

Project Assignment 5

Computer Prototyping

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Introduction

Dungeons & Dragons (D&D) is a popular pastime enjoyed by many people of all age groups. Many friends get together on evenings or weekends to play Dungeons & Dragons (D&D), but young adults find themselves separated from friends as people move to different states for college or jobs. These friends already communicate with existing instant messaging or voice chat software and even play multiplayer computer games over the internet, but there is no software that supports the freeform and imaginative play of pencil and paper D&D.

Bringing D&D, a traditionally “pencil and paper” game played with specific tools like the battlemat—a large grid that represents an environment in a fantasy world—and miniatures, into the digital realm is the goal of the team’s project, Online Battlemat. Online Battlemat will connect the players and fill the void of a much needed digital D&D experience.

Based on feedback received from users during interface design stages, the team has created an initial computer prototype as an early version of the proposed final system. This electronic prototype will allow the team to further revise the interface based on users’ comments and to strive to create a more usable and functional system.

To access the Online Battlemat site, navigate to <http://hci.hofker.org/>. There are links to both the source code and to the hosted system on that page. To directly access the system, enter <http://hci.hofker.org/wp-content/uploads/2008/03/Default.html> into your browser’s address bar.

Risk assessment

The team divided risks into two categories:

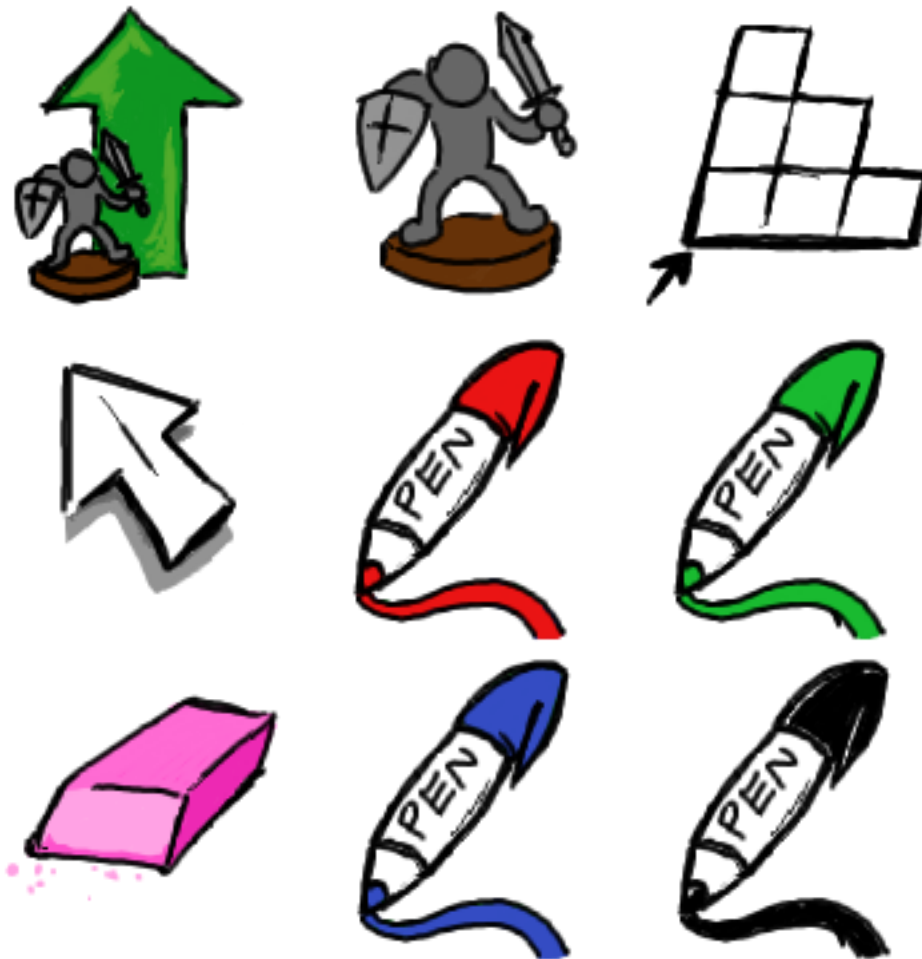
- Frontend risks
- Backend risks

Frontend Risks

From paper prototyping sessions, the team received feedback that the initial icons and buttons presented were not necessarily intuitive to users. The icons proved to be a source of confusion and frustration for test users. Thus, the riskiest part of the system on the frontend was to make buttons more usable and clearer to D&D players. The team took a different approach with the metaphors and analogies employed in the icons to try to clarify the purposes of the various buttons in the system.

To address this issue, the team’s graphic designer Kurt Larson completely redesigned all button icons to make the buttons more recognizable and more predictable. Additionally, tool tips were provided to reinforce the purpose of each button. Now users can simply hover over the buttons using the mouse cursor in order to pop up tool tips. The new buttons are shown in Figure 1 below.

Figure 1 – Redesigned Button Icons



Backend Risks

One of the largest backend risks was the self-imposed requirement of Silverlight. The team felt that it was necessary to construct Online Battlemat with the use of the Silverlight platform in order to provide players with the same rich experience of the traditional battlemat. This proved to be risky for two reasons:

- The team has limited experience with Silverlight. Many interface develop tasks were complex, and team members were also faced with a steep learning curve.
- Users may not have installed the necessary Silverlight client for their browsers to run Online Battlemat.

The first part of the risk was mitigated and resolved quickly under the tutelage of the team's lead developer Jordan Hofker. Also, the team already had some experience with Windows Presentation Foundation (WPF) and C# which were the two primary technologies employed within the Silverlight application.

The second part of the risk was mitigated by the fact that Silverlight is quickly becoming popular and widely accepted by many web users in a fashion similar to Flash.

Also, when a user accesses the OnlineBattlemat but does not have Silverlight installed, the following instructional icon automatically appears, prompting the users to install the Silverlight in order to access the site:

Figure 2 – Silverlight Download Prompt



This behavior effectively mitigates the risk of user not having installed Silverlight.

Startup Instructions and General Task Instructions

1. To start up Online Battlemat, first open up a web browser.
2. Load Online Battlemat by typing <http://hci.hofker.org/wp-content/uploads/2008/03/Default.html> in the address bar of the browser.
 - a. If prompted to install Silverlight, click the 'Install Microsoft Silverlight' button, download the executable and run the executable to install Silverlight. A browser restart may be necessary.
3. Next you will be prompted to join a game session. Feel free to type in whatever you would like in the text fields and then click 'Join'.

Briefing

During the paper prototype session, the demo script was revised. Both the old demo script and the new demo script were included in this document.

Demo Script (Old)

- We're making a new battlemat system.
- We need your honest and open feedback.
- Imagine playing Dungeons & Dragons (D&D) with friends online.
- Imagine that you are communicating with your friends via voice chat.
- Work through a D&D session using the tasks that we hand you.
- Speak out loud everything that you are thinking.
- Complete these tasks. Here is your first task.

Demo Script (new)

- We're making a new online battlemat system.
- We need your honest and open feedback.
- Think of the system like a battlemat, except on your computer screen - you manipulate it like a computer drawing program.
- Imagine playing Dungeons & Dragons (D&D) with friends online, like joining an online game.
- Imagine that you are communicating with your friends via voice chat.
- Work through a D&D session using the tasks that we hand you.
- Speak out loud everything that you are thinking.
- Complete these tasks. Here is your first task.

Scenarios

This section describes three scenarios for Online Battlemat.

Uploading a token

Justin just joined his very first D&D session using the battlemat with Tobias. Before Justin can do anything else, he is kindly reminded by Tobias that he needs to upload his character token. Finding the "upload token" button on the top menu bar, Justin selects it to find a pop up of a file browser. Navigating to the token image he wants, he selects the image and clicks "OK." Now the image path is displayed on the file dialog and Justin can enter the description of the image. Upon submission of the token upload, Justin checks the list of icons to see that the token he just uploaded is accessible.

Drawing on the battlemat

Before Tobias begins his D&D session, he would like to place a few environmental objects such as buildings, trees, wells, etc. onto the battlemat. This task is simply accomplished by Tobias as he selects the "Pen" button and draws objects on the battlemat. This is analogous to Microsoft Paint's pen drawing on its canvas.

Moving a token

Justin is quite happily playing D&D with Tobias who is the dungeon master for this session. Tobias hints that there may be some treasure and magic items inside of a house near Justin's character. Justin excitedly wants to move his token into the house so that he can search for treasure and magic items. Justin clicks and holds down the mouse on his token and drags the token across the online battlemat until it is inside of the house. Then, he releases the left mouse button. Justin is happy because it was simple and easy to move his character.

Appendix

Paper Prototyping Tasks

Join a game

You intend to join an online D&D game with your friends. You have already loaded the Online Battlemat system Web-page in your browser. In a chat room, your friends tell you to join game session *45345* with the password *foo*.

Upload icon

Now that you're in the game, you need to upload a picture to use for your character token. Your picture icon is called *picture.jpg* and is located on your desktop.

Place token

Now with your token uploaded, place your token on the battlemat surface. You can place it wherever you would like as long as it is outside the blue box (it's a temple that your dungeon master drew).

Move token

It is your turn, and you want to move your character inside of the Temple of the Forgotten God to further inspect ornate treasures stained with blood and placed on the sacrificial altar.

Draw on battlemat

Your dungeon master placed some tokens representing evil cultists attacking you in the temple. Your character casts a wall of fire spell to prevent their escape. This spell creates a lasting blaze that blocks off the temple entrance. Draw some fiery lines on the battlemat to delineate the conflagration.

Spell template

You need to cast an instantaneous spell that blasts the enemy cultists in a 15-ft (3-square) cone. Select a spell template to see which enemies you could affect in front of you.

