CharacterForge

Ray Rojas
Xvc3@txstate.edu

John Yamamoto
jmy40@txstate.edu

Benu Liburd
bjl98@txstate.edu

Abstract

Character Creation in Dungeons and Dragons (D&D) is a long process for a newcomer. Scanning an over 300-page Player's handbook for descriptions of races, classes, spells, and equipment takes hours. This can be a daunting hurdle for those who are considering playing D&D. There are a few digital character creators on the internet, but some require a learning curve, a subscription, or are downright ugly. CharacterForge has found its niche squarely between those 3 problems. The program is very efficient, effective, and attractive.

1   Introduction

Dungeons and Dragons (D&D), a beloved tabletop role-playing game, offers players the opportunity to embark on epic adventures in fantastical worlds limited only by their imagination. However, before players can dive into these adventures, they must first navigate the intricate process of character creation.

1.1   Problem

The current Dungeons and Dragons character creation process presents a significant barrier for many prospective players. With its multitude of options spanning races, classes, abilities, skills, equipment, and backstories, the process can feel overwhelming and intimidating, particularly for newcomers to the game. Many find themselves buried under a mountain of rulebooks and supplements, struggling to make sense of the intricate mechanics and vast lore.

This complexity not only hinders the entry of new players into the D&D community but also detracts from the enjoyment of seasoned veterans. Hours spent poring over rulebooks and meticulously calculating character statistics can detract from the immersive storytelling experience that lies at the heart of Dungeons and Dragons.

Moreover, the current character creation process can be a significant source of frustration and confusion, leading to suboptimal character builds or even abandonment of the game altogether. The disconnect between the rich narrative potential of D&D and the daunting administrative tasks required to create a character represents a critical pain point in the gaming experience.

1.2   Impact and relevance of solving problem

Addressing these challenges is crucial for the continued growth and vitality of the Dungeons and Dragons community. By streamlining and simplifying the character creation process, we aim to make the game more accessible and welcoming to players of all levels of experience. Additionally, by freeing players from the burden of administrative tasks, we can enhance the focus on storytelling, role-playing, and collaborative world-building that makes D&D such a uniquely immersive and rewarding experience.

2 Background and Development Context

The "Character Forge" project draws upon a rich tapestry of concepts and technologies to tackle the challenges of Dungeons and Dragons character creation. Central to its development is an understanding of user experience (UX) design principles, informed by cognitive psychology and human-computer interaction research. By applying these principles, we strive to create an intuitive and user-friendly interface that guides players through the character creation process with ease.

2.1 Technologies

Technologically, the project leverages the modern web development framework, React.Next. Utilizing Local Storage in the browser and outputting the values straight into the official D&D 5th edition character sheet pdf makes this app very lightweight. These tools enable the creation of a dynamic and responsive digital tool that can adapt to the needs and preferences of individual players.

2.2 How CharacterForge fits

In the existing landscape of D&D-related tools and resources, numerous character creation aids already exist, ranging from printable PDF sheets to sophisticated digital applications. However, many of these tools remain complex and cumbersome, failing to address the accessibility needs of a diverse player base.
"Character Forge" seeks to fill this gap by prioritizing simplicity, usability, and efficiency. By providing a streamlined alternative to existing character creation methods, we aim to empower players to focus on the aspects of D&D that they love most: storytelling, exploration, and camaraderie. Through thoughtful design and technological innovation, we aspire to enhance the D&D experience for players old and new alike.

3 Methods

The development process of "Character Forge" involved a combination of iterative design, user testing, and agile development methodologies. Our goal was to create a user-friendly and efficient tool that simplifies the character creation process while adhering to established Human Factors and Human-Computer Interaction (HCI) principles.

3.1 Development Process

At the beginning we determined that we would split the design of each page into frontend and backend. We created a Jira taskboard to create the design tasks and allowed each team member to pick whatever tasks they wanted that were currently on the board. We started off by developing a few frontend pages, but quickly found a flaw in our design. Our original plan was to create a color-coded button system that assigned a color to each of the races and classes in an attempt to utilize pre-attentive processing. For instance, a druid character would be assigned green as that is a color that could be naturally attributed to a druid. But what color would a ranger be? Green would be also be a good color for the Ranger. Perhaps we could use a different shade. If we do that we lose the pre-attentive processing advantage because characters have to double check the green buttons and whether they are choosing druid or ranger. Another issue we had was with the number of classes and races we found ourselves having to use unappealing colors such as yellow to avoid duplicating colors. So it became apparent we had to find a different approach.

We decided that pictures would allow us to again utilize pre-attentive processing and we could remove a lot of the contrasting colors from the UI to make it more accessible to the color-impaired. We created a high contrast UI that has a black background with pictures that show examples of races and classes. The page is almost completely textless until you hover over a picture and it shows the name of the race/class and a short description. After designing all of our pages in this way, we needed to find a way to store the user choices across all of the pages

to import them into the character sheet pdf. After this, we had to import all of the choices into the fields of the character sheet one by one. First loading the values into variables, then loading the fields from the pdf into variables and then setting the pdf fields to be the appropriate variables. At the end, we just needed to add values to a few more fields on the character sheet to fill it out a bit with some necessary values.

By the time we got this base character system down, the equipment and spell pages seemed rather large undertakings. In the sake of time and preserving the quality of the program we decided to stick to base character statistics and would have to forgo spell choices and equipment choices. Adding each of these elements would require us to check against race and class for certain proficiencies, allowing certain spells at certain levels, and certain armor types being available only to certain classes.

3.2   Research and Requirements Gathering

We began by conducting extensive research into the current Dungeons and Dragons character creation process, identifying pain points and areas for improvement. We also gathered user feedback from both experienced players and newcomers to understand their needs and preferences.

3.3   Iterative Design

Using insights from our research, we developed initial design concepts for the user interface and workflow of the character creation tool. We iteratively refined these designs based on feedback from usability testing sessions, adjusting layout, navigation, and feature sets to optimize usability and accessibility. We utilized Bitbucket for version control because it works well with Jira. We had some issues with a shared repository because a React environment has some big files that we couldn't import into Git or Bitbucket and because of differences in our environments some members had trouble pulling and running other members' work. This caused about a week delay in our development and eventually we all had to meet up and manually download libraries from a single member's environment to get on the same page.

3.4   Agile Development

We utilized Jira to create tasks on what the project needed next and broke our development into 2 sprints where we each grabbed tasks as we had time. With our other classes and schedules we had trouble staying on track and found we were more often working on the project in less frequent big batches which made the sprint setup useless so we abandoned the Jira project and instead planned in class what was needed next and met up a few times in the library to try to figure hard problems out.

3.5   Tools Used

Frontend Development: React.Next

Backend Development: pdf-lib

3.6   Data Collection and Usage

While "Character Forge" does not involve extensive data collection, we collected user feedback and usage data through usability testing sessions. We had some friends try the program out and we asked them a few questions. First we asked them how they liked the program. Then we asked if they had any tips to make it better. Overall, most of our friends seemed to like the UI of the program and seemed to not have any issues using the program intuitively. Some of them thought the program was too simplistic of an application of character creation, which is a reaction we expected. Others criticized that it is an incomplete character creation, which is true, but we ran out of time and didn't fully grasp the scope of what we were

trying to accomplish in these short few months. Through feedback we can assume that the program has potential, though the full potential won't be able to be seen unless we fully flesh out every aspect of D&D character creation which would just take too much time.

3.7   Algorithms/Methods and HCI Principles

CharacterForge uses mostly descriptive pictures as its buttons to take advantage of pre-attentive processing. When you see a man with a club in a loincloth you can guess that is a barbarian, A woman in a point hat with a staff, a wizard. This is the main methodology we are using to drive efficiency of the user in getting from page to page as quickly as possible. The page is in all black with the text in white. Removing all of the color and making the page high contrast makes it very readable and takes advantage of contrast sensitivity. Buttons are large and font sizes are rather large to accommodate users with myopia and age-related vision decline. The only things on the page are a prompt and the pictures that correspond to the choices. We have avoided any noise that could make the page more confusing than it has to be.

4   Results

The outcomes of the "Character Forge: Streamlined Dungeons and Dragons character creation sheet" project were evaluated through user testing sessions, feedback collection, and comparison with existing character creation solutions.

4.1   Usability Testing

Users seemed to agree that the program is easy to use. Little instruction was needed for testers, it was clear how to proceed through the program until the end. The intention of each page is clear and the UI seems to be effective. People got through the process in less than 5 minutes in most cases. This highlights a huge achievement in making the character creation process take less time. This character creator is much more efficient than the old pen and paper way of creating D&D characters. Make sure the figure caption does not get separated from the figure. Leave sufficient space to avoid splitting the figure and figure caption.

4.2   Comparison with Existing Solutions

Our app is actually more visually appealing than a lot of other character creators apps out there. While other programs tend to be more complete, the early version of our program is comprehensive enough that I could visualize an end-product that could rival some of the other character creators out there. Some of the existing solutions require a learning curve of how their platform works and allow you to play on that platform in a streamlined way, which provides its own value. One of the perks of our platform is it doesn't require you to learn anything, it is intuitive.

4.2   Insights Gained

While platforms like Roll20 provide value in that you can actually play D&D on their platform after using their character creation tool, we have found that players also place value on simplicity of design. They also like things that are visually appealing and that's what separates our program from the official D&DBeyond character creator. Overall, I think the niche that our program fills in the space is the beauty and simplicity of the program and if we were to continue working on this project we would work to maximize this aspect of the project so separate ourselves from the rest.

5   Conclusion

User feedback has demonstrated that we have built something unique in CharacterForge. There is a market for simple and easy to use over feature-rich and complicated programs. New-users respond better to simplicity, and the complexity of the D&D Universe can be explored incrementally rather than all at the beginning in character creation. The best part

about CharacterForge is the fact that it is a simple application of a complex process. It gets you started with playing the game. Once you start making skill checks and doing battle with different classes you will naturally be exposed to the complexities of every decision made within CharacterForge. Our hope is that when a new player creates a character on the platform and enters that first D&D session, it will give them the interest to dive deeper into their characters abilities and make them want to read the player's handbook.