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| Project Description |
| COMP 345 |

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# **Part 3: UML and Brief Design Decisions**

## **UML Diagram**

Refer to ClassDiagram.png

## **Design decisions**

Most methods in our application are public to allow other classes to use them. Methods that are not intended to be used by other classes and class variables are made private to lower coupling. This will allow changes to be more easily made to a class. Instead, they can be accessed and manipulated using getter and setter methods.

FantasyRaceBanner and Badge are generic classes representing a race and super power respectively. There are several subclasses (e.g. the Amazons race) that are based on them to differentiate them in terms of name, token value, and skill, but still maintain a common structure.

Similarly, Observer and Strategy are superclasses to different types of observers and strategies. Polymorphism is used by creating virtual methods in the superclass and overriding them in the subclasses.

The application has created high cohesion by breaking down classes into separate classes as much as possible. For instance, while the tournament class runs the whole game, the player class executes different turn actions such as picking a race and conquering a region.

# **Part 4: Game Key C++ Concepts and Libraries**

# **Bonus**

* Special abilities granted by races and badges are implemented.
* Maps adhere to the official board game’s maps.
* Map regions include types (e.g. forest, farmland, caverns) and tokens (e.g. mountains, troll lairs, encampments)