Software Engineering

Evaluation

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University of Sussex

All of the user requirements set out in the System Requirement document have been met for this project; these requirements were all derived from the customer's specification document detailing what they wanted from, and in, the game. Having met these demands, and on time, we can say our project was fully successful.

The project has also met all of the functional requirements set out in the System Requirement document. Considering this was the original document used to propose our implementation and approach to the customer, and therefore all agreed on with the customer, meeting all functional requirements further qualifies the success of the implementation.

The System Requirements document also detailed further evolutionary features that (time permitting) could be included. These were included as improvements to the system beyond the customer's specification. Because of the time organisation and tightly woven schedule, it was possible to implement the following features:

- Allowing users to create custom worlds from adjusting parameters:
  - o This is used when playing a single game, and the user specifies how much food, how many rocks, the size the anthills, and the world's dimensions.
  - o It does not make sense to have this option for tournaments, because they are required to always use random worlds with set rulings on food and rocks. If this was added to the tournament process, it would fail to meet the user requirements.
- Pausing the game:
  - o This can be used in all matches (both tournament and non-tournament).
  - o There is a button at the bottom of the screen, 'Pause', which can instantly pause a match.
  - o Whilst a match is paused, the text on the button changes to 'Resume'.
  - o Clicking on 'Resume' will continue the match from the point of pausing.
- Setting gameplay speed:
  - o This can be used in all matches (both tournament and non-tournament).
  - o When playing a match, there are two buttons located at the bottom-right of the screen. The label in between the two buttons signify the current speed, these are: 'Slow', 'Medium', 'Fast', and 'Fastest'.
  - o The '-' button to the left of the label slows down the gameplay speed.
  - o The '+' button to the right of the label speeds up the gameplay speed.

Additionally, features that were not mentioned in the System Requirement document, but that made sense later on in the design process, have been implemented. These include:

- Zoom on the world:
    - This feature gives the players a greater ability to view and explore the ant-world in play.
    - When playing a match, there are two buttons located at the bottom-right of the screen. The label in between the two buttons signify the current zoom level.
    - The '-' button to the left of the label zooms-out the ant-world (until the smallest limit is shown).
    - The '+' button to the right of the label zooms-in the ant-world.
- Scrollable ant-world:
    - By allowing the zoom feature, the ant world may not be fully visible.
    - To overcome this the ant world can be explored by using the two scrollbars located at the bottom, and right, of the world.
- Displaying live stats:
    - During a match, both players have their current food, ants alive, and ants dead tracked.
    - This information is displayed in real time as the match is played, on the right side of the screen
    - This allows players to assess how well the brain is performing during a match.

Overall, with all of the user requirements implemented, many of the future evolutions implemented, and numerous further additional features implemented, the project can be deemed as highly successful.