

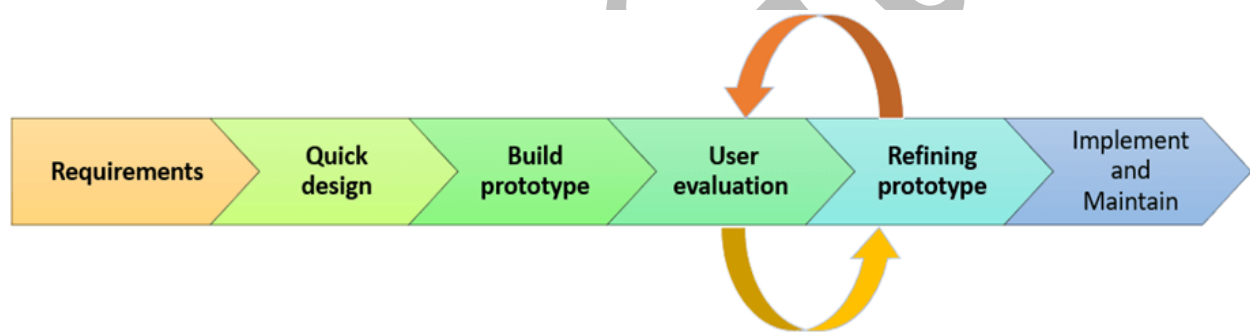
Prototyping Model

Meaning of Prototyping Model

Prototype methodology is defined as a Software Development model in which a prototype is built, test, and then reworked when needed until an acceptable prototype is achieved. It also creates a base to produce the final system.

Software prototyping model works best in scenarios where the project's requirement are not known. It is an iterative, trial, and error method which take place between the developer and the client.

Prototyping Model Phases



Prototyping Model has following six SDLC phases as follow:

Step 1: Requirements gathering and analysis

A prototyping model starts with requirement analysis. In this phase, the requirements of the system are defined in detail. During the process, the users of the system are interviewed to know what is their expectation from the system.

Step 2: Quick design

The second phase is a preliminary design or a quick design. In this stage, a simple design of the system is created. However, it is not a complete design. It gives a brief idea of the system to the user. The quick design helps in developing the prototype.

Step 3: Build a Prototype

In this phase, an actual prototype is designed based on the information gathered from quick design. It is a small working model of the required system.

Step 4: Initial user evaluation

In this stage, the proposed system is presented to the client for an initial evaluation. It helps to find out the strength and weakness of the working model. Comment and suggestion are collected from the customer and provided to the developer.

Step 5: Refining prototype

If the user is not happy with the current prototype, you need to refine the prototype according to the user's feedback and suggestions.

This phase will not over until all the requirements specified by the user are met. Once the user is satisfied with the developed prototype, a final system is developed based on the approved final prototype.

Step 6: Implement Product and Maintain

Once the final system is developed based on the final prototype, it is thoroughly tested and deployed to production. The system undergoes routine maintenance for minimizing downtime and prevent large-scale failures.

Types of the Prototype Model

1. A film (movie) prototype

Here a prototype is made using video just to show others the idea in a graphical/visual format.

2. Feasibility Prototype

This type of prototype is usually developed to determine the feasibility of various solutions. It is applied to the resolve technical risks attached to the development in terms of performance, compatibility of components etc.

3. Horizontal Prototype

This is the user interface in the form of screenshots, demonstrating the outer layer of the human interface only, such as windows, menus, and screens. The prototype is used to clarify the scope and requirements of the product.

4. Rapid Prototype

The rapid prototyping technique is used to quickly engineer an initial model of a product using a three-dimensional computer-aided design when you want to produce something in a short span.

5. Simulations

Simulation prototype is digitally creating of a physical product to predict the performance of the product in the real world.

6. Storyboard

A storyboard describes a product in a form of a story and demonstrates a typical order in which information needs to be presented. It helps in determining useable sequences for presenting information

7. Vertical Prototype

A vertical prototype is the back end of a product like a database generation to test front end. It used to improve database design, test key components at early stages or showcase a working model, though unfinished, to check the key functions.

8. Wireframe

This is a skeleton a product. Depicted in the form of illustrations or schematics that capture an aspect of design such as an idea, layout, form, architecture or sequence.

9. Animations

These are images drawn and put in a sequence that walks you through the proposed 3D structure of the product/solution.

10. Mock-up

This is with no functionalities, just to get overall visual of the product. It is an unpolished version of the product with no active features.

Advantages –

- The customers get to see the partial product early in the life cycle. This ensures a greater level of customer satisfaction and comfort.
- New requirements can be easily accommodated as there is scope for refinement.
- Missing functionalities can be easily figured out.
- Errors can be detected much earlier thereby saving a lot of effort and cost, besides enhancing the quality of the software.
- The developed prototype can be reused by the developer for more complicated projects in the future.
- Flexibility in design.

Disadvantages of Prototype Model

The disadvantages of the prototype model are as follow:

1. Sometimes it is difficult for the user to find the difference between the actual product or system and prototype.
2. Prototype model does not work where insufficient requirements are mentioned.
3. It increases the complexity of the system and its deadlines.
4. It is not feasible to use the existing prototype to develop the new system.
5. Sometimes it takes a lot of effort to build the prototype of the system.
6. It is also referred to as a slow process as it takes a lot of time to develop the prototype.

7. Sometimes a lot of changes confuses the client and shows no interest in it. It also hampers the productivity of the development team.
8. It can be thrown away if the users are not satisfied with it.

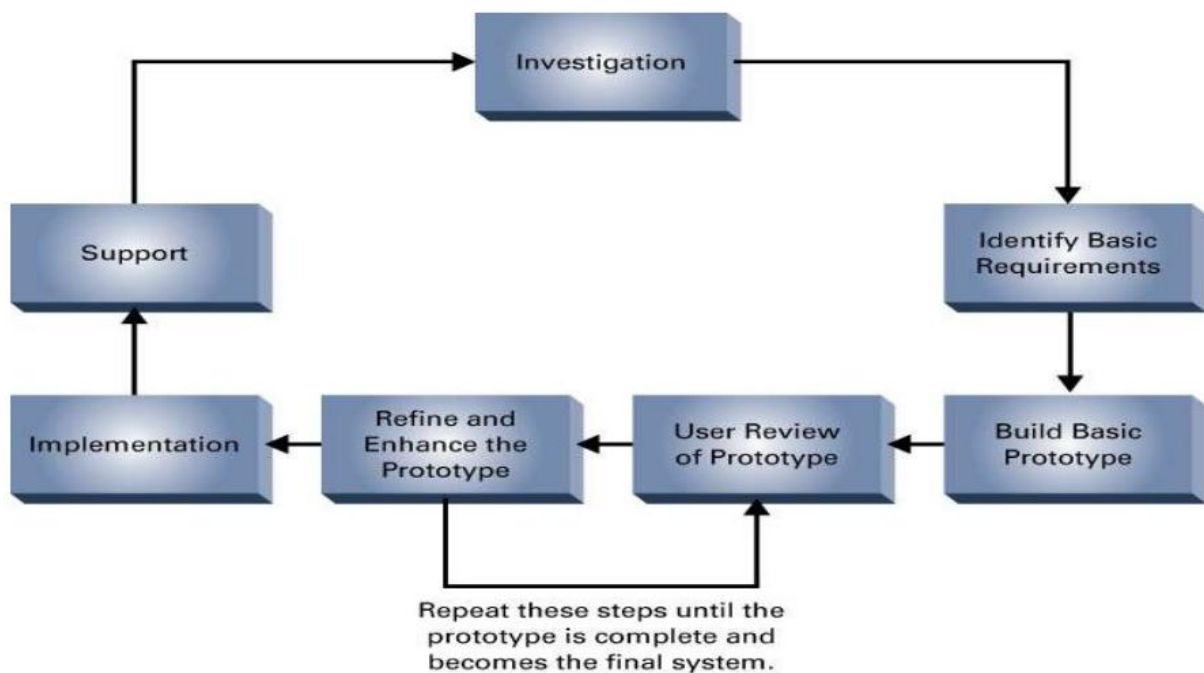
End User Development

End User

In information technology, the term end user is used to distinguish the person for whom a hardware or software product is designed from the developers, installers, and servicers of the product. The 'end' part of the term probably derives from the fact that most information technologies involve a chain of interconnected product components at the end of which is the 'user'.

Definition

End user development (EUD) or end- user programming (EUP) refers to activities and tools that allow end- users- people who are not professional software developers- to program computers.



The key responsibilities of an end user support professional include:

A. User End Support

- Identifying, diagnosing, and resolving the level one issues in computer hardware and software in a mainframe systems such as laptops and PCs
- Installing and up grading hardwares and softwares and providing complete assistance while configuring hardwares, softwares, and peripherals of the end user systems
- Providing general desktop support, project coordination, imaging/ re-imaging PCs, and laptops
- Providing one on one assistance to the end user regarding the technical flaw, either by phone, mails, or in person
- Resolving network related issues like local area connection problem, network access, mails, internet, dial-ins, etc.
- Coordinating with the third party service provider for timely repair of the system under the maintenance agreement warranty, and repairing minor flaws in hardware if not covered under the same
- Providing assistance in installation of other peripherals like printers, scanners, etc., cabling systems like local area network cables, network interface cards, wired switches, etc.

B. Work End Support

- Supporting and assisting colleagues and working with other support groups and vendors for solving level two issues
- Developing strategies, assisting with designs and applications, software testing, development, and up gradation with level two support for preventing technical breakdown in future
- Monitoring and analyzing the performance of upgraded system, keeping track of its performance, reliability, risks, and benefits

- Providing assistance to network technicians for creating user end informative materials like brochures and leaflets, updating themselves on the latest IP policies, and other technical controls.

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