# Experiment No: 02

- **Aim: Application of the agile process model.**
- **Theory:**
- **Project Name: - The QR CODE SCANNER**

## Agile Model

The meaning of Agile is swift or versatile. **"Agile process model**" refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.

Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements. Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client.

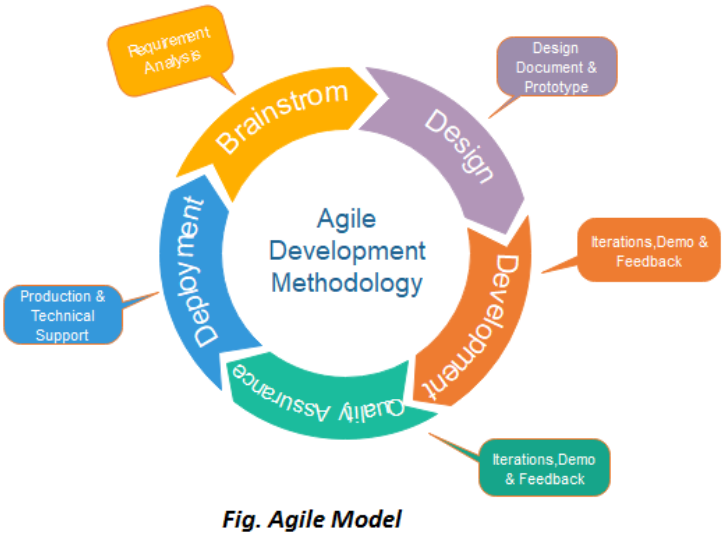



*Fig. Agile Model*

## Phases of Agile Model:

Following are the phases in the agile model are as follows:

1. Requirements gathering
2. Design the requirements
3. Construction/ iteration
4. Testing/ Quality assurance
5. Deployment
6. Feedback

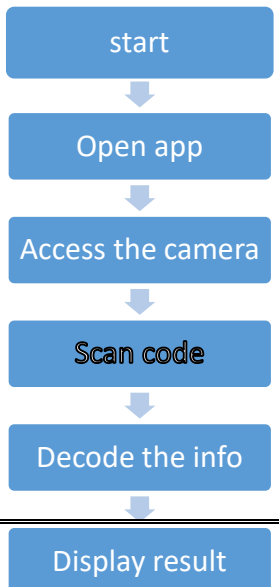
**Requirements gathering:** In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.

An App Store QR Code is a QR Code solution that connects users directly to the app store to promote app installations from the Apple Store, Google Play, and Amazon Appstore. Set within a mobile-friendly and customizable page, you can include buttons to each app store where your app is located to streamline the app installation process for customers with all types of devices—all with a single QR Code.

- Android: is a standard GUI and is one of the easiest ways to build a GUI application.
- Java: programing propose
- Firebase: real time database
- Adobe (UI/UX); Build in layout and Design

**Design the requirements:** When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.

**Construction/ iteration:** When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.



**Testing:** In this phase, the Quality Assurance team examines the product's performance and looks for the bug. In testing phase we came to know the types of errors a user might face while using our application. The permission a user needs to provide and the error that might pop up if permission is not provided. The Camera quality is well or not that has been checked while testing process. The QR code is able to scan and decode the URL without fail. Even the Authentication process that stores info regarding user in real time database that is Firebase. We as well checked whether a unique QR is generated every time the QR is been generated.

**Deployment:** In this phase, the team issues a product for the user's work environment. In Deployment stage the application is useful for user and provides security so in existing market this application doesn't wear out. As nowadays most of sites prefers QR Code to provide that facility this application is beneficial.

**Feedback:** After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback. After Completing the planning part there was still a part missing from it and due to that the whole planning was required to change but the managing team managed whole that part and rebuilt the plan as per required.

## Agile Testing Methods:

- Scrum
- Crystal
- Dynamic Software Development Method(DSDM)
- Feature Driven Development(FDD)
- Lean Software Development
- eXtreme Programming(XP).

## Scrum:

SCRUM is an agile development process focused primarily on ways to manage tasks in team-based development conditions.

There are three roles in it, and their responsibilities are:

1. **Scrum Master:** The scrum can set up the master team, arrange the meeting and remove obstacles for the process
2. **Product owner:** The product owner makes the product backlog, prioritizes the delay and is responsible for the distribution of functionality on each repetition.
3. **Scrum Team:** The team manages its work and organizes the work to complete the sprint or cycle.

## Advantage of Agile Method:

1. Frequent Delivery
2. Face-to-Face Communication with clients.
3. Efficient design and fulfils the business requirement.
4. Anytime changes are acceptable.
5. It reduces total development time.

## Disadvantages of Agile:

1. Due to the shortage of formal documents, it creates confusion and crucial decisions taken throughout various phases can be misinterpreted at any time by different team members.
2. Due to the lack of proper documentation, once the project completes and the developers allotted to another project, maintenance of the finished project can become a difficulty.

## ➢ Conclusion :-

We successfully implemented **Application of the agile process model.**