-50%:** Gold Badge will be removed (250 points from overall score if badge was not earned).
* **Above 50%:** User must start earning the badges and points from 0.

**SCORE GAINED BETWEEN:**

* **5-15%:** Bronze Badge will be added (50 points to overall score if badge is already earned).
* **16-30%:** Silver Badge will be added (100 points to overall score if badge is already earned).
* **31-50%:** Gold Badge will be added (250 points to overall score if badge is already earned).
* **Above 50%:** User will be provided with 1000 points along with 3 free clues and two lives (no badges and scores will be discarded if percentage lowers in their next two games).

**CONCEPT USED:** **Punishment and reinforcement:** Areas of the brain relevant to psychological training addictive games can change mind when subjected to reward or motivation systems, introducing the badges of honors, in case of high scores, will boost the level of user and incase of low scores removal of badges, will create a more focused behavior with a reduced chance of deviation of attention and consciousness, resulting less chances of behavior happening again.

At the end, no matter the score of user lowers or heightens, the possible ways to improve the memory will be displayed and reading those ways again and again will fit up them in their LTM. Following is an overview of the ways that could be possibly displayed to the user (Each time, 3 ways will be displayed, and could be changed next time when user plays the game):

**HI AGAIN!!!!! WELL, NO DOUBT THAT YOU CAN MEMORIZE WELL!!!!! BUTT…. THESE TIPS CAN HELP YOU ENHANCING YOUR MEMORY:**

1. Avoid **CRAMMING:** Studying materials over several sessions gives you the time you need to adequately process information. Research has continuously shown that students who study regularly remember the material far better than those who do all their studying in one marathon session.
2. **STRUCTURE** and **ORGANIZE**: Researchers have found that information is organized in memory in related clusters.2﻿ You can take advantage of this by structuring and organizing the materials you're studying. Try grouping similar concepts and terms together or make an outline of your notes and textbook readings to help group related concepts.
3. Utilize **MENEMONICS**: Mnemonic devices are a technique often used by students to aid in recall. A mnemonic is simply a way to remember information. For example, you might associate a term you need to remember with a common item that you are very familiar with. The best mnemonics are those that utilize positive imagery, humor, or novelty.
4. Practice **MINDFULNESS**: Mindfulness is the mental state in which you keep awareness of your environment and feelings while focusing on the correct moment. Mindfulness has been demonstrated to reduce stress and improve focus and memory.
5. Visualize **CONCEPTS**: Many people find that picturing the knowledge they are studying is beneficial. In your textbooks, pay close attention to the images, charts, and other illustrations. If you don’t have any visual aids, consider making your own.
6. Train your **BRAIN**: Playing brain games to exercise your cognitive skills is a fun and efficient approach to improve your memory. Crossword puzzles, MIIDY, Tetris, and even memory-training smartphone applications are all great method to improve memory.
7. Read **ALOUD:** According to research, reading document aloud boosts your remembrance of the information greatly.
8. Relate **NEW** information to things you **ALREADY** know: Take time to consider how new knowledge relates to what you already know when you’re studying unfamiliar content. You may substantially boost the chance of retaining newly learnt information by forming linkages between new concepts and already existing memories.

**CONCEPT USED:** **Concept of STM to LTM**: Suggesting better memory recognizing template for every beginner to advance learner will help them to learn the techniques and methodological tools for increasing the short term/ long term memory to speedup learning the list. Users will be asked to train their brain by creating a learning environment, Read-read habit, writing or flashcards technique. the main idea will be to put the learner to find the right tool that will work best for him/her.

**BENEFITS OF APPLICATION:**

Talking about the benefits of our gaming application “MIIDY”, it focuses on improving important psychological concepts which also helps individual in their daily lives. Betterment in learning process, improved memory retrieval and concept of punishment-reinforcement for future behaviour occurrence provides ways for individuals to improve themselves as it will also be beneficial while dealing with social circumstances.