**Functional Requirements**

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| **Main Page** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The user should be able to view all of the games in which they are the Game Master |
| FR3 | The user should be able to view all of the games in which they are a player. |
| FR4 | The user should be able to navigate to the Home Screen. |
| FR5 | The user should be able to navigate to the Create New Game screen. |
| FR6 | The user should be able to navigate to the Join Game screen. |
| FR7 | The user should be able to navigate to the Game Information Screen for any game that they are a player of. |
| FR8 | The user should be able to navigate to the Game Party Screen for any game that they are a player of. |
| FR9 | The user should be able to navigate to any Custom Game pages included with any game that they are a player of. |
| FR10 | The user should be able to navigate to the Game Information Screen for any game that they are a Game Master of. |
| FR11 | The user should be able to navigate to the Game Party Screen for any game that they are a Game Master of. |
| FR12 | The user should be able to navigate to the Encounter Tool for any game that they are a Game Master of. |
| FR13 | The user should be able to navigate to the NPC Tracker for any game that they are a Game Master of. |
| FR14 | The user should be able to navigate to the NPC Tool for any game that they are a Game Master of. |
| FR15 | The user should be able to navigate to the Custom Page Tool for any game that they are a Game Master of. |

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| **Login Screen** | |
| FR1 | The user should be able to authenticate a username and password against a user entry in the database |
| FR2 | The user should be able to fill out a form to gather the required information to create a new account. |
| FR3 | The user should be able to create a new user account in the database. |

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| **Home Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The user should be able to read the Web Page greeting. |
| FR3 | The user should be able to read instructions on how to navigate the various pages. |

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| **Create Game Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The user should be able to fill out a form to gather the required information to create a game. |
| FR3 | Game name should be checked against a database to ensure that it does not already exist. |
| FR4 | The user should be able to create their game in the database, and be assigned its Game Master |

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| **Join Game Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The user should be to view all the games currently accepting new players. |
| FR3 | The software should be to access the names of all of the games in the database. |
| FR4 | The user should be able to fill out basic information for a game they would like to join. |
| FR5 | The software should forward the user’s information as a join request to the Game Master of the game. |

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| **(Player) Game Information Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should retrieve the stored game information text from the database. |
| FR3 | The user should be able to read the game information written by the Game Master. |

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| **(Game Master) Game Information Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should retrieve the current stored game information text from the database. |
| FR3 | The user should be able to update any of the existing game information. |
| FR4 | The software should update the game’s information in the database with any changes made by the Game Master. |

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| **(Player) Game Party Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should retrieve all party members belonging to the game from the database. |
| FR3 | The user should be able to view the list of current party members, and all of their current information. |

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| **(Game Master) Game Party Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should retrieve all party members belonging to the game from the database. |
| FR3 | The user should be able to view the list of current party members, and all of their current information. |
| FR4 | The user should be able to edit any of the information belonging to any of the individual party members. |
| FR5 | The user should be able to view and accept any join requests to the game. |
| FR6 | The user should be able to create and add NPC Party Members to the game. |
| FR7 | The software should update any updated party member information to the database. |

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| **(Player) Custom Game Page Screen** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The user should be able to view the game master’s custom pdf page. |

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| **(Game Master) Custom Page Tool** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should be able to retrieve the names and ordering of all the current custom pages from the database. |
| FR3 | The user should be able reorder the existing custom pages. |
| FR4 | The user should be able to delete existing custom pages. |
| FR5 | The user should be able to add additional custom pages. |
| FR6 | The software should be able to save uploaded pdf pages to server storage. |
| FR7 | The software should be able to deny the upload of pdf pages with excessive disk usage. |
| FR8 | The software should be able to insert new custom pages into the database with urls to the pdf pages in server storage. |
| FR9 | The software should be able to delete pdfs from server storage and the database when no longer needed. |
| FR10 | The software should be able to update custom page order in the database. |

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| **(Game Master) Encounter Tool** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should be able to retrieve the names of all current encounters from the database. |
| FR3 | The user should be able to make new encounters. |
| FR4 | The user should be able to load existing encounters from the database. |
| FR5 | The user should be able to add monsters to their new or existing encounter. |
| FR6 | The user should be able to edit individual monster characteristics. |
| FR7 | The user should be able to save their new encounter for later use. |
| FR8 | The software should be able to save new encounters and their monsters to the database. |
| FR9 | The software should be able to update existing encounters and their monsters to the database. |
| FR10 | The software should be able to delete existing encounters and their monsters to the database. |
| FR11 | The user should be able to run game encounters from the tool in actual play. |

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| **(Game Master) Encounter Tool** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should be able to retrieve the names of all current encounters from the database. |
| FR3 | The user should be able to make new encounters. |
| FR4 | The user should be able to load existing encounters from the database. |
| FR5 | The user should be able to add monsters to their new or existing encounter. |
| FR6 | The user should be able to edit individual monster characteristics. |
| FR7 | The user should be able to save their new encounter for later use. |
| FR8 | The software should be able to save new encounters and their monsters to the database. |
| FR9 | The software should be able to update existing encounters and their monsters to the database. |
| FR10 | The software should be able to delete existing encounters and their monsters to the database. |
| FR11 | The user should be able to run game encounters from the tool in actual play. |

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| **(Game Master) NPC Tool** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should be able to retrieve pre-made NPC characteristics at random from the database. |
| FR3 | The user should be able to randomly generate every required characteristic for an NPC. |
| FR4 | The user should be able to manually edit any required characteristic for the NPC. |
| FR5 | The user should be able to save the generated or created NPC for later use. |
| FR6 | The software should be able to save the NPC to the database. |

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| **(Game Master) NPC Tracker** | |
| FR1 | If not logged in, the user should be redirected to the login screen. |
| FR2 | The software should be able to retrieve all of a game’s NPCs from the database. |
| FR3 | The user should be able to see a list of all of the game’s NPCs, with basic identifying information. |
| FR4 | The user should be able to select any NPC, and display all of its data. |
| FR5 | The user should be able to edit any characteristics of that NPC. |
| FR6 | The user should be able to update any changes to the game’s NPCs. |
| FR7 | The user should be able to delete any given NPC. |
| FR8 | The software should update any changes to NPCs in the database. |
| FR9 | The software should be able to delete any given NPC from the database. |

**Non-Functional Requirements**

**Application Requirements**

The Web Application will need both a Web Server as Middleware, and a Database to handle the back-end storage of data. This should ideally be on separate machines from one another, however, due to the expected low traffic it may be ran on the same platform.

**Web Server Specifications**  
A Web Server will be needed, in order to run the Asp.Net Web Application.  
  
For the .NET Framework (4.6.1), this server will need to run either: Microsoft Windows, Linux, or macOS for the operating system and have a minimum of 2GBs of RAM. Since the number of concurrent users is expected to be low, bandwidth and CPU requirements are not severe, and a shared Web Server may be utilized.

All responses to user actions need to occur within 1 second, and preferably under 0.2 seconds to give a proper feeling of responsiveness.

**Database Specifications**

The Web Application will need to interface with a SQL database holding tables for the following items: Users, Games, Encounters, Monsters, Party Members, NPCs, Custom Pages, and Random Names and NPC traits.  
  
The Database machine must be able to handle moderate levels of disk space required for storage of User PDF files, which may contain images.

Database queries will need to be executed within 150ms to ensure the user is able to make the quick alterations needed to run in-game tabletop combats.

**Front-End Device Support**

The software will need to be deployed as both an Asp.Net Web Application for Windows and macOS users with internet access, and as a separate offline Microsoft Windows Desktop Application, so that Microsoft Windows users without internet access may still utilize saved content whilst running their games.

**Time Constraints**

A demo of the project will need to be ready for presentation by the week of December 2nd, 2019.

The software will need to be ready to deploy within a little over two months’ time, on December 11th, 2019.