**5. Artifact planning**

**5.1. System requirements**

**5.1.1. Functional Requirements**

1. Farmer must be able to register into the system using their phone number and password. Both must be validated.
2. After the successful registration farmers and experts must be able to login from both android and IOS devices.
3. After successful login farmer must be redirected to explore screen where there will be the list of all the experts related to different categories.
4. Farmers must be able to visit their profile and see their details.
5. Farmers must be able to chat, audio or video call experts as per their requirements if experts accepts the request.
6. Farmers must be able to search the experts by their name or domain of expertise.
7. Farmers must be able to add experts to their favorite list.
8. Farmers must be able to view notifications.
9. Farmers must be able update their profile information.
10. Experts must be able to request for the registration.
11. Experts must be able to accept chat, audio and video request.
12. Expert must be able to update their profile.
13. Expert must be able to add works to favorites.

**5.1.2. Non-functional Requirements**

1. The app must have a simple and clean user interface.
2. The app must be responsive.
3. The app must handle more than 300 requests at a time.
4. The app must have good performance and reliability.
5. The app must be secure.

**5.2. Methodology**

**5.2.1. Research methodologies**

Quantitative and qualitative research methodologies has been used through out the research process. Quantitative research has been used to collect information about farmers and experts. The process involves interview, online polls and online surveys.

**5.2.2. Development Methodology**

Agile software development methodology will be used to develop the application. This method will be used because the requirements may change with time. The project management process will go through:

* Requirement analysis (understanding application feature requirements through research outcome )
* Design (prototyping using Balsomiq and designing system using visual paradigm)
* Development(coding using dart and flutter)
* Testing (unit, integrated)
* Deployment (releasing app on google play, app store)

**5.3. Languages and frameworks**

Dart and Flutter

**5.3. System design**

**5.3.1. UML diagram**

**5.3.2. Activity diagram**

**5.3.3. Class diagram**

**5.3.4. Database schema**

**5.4. Prototypes**

**5.5. Testing Strategies**

**5.5.1. Unit testing**

**5.5.2. Integration testing**

**5.6. Evaluation Strategies**