Chapter 3

Process Model

3.1 Market Potential and Competitiveness

This project has huge market potential because of the following reasons:

- Can be used anywhere as it is a mobile application.
- It is secure
- It is easy to use.
- Well-formed assistance page is inbuilt in the application itself.
- User-friendly user interface.
- Robust and fully capable of handling exceptions at run time.
- Light as does not takes up a lot of memory space in the device.
- Doesn't demands too much of device resources.

Competitiveness is almost zero as there no such application in the market.

3.2 Proposed Model

The proposed model for this project is waterfall model.

The Waterfall Model was first Process Model to be introduced. It is also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed fully before the next phase can begin. This type of software development model is basically used for the project which is small and there are no uncertain requirements. At the end of each phase, a review takes place to determine if the project is on the right path and whether or not to continue or discard the project. In this model software, testing starts only after the development is complete. In waterfall model phases do not overlap.

• **Software requirement analysis:** The requirements gathering process is intensified and focused specifically on software. To understand the nature of the program(s) to be built, the software engineer ("analyst") must understand the information domain for the software, as well as required function, behaviour, performance, and interface.

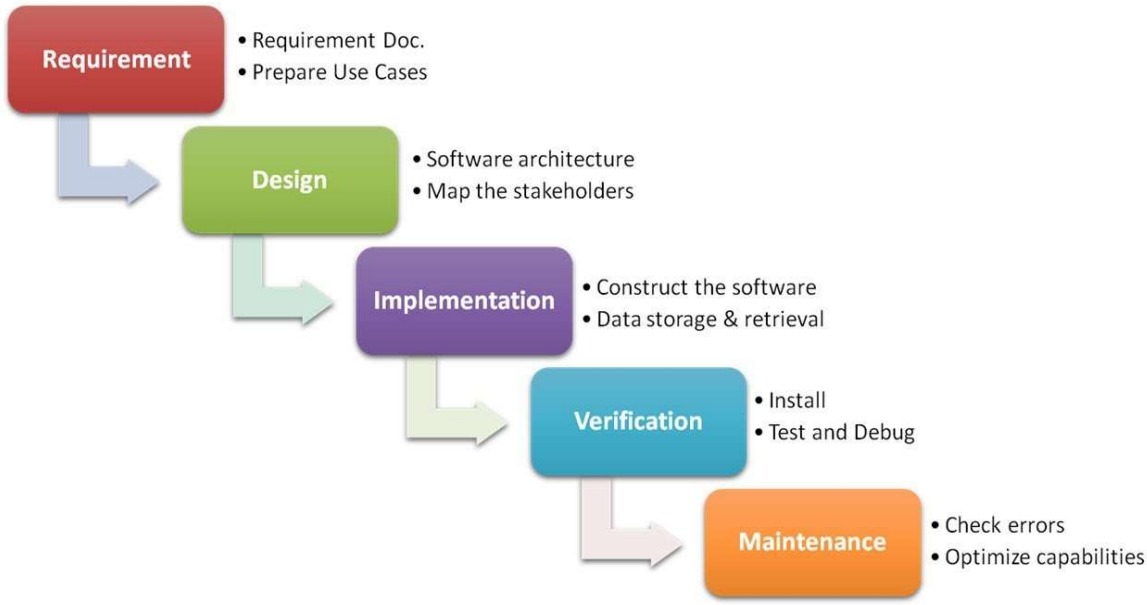
Requirements for both the system and the software are documented and reviewed with the customer.

• **Design:** Software design is actually a multistep process that focuses on four distinct attributes of a program: data structure, software architecture, interface representations, and procedural (algorithmic) detail. The design process translates requirements into a representation of the software that can be assessed for quality before coding begins. Like requirements, the design is documented and becomes part of the software configuration.

•**Code generation:** The design must be translated into a machine-readable form. The code generation step performs this task. If design is performed in a detailed manner, code generation can be accomplished mechanistically.

• **Testing:** Once code has been generated, program testing begins. The testing process focuses on the logical internals of the software, ensuring that all statements have been tested, and on the functional externals; that is, conducting tests to uncover errors and ensure that defined input will produce actual results that agree with required results.

• **Maintenance:** Software will undoubtedly undergo change after it is delivered to the customer (a possible exception is embedded software). Change will occur because errors have been encountered, because the software must be adapted to accommodate changes in its external environment (e.g., a change required because of a new operating system or peripheral device), or because the customer requires functional or performance enhancements. Software support/maintenance reapplies each of the preceding phases to an existing program rather than a new one.



Advantages of waterfall model:

- This model is simple and easy to understand and use.
- Waterfall model works well for smaller projects where requirements are very well understood
- Each phase proceeds sequentially.
- Documentation is produced at every stage of the software's development. This makes understanding the product designing procedure, simpler.
- After every major stage of software coding, testing is done to check the correct running of the code. This helps us control schedules and budgets.

Disadvantages of waterfall model:

- Not a good model for complex and object-oriented projects.
- Poor model for long and ongoing projects.
- Not suitable for the projects where requirements are at a moderate to high risk of changing.
- High amounts of risk and uncertainty.
- Customer can see working model of the project only at the end. After reviewing of the working model if the customer gets dissatisfied then it causes serious problem.

- You cannot go back a step if the design phase has gone wrong, things can get very complicated in the implementation phases.

3.3 Project estimate and Schedule

- Initially, we are making this at department level and is free of cost.
- However, in future, we wish to release it over the Android Play Store, so that it can be used by others.
- In order to host it on the Android Play Store, we need to buy the Android Developer Id from Google.