# CS 319 - Object-Oriented Software Engineering

# Final Report

# Syracuse

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## Introduction:

Syracuse is a turn based, city simulation game inspired by the game Tropico. It takes places in the Hellenistic age. The player takes control of the city and is responsible for its defence, economy and expansion. This report contains a basic overview of the game. In addition to that we talk about what features of the game were we able to implement and which of them we couldn't.

## Overview:

The main idea of the game revolves around 3 ages. The first age is called the Greek Colonial age, the second Age of Peloponnesian War and the third is called the Hellenistic age. The player is responsible for the development of his city and make it to the third age. When the game starts, the player is in the first age, the Greek Colonial age. In this age, the city is a colony of mainland Greece. The player gets missions from the mainland, Corinth. The player is not allowed to build military units yet because diplomatic relations with other states are not yet unlocked as Syracuse is not an independent state as of now. The player's main responsibilities are to build the economy, build buildings, increase the happiness of people, and do trade with other nations and states. In order to go to the second age, the player has to build a temple before the time limit passes. If the player is successful in doing so, the player goes to the second age. Otherwise the player loses the game and will have to start over again from scratch.

The second age is called the Age of Peloponnesian War. In this age, the player will be able to have diplomatic relations with other states and build an army to defend Syracuse if the city gets attacked, but the player still cannot attack and conquer adjacent provinces. There are two main powers in this age, named Athens and Sparta. Athens is known for open trade economy, democracy and naval supremacy while Sparta specialises in tyranny, self sufficiency and strong land troops. The player will get missions from both of these powers.

Accepting missions from one power will improve the users relations with that power while deteriorating them with the other one. There are several advantages attached to accepting missions from both of these powers. For example, accepting a mission from Athens will give user a bonus on export incomes, while accepting a mission from Sparta will get the user military support from Sparta. So the user must carefully decide what he needs the most right now and make the decision accordingly. At the end of this period, Syracuse is attacked and if the user successfully defends it, it can go to the next age. Otherwise the player loses the game.

The third age is called the Hellenistic period. In this age, the player can send armies to neighbouring provinces. The major powers in this age are the Carthage and Rome. Again the player must decide whom side to be on as each have their benefits. In order to pass the age and finish the game the user must satisfy one of these conditions, either be controlling all the 3 cities of Sicily, be in alliance with Carthage or Rome when one of them conquers other, or build a wonder like building in Syracuse.

## Current Status:

We were able to implement the manager and GUI classes separately but unfortunately, both because our project was too time consuming and ambitious, and the deadline was two days sooner than we expected. Even though we wrote most of the code for the classes of both the first and second ages, in terms of GUI, model and controller classes, we couldn't merge them in time. Currently in our game the only thing that is connected between packages is constructing buildings.

As for the GUI, everything is working completely fine except for the generals panel and population happiness panel. We made the graphics using the Sketch app and then imported them into our game. The GUI loads up and works totally fine. The only problem we have was that we were not able to connect some of the logic with the GUI part. Apart from this we have a few bugs in the layer panel.

In manager classes, the AI faction methods, mission controlling and rewarding methods and battle methods are not implemented. But these are all third age features, so it can be said game logic is working until the end of the second age. In terms of current game memory package and game element packages, the model part of our project has every class implemented. In GUI part also every panel has been implemented but they are not connected with manager classes right now in a meaningful way. The only thing we can properly test is buildings. In terms of design changes, manager classes didn't change very much. In game element classes, in design report we mentioned we were going to use storage building interface, but since it wasn't helpful in achieving multiple inheritance, we made production class a subclass of storage building class. In current game memory package, in design report we said that almost everything was going to be held in a game object but it was very inappropriate and ineffective, so instead we created separate classes for holding and instantiating game element classes like materials class which instantiates all the objects of materials in the game and also is a part of game object.

**User Guide:** In order to startup the game, the user just needs to click the jar file and the game will start. As for help in-game, the user can access Sicilopedia from any screen in the game.