McMaster University

Human Computer Interfaces

SFWR ENG 4HC3

Milestone 3 - RPG Interface Design

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November 23, 2016

1 Personas

1.1 Persona 1 (Primary Persona): Aiden Bassi

Figure 1: Aiden Bassi

- Detroit, MI
- 17 year old male
- Attending Martin Luther King Jr High School

"I'm a hardcore gamer. I use my mountain dew and doritos to fuel my late-night gaming!"

Aidan Bassi grew up in the city of Detroit in a middle class white family. Aidan attends high school but spends the majority of his free time playing video games. He primarily plays on a computer with his favorite game being World of Warcraft. He also owns a PlayStation 3 and frequently plays online multiplayer games like Call of Duty and Battlefield.

Aidan's dad is a construction worker and his mother is a stay at home mom. Being a relatively low income family Aidan is very short on money and as such usually only sticks to a few different video games exclusively. He is currently saving his money to buy the newest expansion pack to his favorite game.

Aidan has moderate computer skills due to his exposure to PC games and as such wants to attend a college for game design. His dream is to work for Blizzard on an MMORPG like World of Warcraft. Despite having these aspirations Aidan is doing sub optimally in high school as most of his time isn't spent studying. He lacks the motivation to do well in school since the only things he's interested in is playing video games.

1.2 Persona 2: Rebecca Hutchelson

Figure 2: Rebecca Hutchelson

- Missisauga, Ontario
- 28 year old female
- Employed at Supreme Accounting Ltd.

"I love to play video games, but I don't have a lot of time to spare right now. What would make things so much easier for me is if games were easy to pick up so I could get the most out of my limited play time."

Rebecca is a 28 year old resident of the city of Mississauga, Ontario and works as a full time accountant at Supreme Accounting Ltd. At work Rebecca is an accomplished accountant making her very familiar with spreadsheets and custom software and thus is proficient with computers. Rebecca has a husband Matthew and cares for their three year old son. With most of her time spent between work and taking care of her family, she spares a small amount of time with her favourite hobby of video games.

As both Rebecca and her husband work, they have a healthy income allowing Rebecca to purchase and play the latest video games. She plays games casually, no more than 2 hours a day and no more than 10 hours a week. With little available time, she has not dedicated herself to a single genre of video games, but has experimented with a variety of games over time. As a result she has not become too attached to a certain playstyle or a specific interface style in video games and welcomes such changes.

Rebecca uses the system at home where she can control her environment with regards to temperature and brightness, and it's usually not too crowded or

noisy. She learns the game via trial and error as opposed to researching character builds and looking up guides. She plays the game to have fun and talk to people, and isn't very concerned about updates or new technology in the game.

Rebecca's motivation for playing the game is discretionary, she would be willing to play another game if all her friends switched or she got fed up with the game. As for her roles in the game, she is only a user. The key activities Rebecca performs in the game are to play it with her friends, make her character look good, and to explore new areas of the game. She received no training on the system apart from what she's learned through tutorials, and the only support she receives is from additional research from online resources.

1.3 Persona 3: Richard Hammer

Figure 3: Richard Hammer

- Toronto, Ontario
- 37 year old male
- Employed at Drug Mart head office

"I'm glad to be able to play video games with my kids now that they've grown up."

Richard is a lifelong gamer and a full time employee at Drugs Mart head office, where he works in a managerial capacity. He's been an employee at the company for over 20 years. He originally worked in a part time capacity and moved up in the company over the course of his life. This personality is key to his playstyle in games, which is careful and methodical. He appreciates control over the little things in his games. Over the years he has developed a serious interest in the storytelling of a game, and he enjoys really getting into his role

in the game.

Richard lives with his wife and three kids, two daughters (14 and 12) and a son (15), in downtown Toronto. He married his wife early, and his upward mobility in the workplace allow him a reasonable amount of money, even outside of his family spending. His wife, Mary Hammer, is also similarly employed at Drugs Mart Head Office. He therefore has a reasonable amount of money to spend on his gaming habit. He uses this money mostly to keep up with the PC gaming market, and his children between them have both an XBOX One and a Wii U.

Richard enjoys playing through RPGs specifically for the story and general detail in the games he can interact with. As a lifelong gamer, Richard occasionally binges on games, having play sessions in excess of five to six hours. However, he generally plays for no longer than two or three, due to the nature of his family life. He generally plays games at night, after work and before bed. He also likes to play games with his eldest, his son, and his younger daughter. His middle child, a daughter, doesn't really have an interest in gaming.

2 Conceptual Models

- Health Bar: A Heart filled with red, as the red fills and falls the player's health rises and lowers. It is vertically oriented to introduce a natural mapping [1] and is a good conceptual model because a heart is typically associated with life or health.
- Mana Bar: A Mana potion filled with blue, as the blue fills and falls the player's health rises and lowers, it uses a similar conceptual model as other games, where blue represents magic levels.
- Backpack: The backpack serves as two conceptual models. The first is that opening the backpack opens the inventory, and backpacks are used to carry things around in the real word. The second is that the space inside the backpack is represented with a grid based system, modelling the fact that a real world bag does not have infinite space to carry things.
- Gear: The gear opens the settings menu. The gear is associated with how things work, and what keeps things going, therefore being a good conceptual model for the settings menu.
- Character, in inventory menu: The character is in the menu with the equipment slots around them to indicate where appropriate equipment goes around the character. The armor set goes near the body and the right and left hand are both on their respective sides.

- Globe: The globe attached to the minimap that opens the world is a helpful conceptual model because the globe is generally representative of the world as a whole and therefore great for a world map.

3 Design Iteration

Figures 4, 5, and 6 were designed at the same time by different members of our group. We then combined the ideas present in those 3 drafts into the diagram shown in Figure 7. The concepts for the map screen and game view screen were then added and the inventory screen was refined into the final design shown in Figure 8.

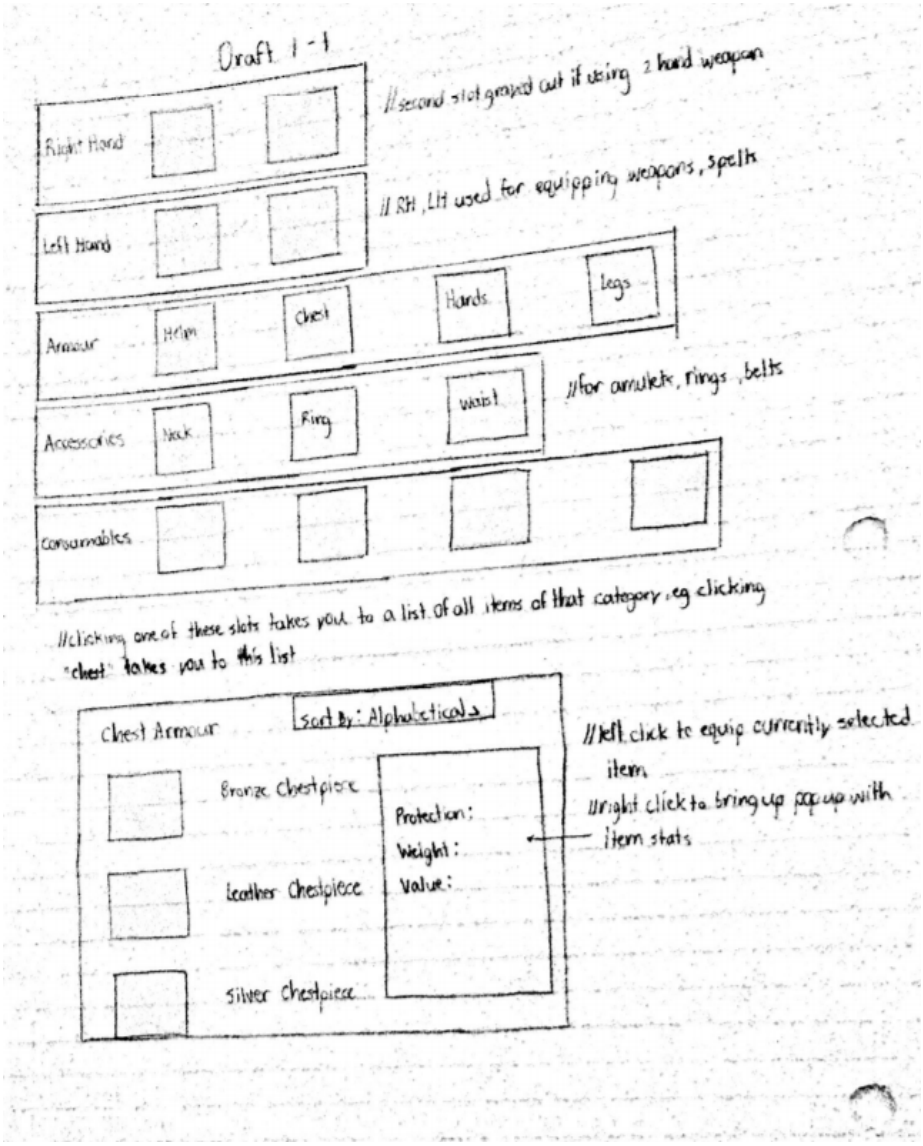

Figure 4: First of the first level of design drafts

Figure 4 was discarded because the inventory menu had too many different layers, and we decided it would be too difficult to navigate with a mouse and keyboard, having to go through the different screens and there's a lot of mouse movement required.

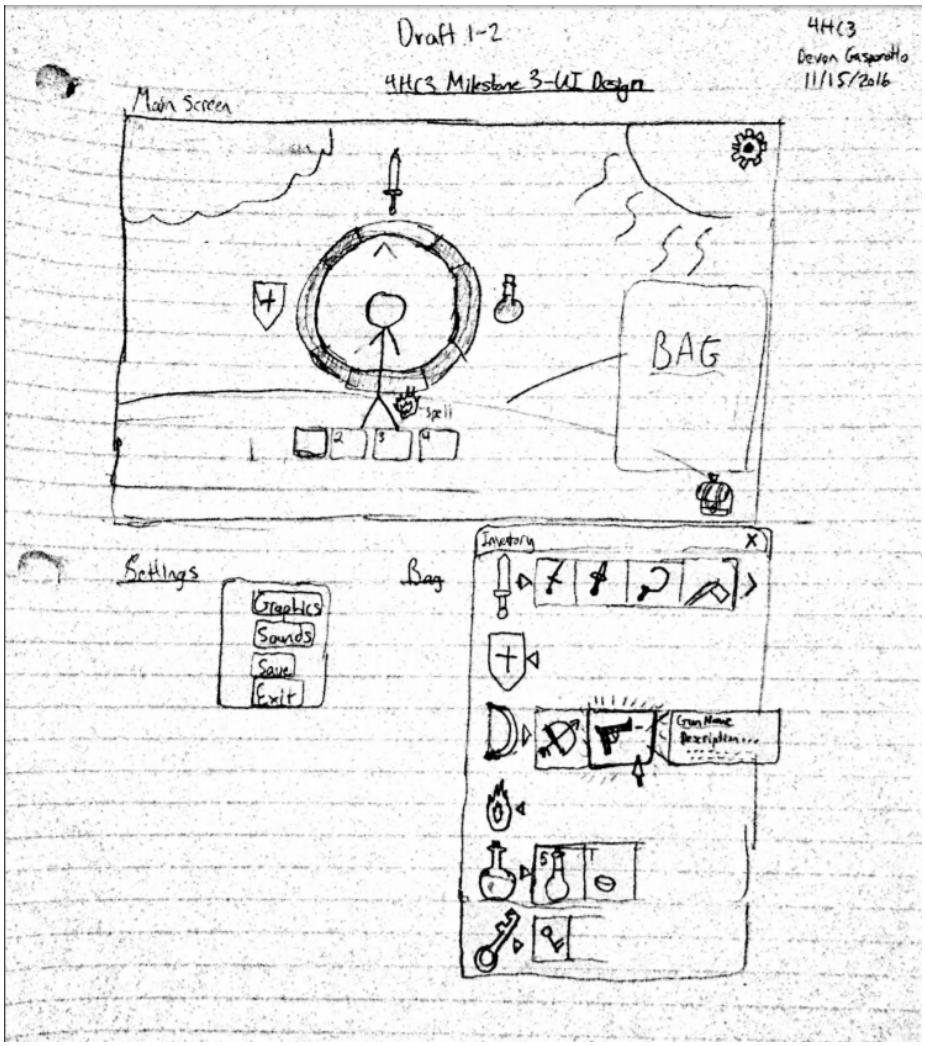

Figure 5: Second of the first level of design drafts

Figure 5 introduced the backpack icon used to bring up the inventory from the main game view, and featured both a radial shaped quick menu in game and a more streamlined version of Figure 1's box based inventory. It was ultimately discarded because the inventory system was too simplified, and we were worried it wouldn't have enough space to convey the depth and detail required of inventory systems in RPGs.

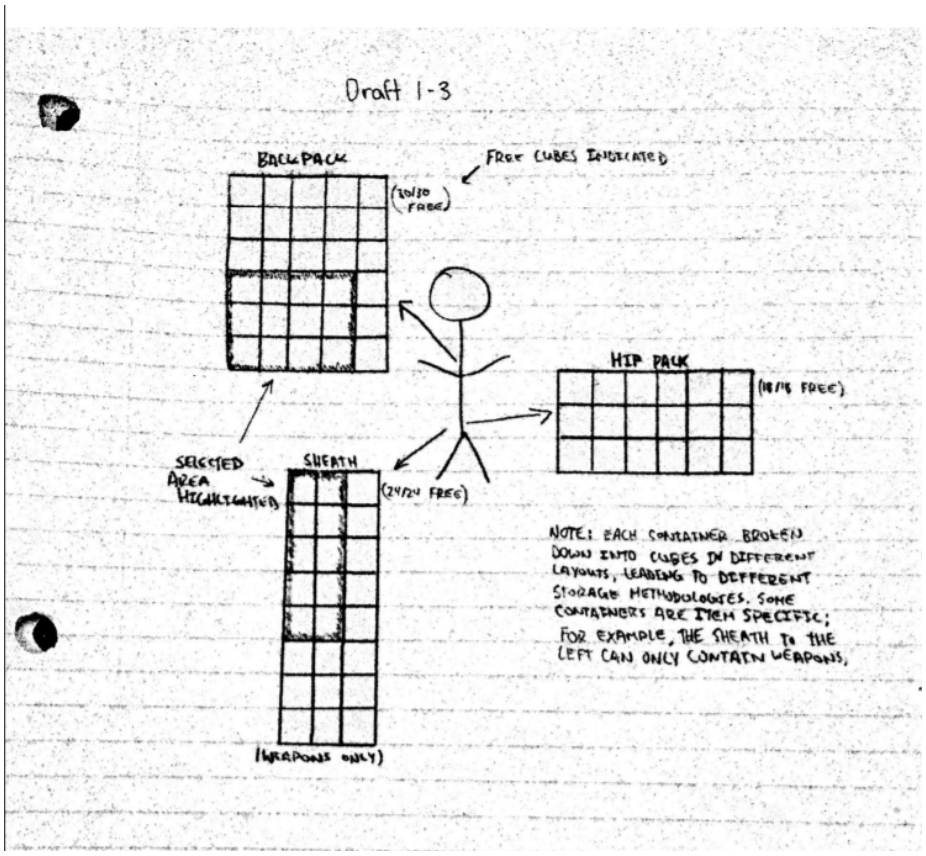

Figure 6: Third of the first level of design drafts

The design in Figure 6 was heavily influenced by the classic computer RPG inventory layout of a grid system. However we judged that it was unnecessary to have so many inventory sections.

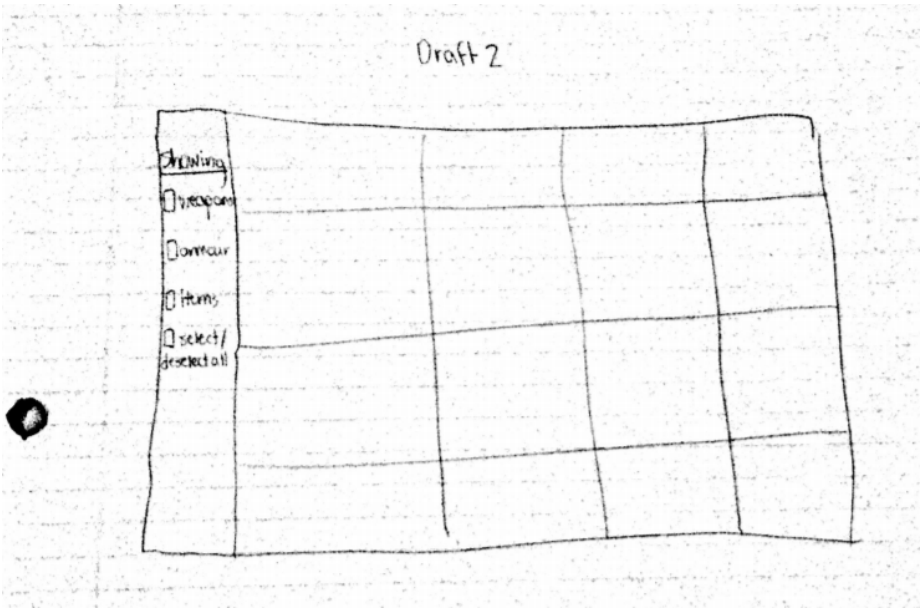

Figure 7: Second level of design draft

Figure 7 combines 2 of the things from the previous designs that we liked; it uses the grid based system that's compact and easy to navigate with a mouse and keyboard, and also features the "Showing" tab on the left. Selecting one or more specific categories highlights items in the inventory that belong to that category. For example, checking the box marked "Weapons" will highlight all weapons in the player's inventory. This makes it easier to find items and introduces a method of categorization present in Figures 4 and 5 while retaining the compact grid based design of Figure 3.

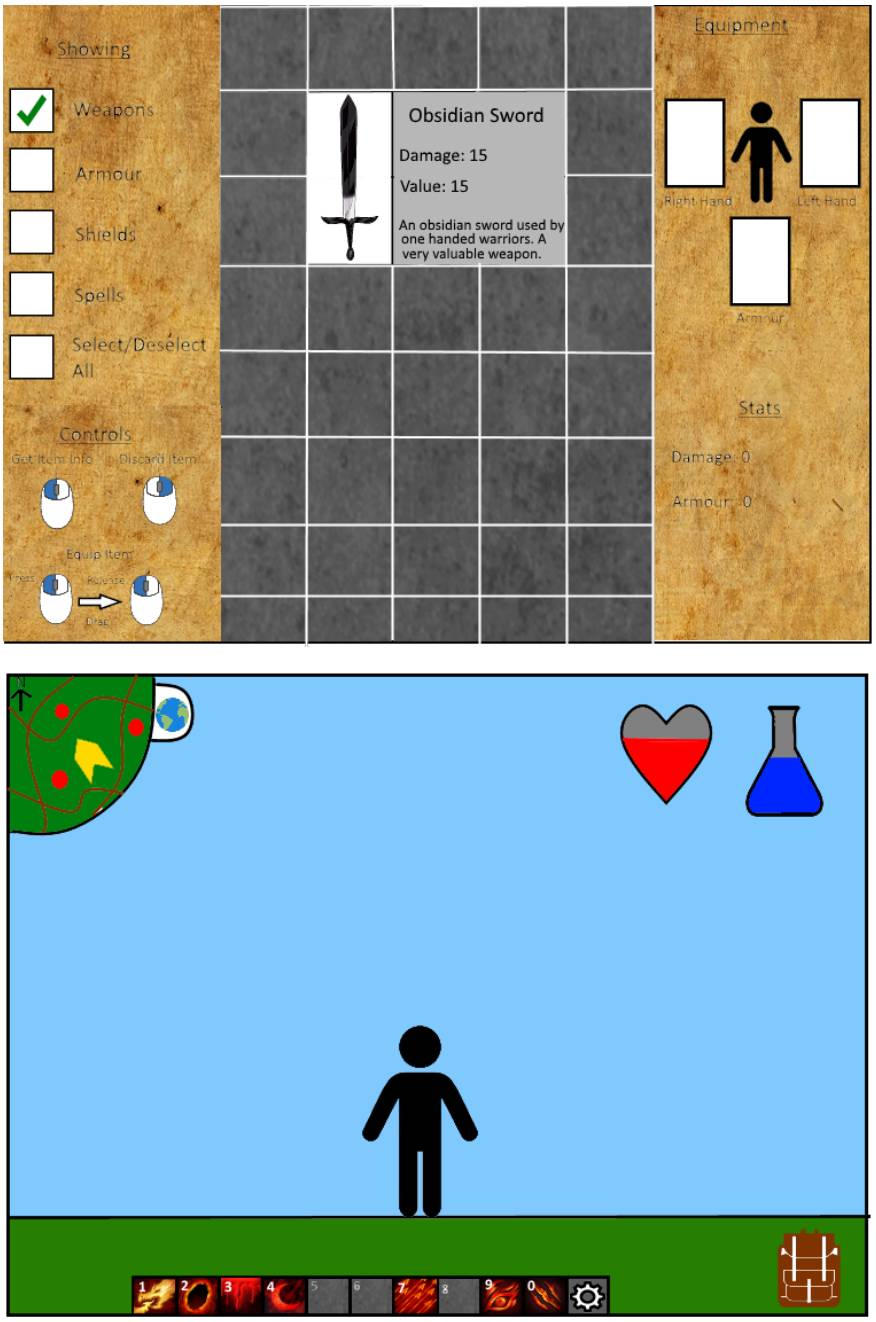

Figure 8: Third level of design draft. The inventory screen is pictured on top, and the game view is on the bottom

The final draft, Figure 8, retains the same inventory system of Figure 4 with a few added features. A "Controls" section was added showing the user how to use the inventory, and a "Stats" section was added to display information to the user about their character. The most significant change to the inventory screen was the "Equipment" tab showing the player's currently equipped items. This section also provides the means of actually equipping items. This is done by dragging an item from the inventory and dropping it into the corresponding slot in the "Equipment" tab. For example, a weapon, spell, or shield can be dropped into either the left or right hand slots, and armour must be dropped into the armour slot to equip it. The game view screen was also added, it includes health and mana level indicators, a map including player and enemy locations, and a button to open the world map. It also retains the backpack icon used to open the inventory and the hotbar menu for player abilities from Figure 5. The button to bring up the game options menu was placed in this hotbar because we thought it was more discoverable than relying on the player to press "Esc", and we didn't want to place it in the inventory screen since that would force the player to go through an extra unnecessary menu if they wanted to access the game options but not the inventory. The conceptual models and our reasons for designing some of the features the way we did is explained in more detail in our conceptual models section.

Figures 9, 10, and 11 show the different settings menus for the game. Figure 12 shows the maps used for fast travel.

Figure 9: Main settings menu of the game

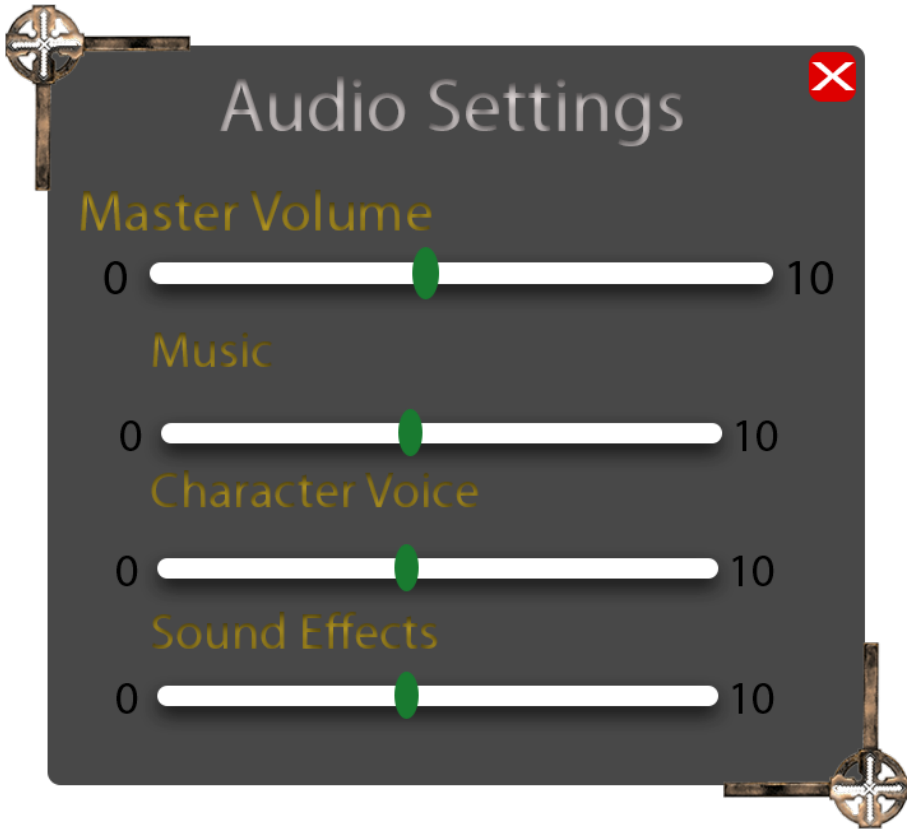

Figure 10: Game's audio settings

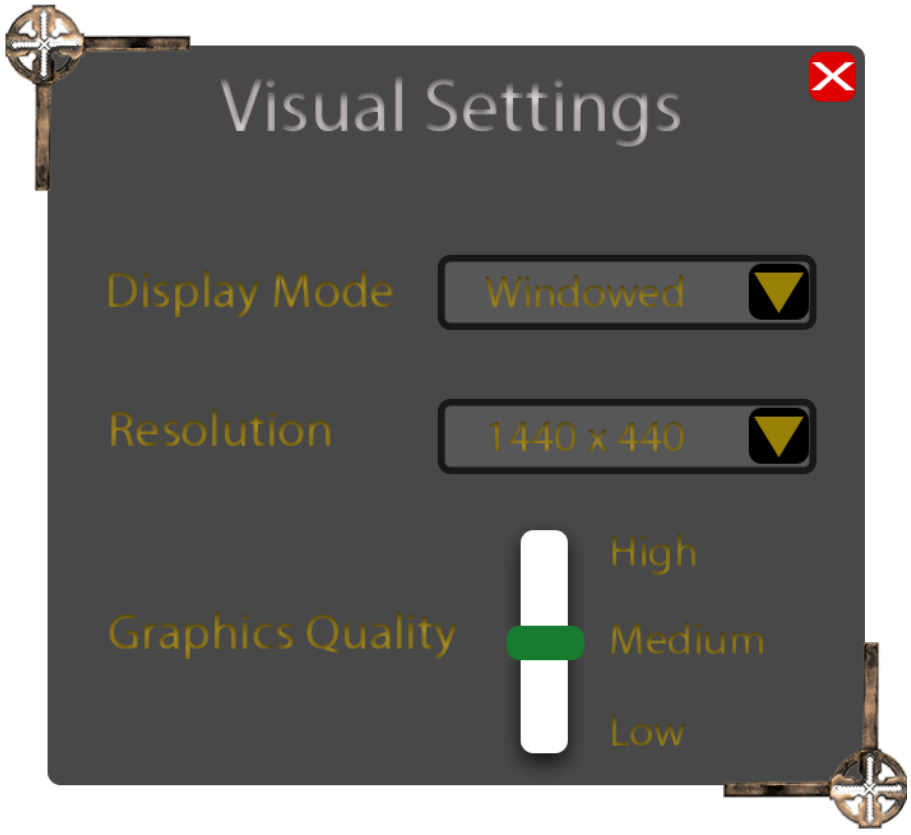

Figure 11: Game's video settings

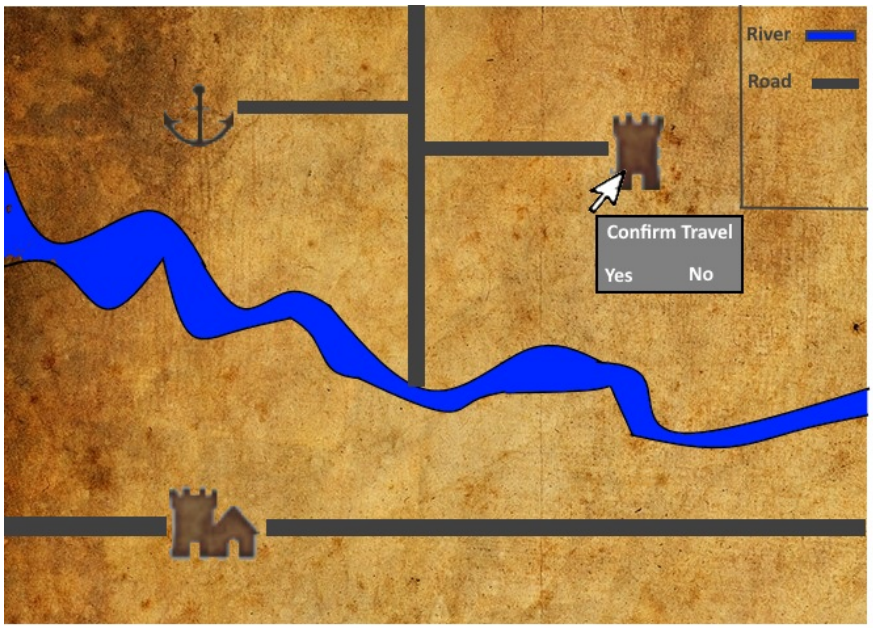

Figure 12: Map used for fast travel, with a currently selected destination for fast travel

4 Hierarchical Task Analyses

4.1 HTA: Equip an Item

The HTA created for our design is an improvement of the Equip an Item functionality that was analyzed in Milestone 2. There are less steps required to equip an item, which involves less menu navigation by using a single menu (the Bag Inventory) that offers this functionality. In addition our design provides improved discoverability [1] of the Bag Inventory. Also our design uses an improved Conceptual Model for equipping items, by dragging and drop items onto an image of the game's character it models the process of putting clothes on a real person. These factors combined help to reduce the confusion that was present in the existing software of Milestone 2.

4.2 HTA: Fast Traveling

This HTA that was created for our design is an improved version of the Fast Travel functionality that was analyzed in out milestone 2. It has the same amount of steps as the HTA from milestone 2 but each step has more detail and we eliminated the need to navigate to a map tab. Instead of first bringing up a menu and then navigating to a map tab as in Fallout 4, we decided to skip the bringing up a menu entirely by adding straight access to our map with one

click. The way you open the map in our design you just need to click on the globe icon in the top corner. As well our HTA has a better breakdown and is more detailed in outlining exactly how the user will complete each step. Like finding the destination we specify that you first need to scroll across the map to find the desired destination to travel to. We have also added a confirmation before the fast travel actually occurs in order to minimize accidental travelling on a single click. These are the reasons why this HTA and our design as a whole was significantly improved of that of the design analyzed in milestone 2.

5 References

1. Don Norman. 2013. The Design of Everyday Things (2nd ed.). Basic Books, 250 West 75th Street New York, New York, Chapter The Psychology of Everyday Actions, 72–73.

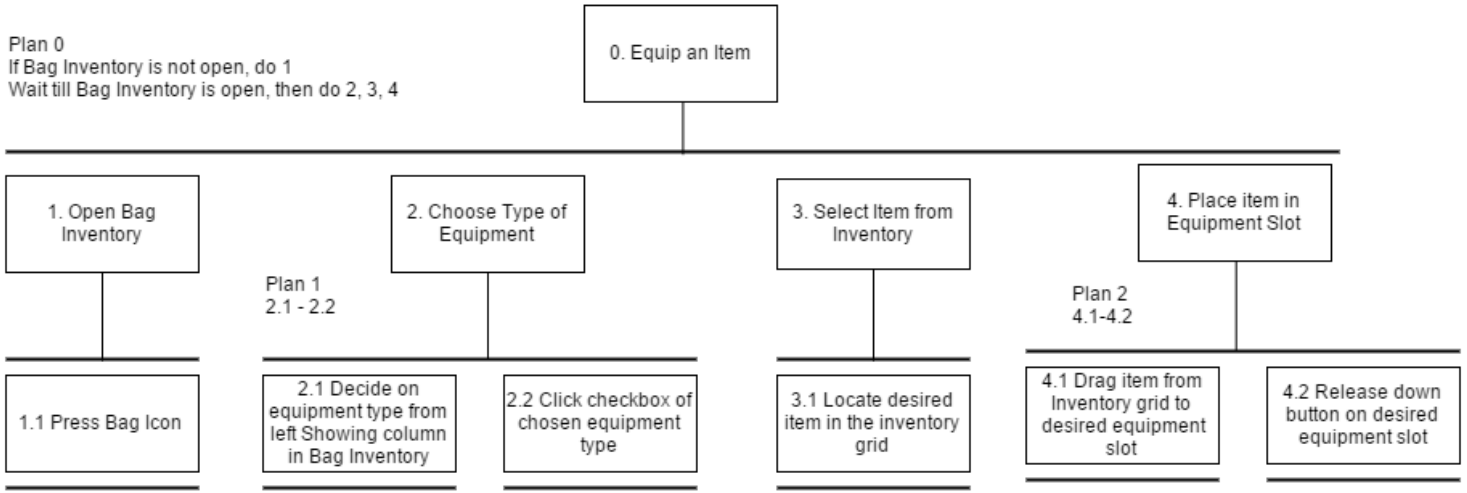

Figure 13: HTA showing the process of equipping an item

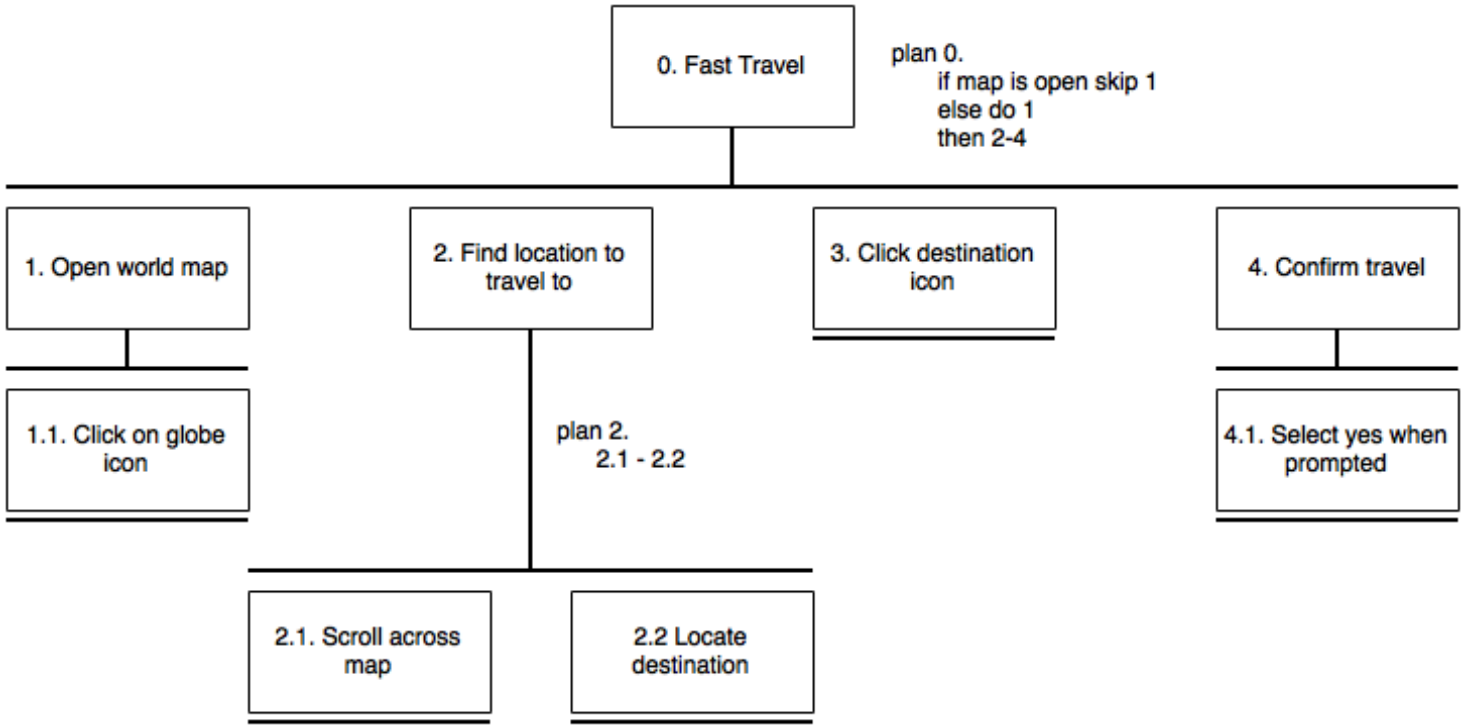

Figure 14: HTA showing the process of using the map to fast travel