# Coding Summary

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The project is about developing a game called the Silk Route. The Silk Route is a Computer game based in Java. This game is meant to provide consumers with a strategy game that focuses on maximizing profits. The game features different periods and the development primarily focused on around 50 BC, the time of Parthians, Han, and the Romans. The game further takes inspiration from Role-Playing games to add further layers of depth to the strategy. The user plays as a Trader in the Silk Route time period as they are trying to make gold while selling along the Silk Route. They can move to different parts of the map and visit different cities to make profit off selling and buying goods. Prices differ depending on the location the Trader is currently in. To encourage adaptation, the game further includes numerous elements of randomness. Randomness is meant to prevent the same strategy from always being played. This is implemented through the use of random events that appear that can affect what the user can do. They include movement limitations, combat encounters, and global events that can affect trade prices.

PC Gamers are the target demographic for this project, and the game attempts to cater to the historical and strategy game niche subsection of the population. The game is set in antiquity, but the focus of the game is not historical accuracy, but rather the maintenance of a general historical theme. The strategy elements of the game are meant to cater to people who enjoy quick thinking, and ever-changing optimal strategies.

For this project basic game play for a turn-based game based on the Silk Road was completed. In this game players can move to different countries along the Silk Road and buy and sell goods using gold that they start the game with. As the game goes on there are random events that pop up that can either hurt or help the player. When the players sign into the game they create a username, choose a starting country, and choose an avatar to represent them. Depending on the country the player chooses they will have different starting resources.

Various automated test cases were written while also writing the project's code. This was done to automatically check the functionality of the project without having to run the program every time. For example, the Trader class had test cases written for all the functions implemented to check for correct output. This was an important element when null values would be returned and crashed the game. Having these tests also helped writing new code since the project could be checked to see if it still worked in a

few seconds. The classes tested include: the Trader Class which were had the main functions of a trader tested, the Combat and Mercenary Classes which had all possible combat results between mercenary and trader tested, the Event Classes which were tested to see each event type and the appropriate result in the game data, and the Location Data Class which was tested for correct file input.

For inspection, each team member was assigned another member's code to inspect for a variety of issues. This was conducted in 2 separate meetings and asynchronously. The inspection portion during meetings were relegated to questions and answers for design choices and other general items.

Some open issues left at the end of the coding project were how the game ends. It currently ends after 20 turns but that is due to only wanting to limit it for the demos. Some options were to add points according to the player accomplishing certain goals and comparing those between players to see who won. Another open issue is how to handle release of the game which could include a website to download it or just releasing it on Steam. Some other functionality that could be added to the game include multiplayer games with other human players or with AI controlled players. Also the ability to hire mercenaries and to build trading posts so players have more options to spend the gold they earn.

Looking back at what was done during the whole project period. We were able to conduct meetings at least once a week or more. These meetings were invaluable in planning our sprints, checking our progress, and for guiding each other. There were some difficulties in the beginning with setting up each team member's environment. It was more work to guide each other asynchronously for these issues.

There were points where one part of the project was necessary to be completed in order for other team members to progress. As a result of this, there were some slowdowns while things like map movement were defined.