Heroes and Villains Report

Team Members

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Application Structure

Class Communication

Classes communicated between themselves using a model view controller, (MVC) structure. By using a MVC structure, greater modularity across the project was achieved. Players were able provide input via the GUI and the model classes provided the functionality that powered the user interactions with the game. A UML diagram was extremely handy when planning out classes and their relationships, and can be found in the containing folder titled: “UML.png”

Collection Types

A wide range of collection types was used when the data was needed to be used in specific ways. Storing most data in their own classes means that the data could be accessed and manipulated in the ways in which it needed to.

Additionally, a GameVariables class was created and was used to initialise the game items in the shop, the list of heroes and the list of power up items. In future, it would be much cleaner and scalable to use an external reference to a JSON file.

Inheritance

Inheritance was used in the Heroes and Villains application by creating higher level, more abstract classes which were then extended by more specific child classes. Examples of this include the class relationship shared between the high level and generic ‘Character’ class and its children ‘Hero’ and ‘Villain’ which are it’s extendables.

Unit Testing

The unit tests cover the most used model classes which handle all the data in the game. The ‘Character’ and ‘Party’ unit test classes are particularly comprehensive, and many of the other model classes provide the backbone for these classes to function. This provides an implicit test on all of the ‘feeder’ classes from a higher level perspective.

Project Retrospective

The teamwork and communication of the project worked well as we lived fairly close together and could meet up for regular meetings. This allowed us to make major decisions and changes about the project fairly quickly.

Next time we would spend less time on the console version of the game and start implementing the GUI version earlier as much of the code had to be rewritten for the GUI version. This meant that lots of the effort put in earlier was wasted as the code ended up getting deleted.

For the next project, researching ahead would mean that not so much time would have to be spent on code that would not be relevant to the final version of the project. Next time, the use of a project manager like Trello would allow better communication about what tasks need to be completed.

Lastly, the use of JSON files that describe items, heroes and other game variables would be ideal for scalability and maintainability. It would also be ideal to have save game / load game functionality in future, as this would give the user a sense of progression.

Group Contributions

As both of us were fairly good at writing java programs and object oriented thinking, we both contributed an even amount towards the project.

Adam Conway (50%)
Flynn Doherty (50%)

Assignment Feedback

It would be handy to know the swing framework earlier on in the course so not so much time is spent writing a console version of the game - most of which has to be rewritten for the GUI.