**CSc 102 Project Proposal Guidelines**

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1. Title: *Tales Of Valhalla*
2. Background and motivation.

This game is based on *Hearthstone* which is a strategy card game that models card collecting games such as *Yu-Gi-Oh!* (Konami Cross Media NY, 1996)*. Hearthstone* is an easy to play card game that is played between two players with a deck of 30 cards (Heathstone Gamepedia, 2019) that a player builds before the beginning of a match. Although *Hearthstone* is easy to play, it requires complex strategy to play. And has a reasonably large rule set, since each card in the game has its own characteristics. The cards in *Hearthstone* are divided into four main groups namely minion, spell, hero and weapon cards (Hearthstone Gampedia, 2019). At the beginning of the game each player has a health bar and a Mana bar.The aim of the game is to exhaust your opponent’s health by playing cards and then using the cards’ abilities. Mana is used to play cards, preventing unlimited actions being performed in a single turn.

This game is an attempt to mix a game like *Hearthstone* with another strategy game, namely chess (FIDE, 2018). Instead of having an open field for cards to be played on *Tales Of Valhalla* will have a board. This is an attempt to add an additional layer of strategy to the game and decrease the sense of luck of the draw that can be felt while playing *Hearthstone*. The board will have a nexus on each side. A player wins by destroying the nexus, which is achieved by attacking it until it has no health left.

The cards will be divided into three classes, namely avatars, structures and spells. Avatars will only be allowed to be placed on the first column of the board that is closest to the player’s nexus and will have to be moved up the board to attack the enemy’s nexus. Structures will be allowed to be placed anywhere on the half of the board that is closest to the player’s nexus, however structures cannot be moved once placed. Spells can be cast on any tile of the board.   
  
This variation will mostly be adopted in the proposed game. Most of the rules will be adopted from hearthstone, and a similar Mana system will be introduced with a Mana bar rather than Mana stones.

1. The aim of this project is to create a card game that requires a high level of strategy and planning to play well. An important feature of this card game is to keep the exiting feel of luck of the draw that is prominent in standard card games while maintaining the sense that skill is required to win, and that the outcome of the game was not determined by luck. The game has a somewhat complex rule set since the rules are not general and vary from card to card.
2. This project aims to implement a card game in Java with the following milestones: The first is to code a data structures for cards that can keep track of special features of each card. And after that a class that can contain a group of 30 cards known as a deck. Exactly two players can play this game at a time including a computer player. Therefore, either a human or computer player can make a move and the program will keep track of the states with a game state manager. An easy to use GUI will be designed to make the game both more attractive and more playable. This this work will be presented for assessment in the form of GitHub code and a Project Document, which will include the revision and extension of this proposal. The extensions will include a walkthrough of the steps through the SDLC that our group followed, and a Visual Guide that shows the game in action and can possibly be used as a tutorial.

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| --- | --- | --- | --- | --- | --- |
| Activity | Predecessor | Time Estimates (days) | | | Expected Time |
| Optimistic | Normal | Pessimistic |  |
| Create Card Structures. | - | 1 | 2 | 4 | 2.333 |
| Create Deck Class. | Card Structures. | 2 | 4 | 7 | 4.333 |
| Create base GUI for game. | - | 1 | 2 | 3 | 2 |
| Design Cards. | - | 3 | 5 | 8 | 5.333 |
| Add effects for GUI. | Create base GUI for game. | 6 | 8 | 11 | 8.333 |
| Create a game state manager. | Deck Class and  GUI. | 7 | 10 | 12 | 9.666 |
| Create Menu. | - | 3 | 6 | 10 | 6.333 |
| Create menu utilities. | Menu. | 5 | 8 | 11 | 8 |
| Add more Cards. | Card Structures. | 6 | 8 | 12 | 8.666 |

A picture containing screenshot

Description automatically generated

Gantt chart, red lines indicate the critical nature of task.

2. SDLC.

In the production of this game, it was decided that an agile model should be used. The reason for using the agile model was due to a lack of time, and the full requirements of the program were not known upfront. The idea was to implement things as required, so that a working project, regardless of its complexity could be made before the deadline.

Specifically, the scrum model was chosen. The scrum model seemed to be the most appropriate for our intents, and it is a relatively easy model to follow, when compared to other iterative models.

# References

FIDE. (2018, January 1). *FIDE Laws Of Chess.* Retrieved from FIDE Rules Commission: http://rules.fide.com/images/stories/Laws\_of\_Chess\_2018\_-\_EB\_approved\_-\_clean\_version.pdf

Hearthstone Gampedia. (2019, May 19). *Card*. Retrieved from Hearthstone Wiki: https://hearthstone.gamepedia.com/Card

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Konami Cross Media NY. (1996). *Yu-Gi-Oh! Cards*. Retrieved from Yu-Gi-Oh!: https://www.yugioh.com/cards