# Senior Project Requirements

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Functional Requirements

**Requirement ID:** 01a

**Requirement Type:** PDF Scraping

**Description:** This product shall allow the uploading of PDF form-filled character sheets to input data into the database system.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to use a player provided form-filled character sheet to input their data into the database without manual data entering.

**Priority:** 3

**Requirement ID:** 01b

**Requirement Type:** Character Sheet Viewing

**Description:** This product shall allow the viewing of a player’s character sheet in an easy-to-read format.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to view and understand a player’s character sheet without having to interpreting a database query.

**Priority:** 3

**Requirement ID:** 01c

**Requirement Type:** Monster Data Uploading

**Description:** This product shall allow the uploading of monster stat files to input data into the database system.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to use a monster stat file (created inside the program) to upload monsters into the database system.

**Priority:** 3

**Requirement ID:** 01d

**Requirement Type:** Monster Data Viewing

**Description:** This product shall allow the viewing of a monster stat file in an easy-to-read format.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to view and understand a monster stat file without having to interpret a database query.

**Priority:** 3

**Requirement ID:** 01e

**Requirement Type:** Spell Damage Calculation

**Description:** This product shall calculate the damage for spells and abilities by referencing database information.

**Originator:** Ethan Powell

**Fit Criterion:** The software shall be able to be given a database query and interpret it such that damage will automatically be rolled.

**Priority:** 1

**Requirement ID:** 01f

**Requirement Type:** Dice Rolling Functionality

**Description:** This product shall allow the rolling of any sided dice (up to the maximum of an unsigned integer value).

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to roll any number of any sided dice (up to the maximum of an unsigned integer value) such that the roll can be completed manually through user request or automatically through a database reference calculation requirement. Ex. A spell’s damage must be calculated.

**Priority:** 1

**Requirement ID:** 01g

**Requirement Type:** Spell DamageApplication

**Description:** This product shall apply damage to the proper selected entities when simulating a combat encounter.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to select and ability and its targets, allowing the damage calculation to be applied automatically and without the need for user modification.

**Priority:** 2

**Requirement ID:** 01h

**Requirement Type:** Status Effect Application

**Description:** This product shall apply status effects to each entity that becomes affected by a spell or ability that applies a status effect.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to select an ability and its targets, applying the proper status effects automatically and without the need for user modification.

**Priority:** 2

**Requirement ID:** 01i

**Requirement Type:** Map Integration

**Description:** This product shall allow the tracking of player and monster locations on a grid-based system.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to place player and monster tokens on a grid map and be able to move them using their mouse pointer through a drag-and-drop system.

**Priority:** 5

**Requirement ID:** 01j

**Requirement Type:** Distance Calculation

**Description:** This product shall automatically calculate distances between each entity on the grid-based system.

**Originator:** Ethan Powell

**Fit Criterion:** The program shall keep track of the distance between one entity and each other entity on the grid-based system, updating the distances as the main entity moves.

**Priority:** 1

**Requirement ID:** 01k

**Requirement Type:** Status Effect Maintainability

**Description:** This product shall automatically calculate the effects of the status effects on each entity.

**Originator:** Ethan Powell

**Fit Criterion:** The program shall automatically apply the effects of status effects, calculating the benefits and detriments of each effect if require by another spell or ability.

**Priority:** 2

**Requirement ID:** 01l

**Requirement Type:** Spell and Ability Reference

**Description:** This product shall allow the viewing of spells and abilities from a database query.

**Originator:** Ethan Powell

**Fit Criterion:** The program shall allow the user to view spells and abilities without the need to interpret a database query.

**Priority:** 3

**Requirement ID:** 01m

**Requirement Type:** Search Bar Functionality

**Description:** This product will allow the searching of spells, abilities, monsters, and players through the use of a search bar.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to search players, monsters, spells, and abilities through a search bar. Keywords and titles will be used to quickly reference which data shall be displayed.

**Priority:** 4

Functional Requirements

**Requirement ID:** 02

**Requirement Type:** Appearance

**Description:** This product will provide the user with a graphical user interface (GUI) that shall be unobtrusive and appealing, allowing the software to be interacted with using the mouse pointer.

**Originator:** Ethan Powell

**Fit Criterion:** The user shall be able to interact with the software with an appealing GUI that a user would rate at a minimum of 3 on the Liker scale of 1 – 5.

**Priority:** 4

Ease of Use Requirements

**Requirement ID:** 03

**Requirement Type:** Usability

**Description:** This product shall be able to be used by people with a basic knowledge of computer software.

**Originator:** Ethan Powell

**Fit Criterion:** A dungeon master shall be able to use this program with no prior experience easily and effectively.

**Priority:** 4

Performance Requirements

**Requirement ID:** 04a

**Requirement Type:** Speed and Latency

**Description:** All actions performed on entities in the program shall be completed in a timely manner.

**Originator:** Ethan Powell

**Fit Criterion:** A user shall experience a delay of no longer than 10 seconds when performing actions on player character or monster entities.

**Priority:** 4

**Requirement ID:** 04b

**Requirement Type:** Precision and Accuracy

**Description:** This product shall be accurate in its display of status effects, damage values, health values, and other resource values.

**Originator:** Ethan Powell

**Fit Criterion:** A user shall be able to see an accurate depiction of each value associate with each entity in the program that is reflective of the modifications done to such entity.

**Priority:** 3

**Requirement ID:** 04c

**Requirement Type:** Reliability and Availability

**Description:** This product shall be available to the user until the user decides to terminate the program.

**Originator:** Ethan Powell

**Fit Criterion:** The product shall continue to run without interruptions until the user terminates the program with the “quit” button.

**Priority:** 2

**Requirement ID:** 04d

**Requirement Type:** Scalability and Capacity A

**Description:** This product shall be able to be modified by the developer such that new modules can be added to extend functionality without breaking previous functions of the product.

**Originator:** Ethan Powell

**Fit Criterion:** The product shall be able to be modified at a later time without disturbing previous functions of the product.

**Priority:** 4

**Requirement ID:** 04e

**Requirement Type:** Scalability and Capacity B

**Description:** This product shall have the capacity to track at least 50 entities at one time.

**Originator:** Ethan Powell

**Fit Criterion:** The product shall track and modify at least 50 entities without termination or noticeable slowdown.

**Priority:** 3

Maintainability and Support Requirements

**Requirement ID:** 05

**Requirement Type:** Maintenance

**Description:** This product shall be able to be patched by removing bugs and adding performance improvements as soon as they are available.

**Originator:** Ethan Powell

**Fit Criterion:** Bugs shall be fixed, and performance improvements shall be applied as readily as they are available.

**Priority:** 3

Security Requirements

**Requirement ID:** 06a

**Requirement Type:** Access Requirements

**Description:** This product shall provide reference to all data without blockage for the user.

**Originator:** Ethan Powell

**Fit Criterion:** A user shall be able to access all data that the product can access without interruption.

**Priority:** 5

**Requirement ID:** 06b

**Requirement Type:** Integrity Requirements

**Description:** This product shall provide accurate information and prevent harmful altering of data inside the database.

**Originator:** Ethan Powell

**Fit Criterion:** Any harmful data that shall be entered into the database will be rejected.

**Priority:** 5