**Agile Methodology:**

There are many well established methodologies available for the development of any project. These methodologies are as essential as the project with any aim, they provide a complete work plan for the system to establish and evolve. Different methodologies are used depending on many factors as time available, project type resources etc. For our project we have selected **Agile methodology** to implement any project. We selecte it because of its incremental and flexibility of nature to change and evolve without causing any change in the schedule as which is the main declining factor for many other methodology. This methodology have a lot of process of process models depending on the need of the project some of them are adaptive software development , SCRUM, Pragmatic programming, Extreme Programming etc.

The process which we will be following is the **Extreme Programming**. It is one the most used software development methodology for making any application within a short period of time, this process involves breaking down of the each problem/ functional requirement into sub problems and requirements of the system, and working on each individually within an iterative cycle. Iteration is work as the routine of developing small sections of a project at a time. Each iteration is check and viewed if it satisfies that requirement then further iterations are carried on with same workflow.

## Diagram of Methodology

The Extreme Programming methodology has the simplest basic phases to follow as shown below.

**Requirement**

**Analysis**

**Testing**

**Coding**

**Design**

**Final Product**

Recode if failed in test

**Requirement Analysis** – This phase deals with the gathering and checking of all the requirements if they satisfy the project purposes.

**Design** – It includes the identification of sub systems and development of uses cases and data flow diagram with complete implementation of the system to be followed on.

**Coding** – This phase includes the development of the project using the technologies and methods described before.

**Testing** – It is the most important phase with the complete checking of the system if it satisfies all the requirements of the system.

**Final Product** – If system passes the requirements of projects then it become as final project of the system.

## Reason of Choosing Methodology

We have choose Extreme Programming methodology because of the following reasons.

* **Flexibility** – XP provide great deal of flexibility to evolve with the requirements of the system without changing the other constraints of the system.
* **Iterations** - One of the best reason to use XP is its phenomenon of dividing whole problem into number of iterations to work on each iteration easily and rapidly.
* **Simplicity** - XP provides a simple workflow to follow in achieving the projects goals.
* **Designing** - It focuses on designing projects complete implementation phases in manageable environment.
* **Testing** – XP have a complete phase of testing which works to ensure the productivity of the project by following various quality assurance rules.