Design - Term Project F15 15-112
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My project, “A 112 Druid’s Duel”, is a board game based closely on a game called “A Druid’s Duel” on Steam. With all the game basic mechanics adapted from the original game, I managed to create a completely my own game style, campaign story, and individual challenges. The most important parts of this project are the AI, artificial intelligence, and the user interface.

The tutorial has text that was heavily adapted from the original game’s tutorial, but one thing that really differentiates this tutorial is its interactiveness. It allows the user to go to a real game board and see the features that this page of the tutorial is demonstrating, thus making the user easy to remember and understand the feature.

The campaign consists of five chapters which have an overarching story which I completely made up on my own. All the chapters have the player play against an AI, which follows what campaigns of most board games do. The first several chapters are somewhat easy and allow the player to get the basics of the game and complement the tutorials. The third and fourth chapters are considerably harder, and require the player to have a relatively strong grasp of the strategies of this game to win. I am planning to continue this story after the submission of my term project, in other words to have sequels to this game’s campaign.

The challenges contain six individual games that are of considerable difficulty and have interesting board layouts. These games allow the player to either play against another player on the same computer (or against themselves if they want to), or play against a boosted AI.

The AI of this game is completely my own attempt, as there are neither open code released by the original game nor similar projects that I can refer to. My approach is for the AI to decide on and execute a move whenever the timer fires, also providing that it is the AI's turn. To do this, I make the AI first get all moveable druids and select a random one of them, and then based on built in evaluations to decide on the best possible move. Then after all moves are made, the AI would recruit more druids given the mana made, and the types and positions of druids to be recruited are also evaluated. Finally, when all the mana are spent, then the AI would end the turn. One thing that I do not like the original game is that the AI just moves very quickly which is hard for any beginner or intermediate player to comprehend. In my project, the AI's move is restricted to once per timer fired, and the move is highlighted on the board, which is very user-friendly. Overall, to my surprise, although the AI is not the smartest, it has fairly robust strategies and can defend me and my friends when we are testing it.

The user interface makes this game highly playable and attractive to all levels of users. First of all, it is highly easy for a starter to pick up the game or for an experienced player to play this game very fast, thanks to the game's suggestions on moves and tolerance in inappropriate moves. When in a game, the game buttons are always refreshed to indicate which buttons are available to be selected (which are based on the user's mana left and other factors): the unavailable buttons would be shaded grey, and the selected buttons would be highlighted. When a druid is selected, all the moveable places would be highlighted on the board; when a druid can no longer be selected, it would be shaded grey. What is most friendly to the user is that whenever the user clicks

on somewhere that is not valid, the selected button would be “unselected”, and the user would free to redo the selection. A lot of users say this user interface is outstanding.

There are several suggestions given in the User-study-a-thon yesterday, most about improving the user interface. One comment is that it is hard to tell whether it is the user’s turn or AI’s turn, so I added a bold line of text saying “AI’s turn” on top of the game board to remind the reader to wait and see what AI does. Another comment is that the text in the left-top instruction area was hard to read, so I created a text box and adjusted the colors of those lines. There is also a suggestion on making the colors of a player’s druids available even when it is not that player’s turn, which I did.

Overall, my project is a strategic board game that has a decent AI and appealing user interface. I would like to make similar projects in the future of my computer science education at CMU.