Project Methodology Justification Report

**An outline of current software development methodologies**

**Rapid Application Development** is a methodology designed for implementation to be quick and efficient. The design was constructed to reduce time on development and reuse software components to decrease the amount of money and time spent on the project. This is done by outsourcing requirements through workshops or focus groups and following an intelligently created schedule that defers design improvements to the following product version.

The **Waterfall** model is a more common and more popular version of the software development life cycle. Waterfall development occurs through distinct goals for each phase of development where each phase must be completed before beginning the next phase. Common issues of the waterfall model are unrealistic expectations and falling further and further behind on pre-planned schedule.

**A detailed description of the project’s software development life cycle (SDLC)**

The software development life cycle used for the development of this project is known as the Agile Software Development methodology. The **Agile Software Development** methodology is a conceptual framework designed to minimize risk by developing software in smaller timeframes, usually of one to four-week periods. These small timeframes are spent developing miniature projects (or iterations) of new functionality instead of trying to design a large project all at once.

**An explanation of object-oriented programming**

Object-oriented programming is the development design model that uses methods and objects to create blocks of code that can be used anywhere when called upon. This style of programming has been brought to web development and cloud computing through the introduction of ASP.NET. ASP.NET combines the use of HTML, CSS and SQL with C# to create a more powerful system by which to create web programs.

**A description of open-source development tools you could have used in the project**

GitHub is a well-known and used tool for developers and has been named the most popular version control system among all software developers. It has been used by some of the biggest names in the industry such as Google, Microsoft, and Facebook.

Bootstrap is another open source tool used for creation of responsive projects with HTML, CSS and JS frameworks, with the overall goal to simplify front-end web development.

ASP.NET was a tool used in the project (now open-source) which is a Microsoft designed, server-side web application framework for the design of dynamic web pages, web applications, and web services.

**A description of the software-testing techniques you used in development phase of the project**

The software testing technique used during the development of this project was unit testing, this was used to check the communications functions and the UI interaction’s limitations made so the user can’t input invalid values. Unit testing is a process which tests small areas of an application through inputting exact values and expecting exact returns, this testing type can be both used manually – which was use predominantly in the project – or in an automated fashion.