

User flow + Functionality for each screen

[User Flow](#) on Figma

[Encounter Screen](#) on Figma

Overview

- **Login** - Login using credentials
- **Sign Up** - Create a new account and then go back to Login.
- **Home** - Displays all of the user's campaigns. Select a campaign to go to the Campaign Dashboard or create a new campaign here.
- **Campaign Dashboard** - Displays all of the characters currently in the campaign. Create, edit or import characters here.
- **Character Sheet** - Displays all relevant information for a given character, including abilities, skills, status, conditions, weapons, equipment, etc.
- **Encounter** - Displays everything related to combat, including initiative, the details of the character whose turn is active, their target, the combat log, and the AI assistant chat window.

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Functional Requirements

1. Login - Screen

- Username - Text box
- Password - Text box
 - Password visibility should be hidden. E.g. a six character string should be shown as “ ***** ”.
- Login - Button
 - If credentials are validated, go to the Home screen.
 - Else, print error message.
- Create Account - Button
 - Go to the Sign Up screen.

2. Sign Up - Screen

- Username - Text box
- Password - Text box
- Create - Button
 - Create a new user and go to the Login screen.

3. Home - Screen

- Welcome {User}! - Text
 - Displays the user's username.
- Campaign List - List Box
 - Scrollable box showing a list of all of the user's campaigns in a vertical layout.
 - Campaign elements are sorted by most recently opened, with the top being the most recent.
 - Each campaign element can be selected. Only one element can be selected at a time.
 - Double click on a campaign element to go to the Campaign Dashboard and load the relevant data for the selected campaign.
- Load Campaign - Button
 - Go to the Campaign Dashboard and load the relevant data for the selected campaign.
 - Is greyed out and unselectable if no campaign is selected.
- New Campaign - Button
 - Opens the Create Campaign modal.
- Sign Out - Button
 - Sign out of the session and go to the Login screen.

3.1 Create Campaign - Modal

- Campaign Name - Text box
 - The user types the new campaign's name here.
- Cancel - Button
 - Closes the modal without creating a new campaign.
- Create - Button
 - Closes the modal and adds a new campaign to the Campaign List in the Home screen.
 - Is greyed out and unselectable if the Campaign Name text box is empty.

4. Campaign Dashboard - Screen

- Campaign Name - Text
 - Displays the campaign name.
- Campaign Notes - Text box
 - Lets the user add a description to the campaign. The string should be saved when leaving the Campaign Dashboard, and loaded when the Campaign Dashboard is opened and the respective campaign is loaded.
- Player List - List box
 - Displays a list of all player characters in the campaign in a vertical list. This includes non-playable characters (NPCs) and excludes monsters.
 - Each player element should display the player's name, their level and their class.
 - Each player element can be selected. Only one element can be selected at a time.
 - Double click on a player element to go to the Character Sheet screen where the user can edit any information relating to the character.
- Create - Button
 - Go to the Create Character screen.
- Import - Button
 - Opens the Import Character modal.
- Edit - Button
 - Go to the Character Sheet screen where the user can edit any information relating to the character.
 - Is greyed out and unselectable if no character is selected.
- Delete - Button
 - Deletes the currently selected player.
 - Is greyed out and unselectable if no character is selected.

4.1 Import Character - Modal

- D&D Beyond PDF Link - Text box
 - A text box for the user to paste their D&D Beyond character sheet PDF link.
- Import - Button
 - Go to the Character Sheet screen and automatically fill it in with imported data.

- Cancel - Button
 - Closes the modal without importing a character.

5. Character Sheet - Screen

Note: Pretty much displays everything a D&D Beyond character sheet would.

Must display the following:

- Character Name - Int
- Class - String
- Level - Int
- Ability Scores - Int
 - Strength (STR), Dexterity (DEX), Constitution (CON), Intelligence (INT), Wisdom (WIS), Charisma (CHA)
- Ability Modifiers - Int
 - Strength (STR), Dexterity (DEX), Constitution (CON), Intelligence (INT), Wisdom (WIS), Charisma (CHA)
 - Ability Modifier values are derived from their respective Ability Score. Despite this, still allow the user to override it in case there are special abilities or items that override it.
 - <https://roll20.net/compendium/dnd5e/Ability%20Scores#content>
- Saving Throws - Int
 - Strength (STR), Dexterity (DEX), Constitution (CON), Intelligence (INT), Wisdom (WIS), Charisma (CHA)
 - Saving Throw values are derived from their respective Ability Modifier. Despite this, still allow the user to override it in case there are special abilities or items that override it.
- Skills - Int, Bool
 - Acrobatics (DEX), Animal Handling (WIS), Arcana (INT), Athletics (STR), Deception (CHA), History (INT), Insight (WIS), Intimidation (CHA), Investigation (INT), Medicine (WIS), Nature (INT), Perception (WIS), Performance (CHA), Persuasion (CHA), Religion (INT), Sleight of Hand (DEX), Stealth (DEX), Survival (WIS)
 - Skill values are derived from their respective Ability Score. Despite this, still allow the user to override it in case there are special abilities or items that override it.
 - Skill values have a Proficiency bool. If true, the player's Proficiency Bonus should be added to the Skill value.
 - E.g. A player has a DEX Ability Score of 17. The derived Ability Modifier is +3. The player's Skill value in Stealth (DEX) is therefore +3. The player has proficiency in Acrobatics (DEX). Therefore, the player's proficiency bonus of +2 is added to the DEX Ability Modifier of +3, and their Skill value in Acrobatics is +5.
- Initiative - Int

- Initiative is derived from the DEX Ability Score. Despite this, still allow the user to override it.
- Armor Class (AC) - Int
 - AC is *meant* to be derived from the currently equipped Armor, but for the sake of simplicity this is just going to be an int that the user can change.
 - <https://roll20.net/compendium/dnd5e/Armor#content>
- Proficiency Bonus - Int
- Max HP - Int
- Current HP - Int
- Temp HP - Int
- Successful Death Saves - Int
 - Int between 0 to 3 inclusive. Character is stabilised at 3 successful Death Saves.
- Failed Death Saves - Int
 - Int between 0 to 3 inclusive. Character is permanently dead at 3 failed Death Saves.
- Conditions
 - The following conditions have type Bool:
 - Blinded, Charmed, Deafened, Frightened, Grappled, Incapacitated, Invisible, Paralyzed, Petrified, Poisoned, Prone, Restrained, Stunned, Unconscious
 - Exhaustion is a unique condition that has type Int. It is between 0 to 6 inclusive.
- Defenses
 - Resistances - Bool
 - If a player takes damage to something they have resistance to, that damage is halved.
 - Acid, Bludgeoning, Cold, Fire, Force, Lightning, Necrotic, Piercing, Poison, Psychic, Radiant, Ranged, Slashing, Spells, Thunder, Traps
 - Immunities - Bool
 - Players are completely immune to all damage and conditions that they have immunities to.
 - Bludgeoning, Piercing, Slashing, Lightning, Thunder, Poison, Cold, Radiant, Fire, Necrotic, Acid, Psychic, Force, Blinded, Charmed, Deafened, Frightened, Grappled, Incapacitated, Invisible, Paralyzed, Petrified, Poisoned, Prone, Restrained, Stunned, Unconscious, Exhaustion
 - Vulnerability - Bool
 - If a player takes damage to something they have vulnerability to, that damage is doubled.
 - Bludgeoning, Piercing, Slashing, Lightning, Thunder, Poison, Cold, Radiant, Fire, Necrotic, Acid, Psychic, Force
- Weapons - Object
 - Weapon Name - String
 - Hit - Int
 - Added to rolls when determining if an attack will hit or miss.

- Damage (Dice Amount) - Int
- Damage (Dice Type) - Int
- Damage Modifier - Int
 - Damage is calculated as $(\text{Dice Amount} * \text{Dice Type}) + \text{Damage Modifier}$.
E.g. $1d8+3$
- Damage Type - Enum
 - None, Bludgeoning, Piercing, Slashing, Lightning, Thunder, Poison, Cold, Radiant, Fire, Necrotic, Acid, Psychic, Force
 - Some enemies have resistances to damage types and will take less damage.
- Notes - Text box
 - A section that lets the user add whatever information about the player they want, including uses or class-specific resources such as lay on hands for paladins, action surge for fighters, and more.
 - We are simplifying this otherwise we are never finishing this software.
- Equipment - List box
 - A scrollable box which shows a list of object elements in a vertical list.
 - Each object element should display its Name as a string and Quantity as an integer.
- Save - Button
 - Save any changes made.
- Back - Button
 - Go to the Campaign Dashboard.

6. Encounter - Screen

6.1 Initiative Queue

- Initiative - Heading
- Initiative Queue - List Box
 - A scrollable box which shows all players, NPCs and enemies in combat in a vertical list.
 - Character - Element
 - Initiative Position - Int
 - The character's position in the initiative queue.
 - Initiative Roll - Int
 - The character's roll for initiative.
 - Name - String
 - Current HP + Temp HP - Int
 - The background fill of the element changes depending on the character's percentage of HP.
 - Max HP - Int
 - Armor Class - Int
 - Action - Button

- Toggle to indicate whether or not the character has used their Action this turn.
- Bonus - Button
 - Toggle to indicate whether or not the character has used their Bonus Action this turn.
- Reaction - Button
 - Toggle to indicate whether or not the character has used their Reaction this turn.
- Death Saves - Checkboxes
 - 5 Checkboxes that can be toggled as a cross or checkmark.
 - Cannot be changed in Initiative Queue, only in the Current Turn section.
 - Crosses indicate failed Death Saving Throws.
 - Checkmarks indicate successful Death Saving Throws.
 - When a character has 3 failed Death Saving Throws, their Initiative Position changes to an "X" and the Initiative Position of other characters in the queue gets refreshed.
- If the character has 0 HP, the buttons for Action, Bonus and Reaction will be replaced with Death Saves.
- The character element of the character whose turn is active is highlighted with a border.
- Character elements can be shuffled around by holding and dragging. Initiative Positions should be updated accordingly.
- Clicking on a Character Element will change the Current Turn section to focus on the character.
- Add - Button
 - Opens the Add Character modal.
- Remove - Button
 - Toggles the visibility of " - " buttons next to each Character element in the Initiative Queue.
 - Pressing a " - " button removes the respective character from the Initiative Queue.

6.2 Add Character - Modal

- This modal has 3 different tabs to swap between.

6.2.1 Add From Player List - Tab

- Character List - List box
 - Displays a list of all player characters in the campaign in a vertical list. This includes non-playable characters (NPCs) and excludes monsters.
 - Each player element should display the player's name, their level and their class.
 - Each player element can be selected. Only one element can be selected at a time.

- Add - Button
 - Adds the currently selected character to the Initiative Queue.
 - Is greyed out and unselectable if no character is selected.
- Cancel - Button
 - Closes the modal.

6.2.2 Add From Bestiary - Tab

- Creature List - List box
 - Displays a list of all creatures from D&D in a vertical list. This data is scraped from D&D Beyond or something like that.
 - Each creature element should display the creature's name and challenge rating.
 - Each creature element can be selected. Only one element can be selected at a time.
- Add - Button
 - Adds the currently selected creature to the Initiative Queue.
 - Is greyed out and unselectable if no creature is selected.
- Cancel - Button
 - Closes the modal.

6.2.3 Generate Encounter - Tab

- Difficulty - Dropdown
 - Select a difficulty for the fight which will be added to the prompt.
 - Very Easy, Easy, Medium, Hard, Very Hard, Impossible
- Amount - Text box
 - Input the amount of enemies for the fight which will be added to the prompt. Should only accept numeric characters.
- Generate Suggestion - Button
 - Combines the Difficulty and Amount values into a sentence and prompts the AI assistant.
 - The output is a list of creatures, with each element containing the creature's name, challenge rating, and amount being added to the fight.
 - Is greyed out and unselectable there are empty fields.
- Add - Button
 - Adds the AI-suggested creature(s) to the Initiative Queue.
 - The selected creatures are pulled from the D&D Bestiary, similarly to 6.2.2 Add From Bestiary.
 - Is greyed out and unselectable there has been no suggestion.
- Cancel - Button
 - Closes the modal.

6.3 Current Turn

- Current Hit Points - Int
- Max Hit Points - Int

- Temp Hit Points - Int
- Armor Class - Int
- Death Saves - Checkboxes
 - 5 Checkboxes that can be toggled as a cross or checkmark.
 - See 6.1 Initiative Queue for more details.
- Conditions
 - Icons for different conditions can be added here.
 - Hovering over a condition icon will display the condition's name and effect.
 - Each condition icon has a small " - " button to the top right of it. Clicking on this will remove the condition.
 - " + " - Button
 - Opens the Conditions modal.
- Defenses
 - Icons for different resistances, immunities and vulnerabilities can be added here.
 - Hovering over a defense icon will display the defense's name and effect.
 - Each defense icon has a small " - " button to the top right of it. Clicking on this will remove the defense.
 - " + " - Button
 - Opens the Defenses modal.
- Action - Dropdown
 - Attack, Dash, Disengage, Dodge, Grapple, Help, Hide, Improvise, Influence, Magic, Ready, Search, Shove, Study, Utilize
 - If Attack is selected:
 - Weapon - Dropdown
 - Select one of the player's equipped weapons.
 - Target - Dropdown
 - Select a character or creature from the Initiative Queue.
 - Changes what is displayed in the Target section. See 6.4 Target for more details.
 - Roll - Text box
 - Allows the input of up to 2 numeric characters.
 - Auto Roll - Button
 - Rolls 1d20 and fills in the Roll text box with the value.
 - Attack Modifier - Text box
 - Prefilled with the relevant attack modifier. Typically STR.
 - Can be overridden with a custom modifier.
 - Execute - Button
 - Executes the selected Action.
 - Prints the relevant sentence to the Combat Log.
 - Is greyed out and unselectable if relevant fields are empty.
 - If the Attack Action was selected:
 - If the value of Roll + Attack Modifier is greater than or equal to the target's AC value, then the attack lands.
 - Opens a the Damage Roll modal

- Damage Roll modal has a number of text boxes equal to the number of damage dice.
 - The user can input numbers into each or press a button to automatically roll.
 - Pressing a button will deal damage to the target.
- Else, the attack misses.
- Notes - Text box
 - A section that lets the user add whatever information about the player they want, including uses or class-specific resources such as lay on hands for paladins, action surge for fighters, and more.
 - Synchronised with the Notes section of the Character Sheet.

6.3.1 Conditions

- All icons for conditions are displayed in a grid.
- Click on any condition icon to add it to the character or creature.
- Blinded, Charmed, Deafened, Frightened, Grappled, Incapacitated, Invisible, Paralyzed, Petrified, Poisoned, Prone, Restrained, Stunned, Unconscious, Exhaustion
- Click away from the modal to hide it.

6.3.2 Defenses

- All icons for defenses are displayed in a grid.
- Click on any defense icon to add it to the character or creature.
- Defenses
 - Resistances - Bool
 - If a player takes damage to something they have resistance to, that damage is halved.
 - Acid, Bludgeoning, Cold, Fire, Force, Lightning, Necrotic, Piercing, Poison, Psychic, Radiant, Ranged, Slashing, Spells, Thunder, Traps
 - Immunities - Bool
 - Players are completely immune to all damage and conditions that they have immunities to.
 - Bludgeoning, Piercing, Slashing, Lightning, Thunder, Poison, Cold, Radiant, Fire, Necrotic, Acid, Psychic, Force, Blinded, Charmed, Deafened, Frightened, Grappled, Incapacitated, Invisible, Paralyzed, Petrified, Poisoned, Prone, Restrained, Stunned, Unconscious, Exhaustion
 - Vulnerability - Bool
 - If a player takes damage to something they have vulnerability to, that damage is doubled.
 - Bludgeoning, Piercing, Slashing, Lightning, Thunder, Poison, Cold, Radiant, Fire, Necrotic, Acid, Psychic, Force
- Click away from the modal to hide it.

6.4 Target

- When the Current Turn character is attacking or doing something to another character or creature in the Initiative Queue, that target's information is displayed here.
 - When no target is selected, all fields are blank.
- Current Hit Points - Int
- Max Hit Points - Int
- Temp Hit Points - Int
- Armor Class - Int
- Death Saves - Checkboxes
 - 5 Checkboxes that can be toggled as a cross or checkmark.
 - See 6.1 Initiative Queue for more details.
- Conditions
 - Icons for different conditions can be added here.
 - Hovering over a condition icon will display the condition's name and effect.
 - Each condition icon has a small " - " button to the top right of it. Clicking on this will remove the condition.
 - " + " - Button
 - Opens the Conditions modal.
- Defenses
 - Icons for different resistances, immunities and vulnerabilities can be added here.
 - Hovering over a defense icon will display the defense's name and effect.
 - Each defense icon has a small " - " button to the top right of it. Clicking on this will remove the defense.
 - " + " - Button
 - Opens the Defenses modal.

6.5 Combat Log / AI Rule Query

- Displays the Combat Log and AI Rule Query sections on different tabs.
- Swap between the two by clicking on the respective tab.

6.5.1 Combat Log - Tab

- Combat Log
 - Displays logs of all Actions, Bonus Actions and Reactions that have occurred.
 - Displays logs as dot points.
 - Character and creature names are highlighted.
 - Custom logs are displayed in italics.
- Input Field
 - The user can input custom logs using this.
 - Character and creature names are not highlighted for the sake of simplicity.

6.5.2 AI Rule Query - Tab

- Literally ChatGPT wrapper but for rule queries.

- Need to ensure unrelated queries are disregarded, including ones where the user tells the AI to “ignore all previous prompts” or something like that.