



# **Nudge RPG Website Requirements Document**

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## **Introduction**

(Author Zara)

Dungeons and Dragons, more commonly referred to as D&D, is a fantasy based tabletop RPG. Players create characters who go on adventures and through battle, and their choices create a story that the Game Master (GM) narrates. It originates from tactical war games but differs with character creation and the addition of more fantasy elements. It has been popular for many years now but has had a recent resurgence after appearing in media and gaining more popularity during COVID. It has also been the inspiration for many other games, and Christopher Stuetzle, Associate Professor and Chair and Department of Computer and Data Sciences at Merrimack College, has spent the past five years designing one of those games, named NUDGE.

Professor Stuetzle wants a website that will be used alongside the NUDGE, providing an easy way for users to create and reference their characters and also coordinate campaigns with their friends. The website will need a strong focus on sustainability and flexibility so that the website can be built on and changed as the game evolves over time. Our group Czech Mates, consisting of Cam Chrissis, Jason Demers, and Zara Masino, has been tasked with designing and building this website for Professor Stuetzle.

## **Executive Summary**

(Author: Zara)

This website will allow users to log into their accounts through their email. There are three types of accounts: regular user, GM, and administrator. The regular user and GMs will have much of the same functionality. They will both have a friends list and be able to search for people based on their username. Both will be able to create characters through filling out character sheets. These character sheets are saved and kept for later reference. They will be able to edit these characters afterwards, delete them, or copy them. GMs have some additional abilities regarding campaign coordination. GMs will be able to create settings and invite members through friend invites and invite codes. They can view the information of characters in the campaign as well as remove them. Admin will have additional abilities through a link on the main page that will lead them to an administrator page. They will be able to view and manage the database of users through this page.

# Functional Requirements

(Author: Zara)

## Settings

- Settings must have a world name.
- Settings must have a list of characters.
- Settings could have a schedule ability.
  - ◆ The schedule should send reminder emails.
  - ◆ The reminder emails should have the time.
  - ◆ The reminder emails should have a link to the setting.
  - ◆ The reminder emails could have a Google Calendar event.
- Settings could have one graveyard.
- Once a player is in the graveyard they cannot be revived.

## Character Sheets

### → General

- ◆ Names for items, spells, skills, and abilities must be easily modifiable to fit new settings.
- ◆ When portions are hovered over, more information must be displayed.
- ◆ Character sheets must be saved as changes are made to them.

### → User inputted Values

- ◆ The user must be able to input information for the following character information.
- ◆ High Concept
  - The character's primary aspect.
- ◆ Trouble
  - A character's aspect that can get them in trouble.
- ◆ Two Additional Aspects
- ◆ Description
  - Physical Appearance
  - Background
  - Major Relationships
  - Other
- ◆ Portrait of the character
- ◆ Skill Levels (default value of 0, range of 0-8)
  - Alchemy
  - Arcana
  - Athletics
  - Burglary
  - Deceive
  - Empathy
  - Engineering
  - Fight

- Hunting
- Lore
- Physique
- Rapport
- Shooting
- Stealth
- Survival
- Will

◆ Equipment

- Equipment must be a shield, weapon, or armor.
- Equipment must be modifiable
- Shields must have 1 modification slot.
- Weapons must have 3 modification slots.
- Armor must have 2 modification slots.
- Some weapons cannot be used with a shield.

◆ Current Fate Points

◆ Current Resolve

◆ Current Vigor

◆ Current Money

◆ Current AP

→ **Non user input values**

- ◆ These values are not inputted by the user but they must exist as stated below.

- ◆ Secondary attributes (default level 5, add according the the formulas below)

- Awareness (*Burglary + Hunting + 2 \* Shoot*)
- Charisma (*Burglary + Deceive + Rapport + Stealth*)
- Defense (*Engineering + Fight + Physique + Stealth*)
- Endurance (*2 \* Athletics + Fight + Survival*)
- Health (*Alchemy + Physique + 2 \* Survival*)
- Knowledge (*Alchemy + Engineering + 2 \* Lore*)
- Magic Attack (*Arcana + Deceive + Rapport + Will*)
- Magic Defense (*Arcana + Engineering + Lore + Will*)
- Magic Heal (*Alchemy + Deceive + 2 \* Empathy*)
- Magic Reach (*Arcana + Empathy + Rapport + Will*)
- Melee Attack (*Fight + Hunting + Physique + Survival*)
- Ranged Attack (*Athletics + Burglary + Hunting + Shoot*)
- Max Action Points (AP) =  $2 + (Knowledge + Endurance) \times .2$   
(rounded down)
- Max Vigor =  $2 * (Magic Reach + Endurance) + \text{character level}$
- Max Resolve =  $2 \times Health + 3 \times \text{character level}$
- Magic Range =  $(Magic Reach) \times 0.5$  (rounded down)
- Movement =  $2 + (Awareness + Charisma + Endurance) \times 0.1$   
(rounded down)

## **Users**

### **→ User Capabilities**

- ◆ Users must be able to create any number of characters through character sheets.
  - Users must be able to upload art of their character.
  - Users must be able to modify character sheets.
  - Users must be able to print out character sheets in PDF format.
  - Users must be able to create copies of characters.
  - Users must be able to delete characters.
- ◆ Users must have an account.
  - Users must log in through email.
  - Accounts must have a username.
  - Users must be allowed to modify their usernames.
  - Usernames must be unique.
  - Users could log in through Discord.
  - Users could log in through Twitch.
  - Users could have a profile picture from their login method.
- ◆ Users must be able to search for other users based on username.
- ◆ Users must have a friends list.

### **→ GM Capabilities**

- ◆ GMs must have all the capabilities of a normal user.
- ◆ GMs must be able to send invite codes.
  - Invite codes must be unique per setting.
  - Invite codes could be done as QR codes.
- ◆ GMs must be able to invite friends.
- ◆ GMs must be able to remove players from the party.
- ◆ GMs won't have the ability to delete other people's characters.

### **→ Admin Capabilities**

- ◆ Admin must have access to the user view of the site with a link to a separate administrator site somewhere on the page.
- ◆ Admin must be able to access a database of players and be able to modify it.
  - Admin must be able to remove settings.
  - Admin must be able to remove players.

## **Website**

- There must be a section for creating new character sheets.
- There must be a section for viewing the character sheets.
- There must be a section for viewing the settings.
- There should be a contact page for administrator assistance.
- There will not be chat functionality on this website.
- There will not be matchmaking.

## Database

- The database must store the users.
  - ◆ It must store their username.
  - ◆ It must store their password.
  - ◆ It must store their email address.
- The database must store characters.
  - ◆ It must have the information in the character sheet.
  - ◆ It must have the player associated with the character.
- The database must store existing invite codes and their associated settings.

## Nonfunctional Requirements

(Author: Jason)

1. **Hardware:** The AWS servers should be sufficient for hosting the website and database. Most computers should be sufficient for using the website from the client end.
2. **Usability:** The website must be able to host a few hundred users. It must also be usable with the major web browsers (Safari, Firefox, Chrome, Edge). It must have a color-blind friendly color scheme. All images must have alternative text.
3. **Reliability:** Must not crash or break even if there are hundreds of users online. All data must be saved correctly even with large amounts of traffic.
4. **Performance:** The website should be reasonably fast in its response times and retrieval.
5. **Supportability:** The code must be well organized and well commented. It must also have clear documentation in order for continual support to remain easy.

## Potential Risks and Challenges

(Author: Cam)

- If a feature to autosave a character sheet is not properly implemented, users could lose their progress.
- Player account gaining administrative privileges.
- UI could appear distorted on mobile devices.
- Data loss or corruption could occur in the event of a database or server issue.



## **Development Timeline**

9/12 Requirements Draft  
9/19 Requirements Final  
10/3 Functional Spec. Draft  
10/12 Functional Spec. Final  
11/9 Manual User Manual Draft  
11/16 Manual User Manual Final  
11/21 Poster Poster Draft  
11/23 Poster  
11/28 Poster Written Report-Out  
11/30 Present Poster Final  
12/7 Present Tech Document Draft  
12/14 Software Deployed & Tech. Manual Final

## Glossary

(Given by Client, Author: Cam)

- **Fate Point** - The “currency” of the game...each player starts each session with 3 fate points and can spend them during the session to power various abilities.
- **Aspect** - A two to six (approximately) word phrase describing something about a character
- **High Concept** - A character’s primary aspect that describes the identity of the character. Examples include “Fastest guns in the west” or “Thief with a heart of gold”.
- **Resolve** - A character’s *Resolve* represents the overall will-to-go-on of the character. This incorporates ideas such as the character’s current state of physical health, mental health, and determination.
- **Vigor** - A character’s *Vigor* represents the energy that taking actions during battle (and, in some cases, outside of battle) can reduce. This includes maneuvers and actions, casting spells, or putting forth extra effort. The Vigor is described as part of the actions for each skill, and it is another valuable resource but is recovered when the characters are given a chance to rest.
- **Action Points** - Each character begins each round of combat with a number of *Action Points* or “AP” which can be spent to perform various tasks and actions during combat
- **High Concept** - A character’s primary aspect
- **Trouble** - A character’s aspect that can get them into trouble (examples: “Never backs down from a fight” or “Drinks like a sailor”)
- **GM** - Game Master. The GM controls all aspects of the game besides a player character’s chosen actions.
- **Campaign** - A series of individual experiences that take place within a role playing game.
- **Setting** - A world in which a campaign for a given role playing game takes place.
- **RPG** - A type of game in which players assume the roles of characters in a fictional setting.