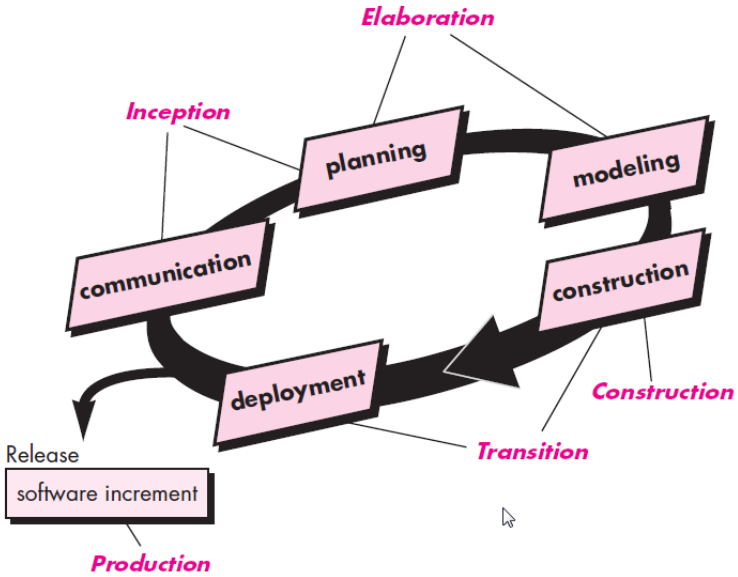
1. Considered Methodology

1.1. Scrum Methodology

(Digite, 2019)Scrum is an agile software development technique that relies on incremental and iterative methods. Scrum is an agile framework that is quick, flexible, adaptable, and effective and is made to provide value to the client throughout the course of the project. Through an atmosphere of open communication, shared ownership, and constant improvement, Scrum's main goal is to serve the needs of the client. The development process begins with a general understanding of what needs to be created, then the product owner develops a list of desired qualities that are prioritized (product backlog).

1.2. RUP



(Minott, 2022) The Rational Unified Process (RUP) definition, also known as the Unified Process Model, is a web-enabled, object-oriented software development process. Object-oriented software engineering refers to any software development approach that uses visual models organized around objects and iteratively goes through analysis, design, and implementation. The RUP framework was created by International Business Machines Corporation (IBM) in 2003 and was one of the first widely used iterative methods.

2. Selected Methodology

2.2. Evolutionary Prototyping

The methodology chosen for this project is Evolutionary Prototyping because this methodology provides project with the most flexibility. Since this is the first project, at this big scale working individually. The system might be developed with some modules/ features like I had hoped and the work flow might have been disturbed however That will not be the case anymore because this methodology help solve that issue as modules during in the development phase are independent to one another even if the development got stuck on some problems on one of the modules, that module could be kept on hold and also can keep working on other parts. There will also be feedbacks given by the supervisors' after completing a module The system could further be optimized and make it better with the help of supervisors' advice and further research.

The concept is to give the user with an initial prototype. They provide feedback and improvement suggestions. The developer takes action on these and then offers a more improved prototype. The user provides input once more. The procedure is then repeated. As a result, the prototype 'evolves' towards the final system at each iteration. (Teach-itc, 2022)

Advantage of this methodology is that the end user can interact with the prototypes and which increases the user engagement and the feedback given by the user will help improve the product to its optimal glory. This system will be very efficient to meet the user's requirement.

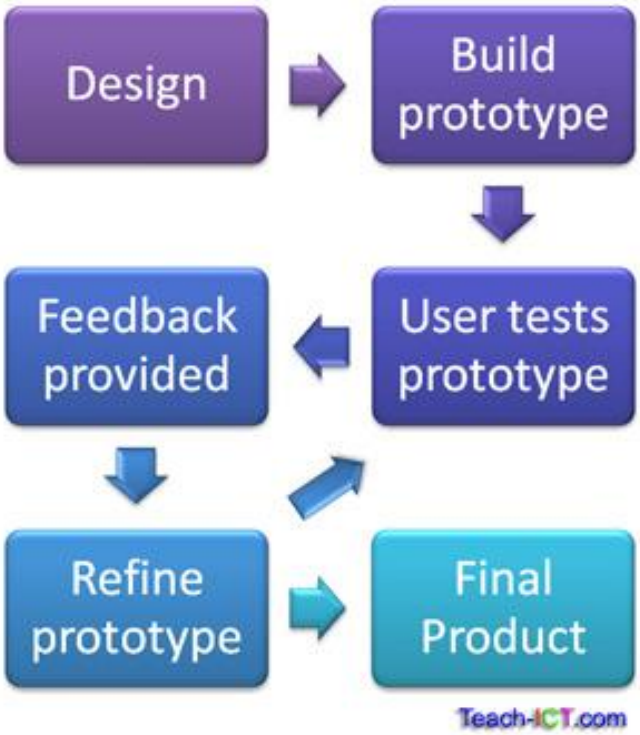


Figure 1: (tech-ict, 2022)Evolutionary Prototyping

2.2.1. Phases of Evolutionary Prototyping

2.2.1.1. `Initial Planning and Requirements Gathering

In this phase, the project team works with stakeholders to understand the problem and gather requirements. This involves identifying the main features and functionality that the prototype should include.

2.2.1.2. Design

Based on the requirements gathered in the previous phase, the project team creates a design for the prototype. This design may include wireframes, mockups, or other visual representations of the prototype.

2.2.1.3. Build Prototype

With the design in place, the project team begins building the prototype. This involves creating a basic version of the product that includes the core features and functionality.

2.2.1.4. Test

Once the prototype is built, it is tested by stakeholders to ensure that it meets their needs and functions as intended. This testing may involve user testing, functional testing, and other forms of testing.

2.2.1.5. Feedback and Refinement

Based on the feedback received during testing, the project team makes refinements to the prototype. This may involve adding new features, improving existing features, or making other changes to the prototype.

2.2.1.6. Iterative Prototyping

The refined prototype is tested again, and the feedback and refinement process are repeated in a series of iterations. With each iteration, the prototype becomes more refined and closer to the final product.

2.2.1.7. Final Product Development

Once the prototype has been refined and tested sufficiently, the final product is developed based on the insights gained during the prototyping process.

2.2.1.8. Deployment and Maintenance

The final product is deployed and maintained, with ongoing support and updates as needed.