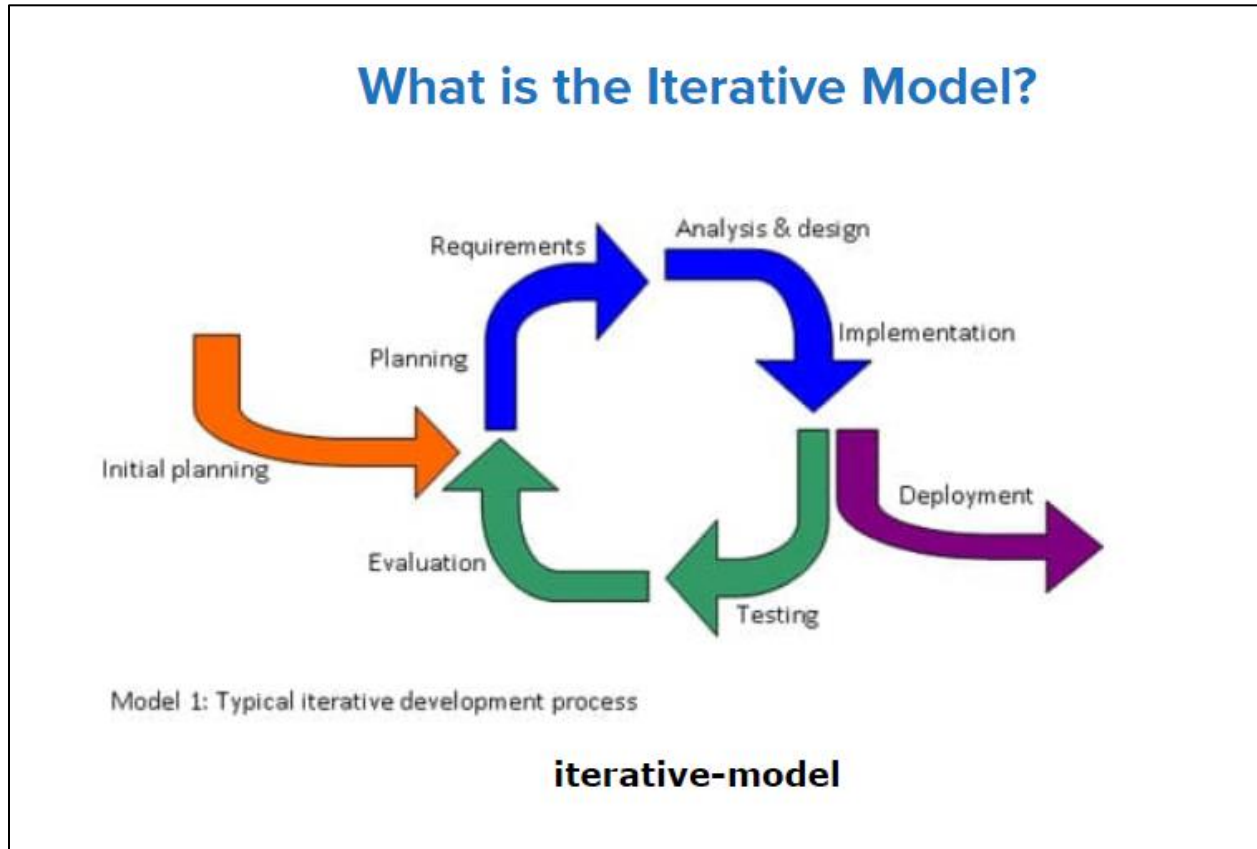


Selection of Process Model for System

- **System: Swayam Sevak (Volunteer Management System)**
- **System Requirements/ Functionalities required by NGO:**
 1. Assessing organizational needs for volunteers
 2. Ex-volunteers database
 3. Activities database
 4. Orientation to volunteers about NGO and activities
 5. Tracking of activities performed by volunteers
 6. Analysis of activities held previously
 7. Evaluation of volunteer's performance
- **Process Model selected: Iterative Life Cycle Model**
- **What is an Iterative Model in Software Development Life Cycle (SDLC)?**



An **iterative life cycle model** does not start with a full specification of requirements. In this model, the development begins by specifying and implementing just part of the software, which is then reviewed in order to identify further requirements. Moreover, in iterative model, the iterative process starts with a simple implementation of a small set of the software requirements, which iteratively enhances the evolving versions until the complete system is implemented and ready to be deployed. Each release of Iterative Model is developed in a specific and fixed time period, which is called iteration.

Furthermore, this iteration focuses on a certain set of requirements. Each cycle ends with a usable system i.e., a particular iteration results in an executable release. Iterative Model allows accessing previous phases, in which the changes are made accordingly. The final output of the product is revived at the end of the **Software Development Life Cycle (SDLC)**. Typically, iterative development is used in conjunction with incremental development, in which a longer software development cycle is split into smaller segments that are built upon each other.

- **When to use it?**

Hence, iterative model is used in following scenarios:

- When the requirements of the complete system are clearly defined and understood.
- The major requirements are defined, while some functionalities and requested enhancements evolve with the process of the development process.
- A new technology is being used and is being learnt by the development team, while they are working on the project.
- If there are some high-risk features and goals, which might change in the future.
- When the resources with needed skill sets are not available and are planned to be used on contract basis for specific iterations.

- **Why did we select Iterative Life Cycle Model?**

- System requirements mentioned by NGO until now are clear and complete. And these requirements are clearly understood by our team.
- NGO's authorities have claimed these are the major functionalities required in the system. And in future they may add or change few requirements.

- They require a mobile application consisting all functionalities mentioned. Since 50% of our resource have worked on developing mobile application (using ASP.Net and Bootstrap) and for half of the resource this is completely new technology therefore we thought of using iterative model for development of the system. So that other development team members will learn the technology while working on the project.
- If in the future high-risk features and goals are set by the NGO then we might require extra resources with advanced skill sets on contract basis for developing later versions in coming iterations.

- **How the development process will go?**

Here for now we are planning to develop in total 3 versions of the system based on current requirement set i.e. basically in 3 iterations we are planning to develop complete system.

Each iteration is elaborated further:

1. 1st Iteration:

- Requirements need to be covered in this iteration:
 - A. Assessing organizational needs for volunteers
 - B. Ex-volunteers database
 - C. Activities database
- Procedure:
 - 1) Planning: -
 - a. planning of required modules → Admin, Volunteers
 - 2) Requirements: -
 - a. mentioned above specific to this iteration
 - 3) Analysis & Design: -
 - a. Designing admin and volunteers module
 - b. Analyzing attributes of database tables (required tables are user table and activities tables) and designing database schema
 - 4) Implementation:
 - a. developing admin, volunteers module
 - b. implementation of login activity
 - c. implementation of function → add NGO activity by admin

- Deployment of Swayam Sevak 1.0
- Testing 1.0
- Evaluation of 1.0
- Based on review, changes to this version will be done and respective releases will be implemented and deployed. And further we will move onto 2nd iteration.

2. 2nd Iteration:

- Requirements need to be covered in this iteration:
 - A. Orientation to volunteers about NGO and activities
 - B. Tracking of activities performed by volunteers
- Procedure:
 - 1) Planning: -
 - a. planning of required functionalities→Activity Detail page, activities and participated volunteers table
 - 2) Requirements: -
 - a. mentioned above specific to this iteration
 - 3) Analysis & Design: -
 - a. Designing Activity Detail page
 - b. Analyzing attributes of Activities-Volunteers table.
 - 4) Implementation:
 - a. developing Activity Detail page
 - b. creating Activities-Volunteers table.
 - c. implementation of function→show activity details, add entry of volunteers with respect to participation in activity

- Deployment of Swayam Sevak 2.0
- Testing 2.0
- Evaluation of 2.0
- Based on review, changes to this version will be done and respective releases will be implemented and deployed. And further we will move onto 3rd iteration.

3. 3rd Iteration:

- Requirements need to be covered in this iteration:
 - A. Analysis of activities held previously
 - B. Evaluation of volunteer's performance
 - Procedure:
 - 1) Planning: -
 - a. planning of required functionalities → Displaying Activity Analysis charts, Individual volunteers participation analysis
 - 2) Requirements: -
 - a. mentioned above specific to this iteration
 - 3) Analysis & Design: -
 - a. Designing Show activity summary charts page and show volunteers performance page.
 - b. Analyzing key attributes to use to create analysis charts.
 - 4) Implementation:
 - a. developing Activity analysis page, Volunteer performance page
 - b. implementation of function → show activity analysis, show volunteers' performance
- Deployment of Swayam Sevak 3.0
- Testing 3.0
- Evaluation of 3.0
- Based on review, changes to this version will be done and respective releases will be implemented and deployed.