**Class Diagram – Written Commentary, drafted by Mark Patterson**

As a follow on from the use cases provided to me by the analysts in our group I have undertaken the necessary steps to implement a UML Class Diagram.

This included modelling the classes that seemed relevant as a result of the use cases and also through considering the logical requirements of the Education Establishment game. The objects that had been previously developed were refined with methods and attributes to allow the formation of classes.

When the classes along with both attributes and methods were developed I proceeded to resolve the associations and relationships between them. Present in the diagram provided are composition and aggregation associations as well as inheritance. With regards to composition this implies that one object (class) is dependent on another object (class) and without it, it would cease to exist, the composing object however would conceptually still exist. With regards to the diagram this can be seen between the loan object and the player object. Without the player object the loan object would cease to exist, however if the loan object was not present, the player class would still stand. Aggregation is also prevalent throughout. This implies that an object does have an association with another however they are functionally independent. There was also a need for inheritance in the class diagram with regards to the Establishment super class and it’s three sub classes of Restaurant, Bar and Subject. This was implemented as there were similarities between the attributes and methods of these classes and this provides us with a way in removing duplication from the proposed system.