

Integrating Usability in the Product Engineering Process

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Agenda

- Usability Expert Quotes
- Product Engineering Process
- Integrating Usability in the Product Engineering Process
- Tracking and Verification
- Conclusion

Usability Quotes

"Business success is always defined by the quality of the overall customer experience before, during and after a transaction".

-Forrester Research, Feb. 2001

Donald Norman on Usability

The logical approach is the wrong way to go about understanding the needs of customers. You have to talk to them, watch them; this is the only way to understand their interests, their motives, their needs

Jakob Nielsen on Usability

Organizations typically progress through a sequence of 8 stages -
from **initial hostility**
to
widespread reliance
on **user research**.

Stage 1: Hostility Toward Usability

The initial stage is characterized by the slogan, "A good user is a dead user."
Developers simply **don't want to hear about users or their needs**; their only goal is to build features and make them work on the computer

Stage 2: Developer-Centered Usability

Sooner or later, most companies realize the value of making designs easier for humans to use. At this point, the most obvious (but erroneous) approach is for **the design team to rely on its own intuition about what constitutes good usability**

Stage 3: Skunkworks Usability

At this stage, the organization realizes that it shouldn't rely on the design team's personal judgment of what will be easy for customers to use

And a few groups within the company will initiate small usability efforts

Stage 4: Dedicated Usability Budget

At this stage, the company mainly views usability as a **magic potion that's sprinkled sparsely** over a user interface to shine it up. The main usability method is user testing, which is invariably conducted late in the development process after the user interface has been at least partially implemented.

Stage 5: Managed Usability

At this stage, we can finally say **usability has "made it" in a company**. At this stage, there's an official usability group, led by a usability manager who has the charter to "own" usability

Stage 6: Systematic Usability Process

The company has recognized the need for an actual **user-centered design process**, with multiple activities and milestones. On important projects, the team conducts **early user research** before they do any design

Stage 7: Integrated User-Centered Design

Each development lifecycle step at maturity level 7 is infused with user data, including the project definition itself and the requirements phase.

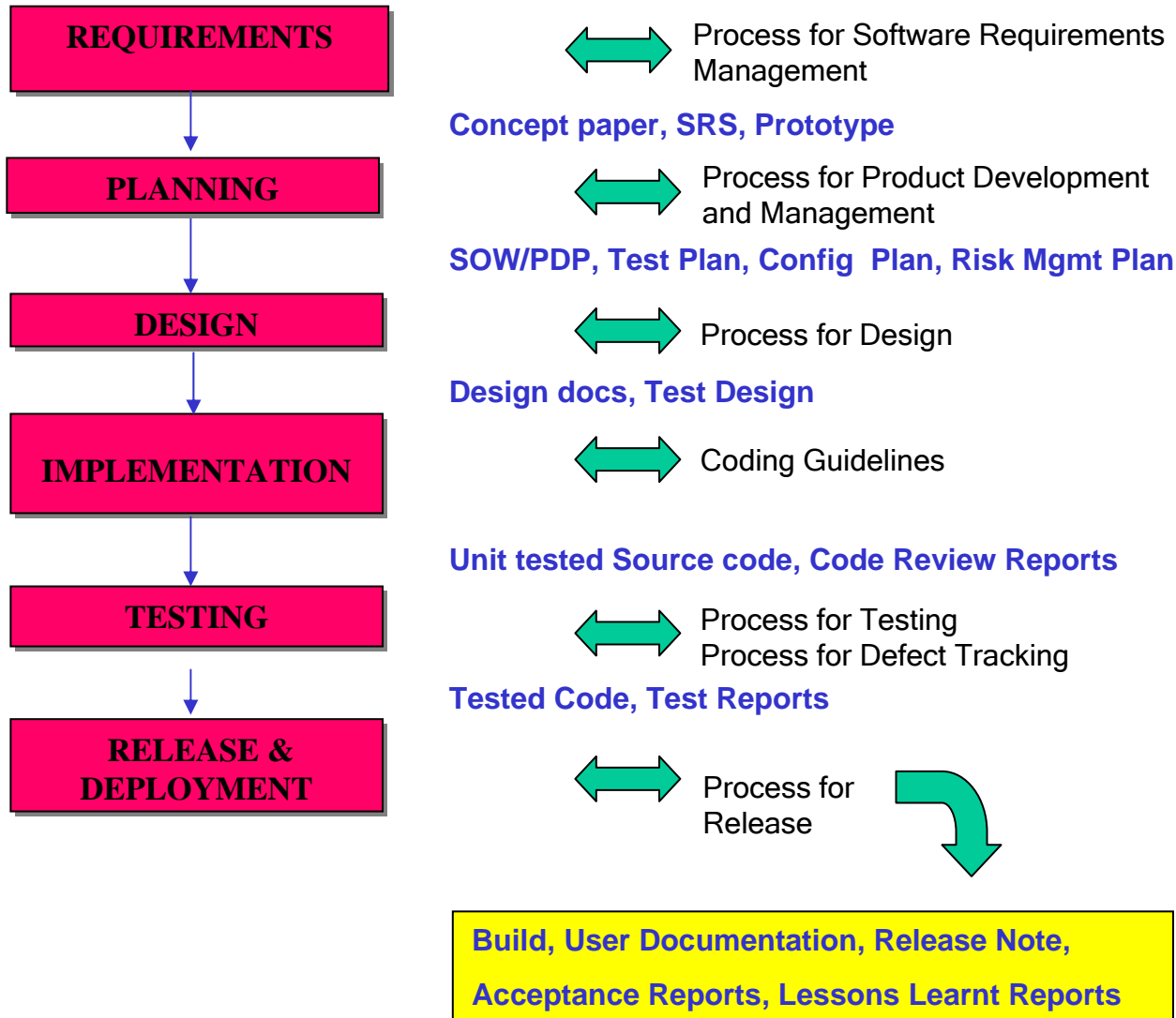
Stage 8: User-Driven Corporation

At stage 8, user data doesn't just define individual projects, it determines what types of projects the company should fund. That is, the company **employs user research to determine its overall direction and priorities**

Usability Engineering

Usability engineering is a systematic approach to making software easier to use for the individuals who will actually use it to get their work done

Product Engineering Process



Usability Engineering Process

At the requirements definition phase:

1. Invent some typical users and understand their profile
2. List out user scenarios for every feature
3. Prioritize these scenarios based on user research and list activities
4. Detail the *user model* -- how the user will expect to accomplish those activities

Usability Engineering Process

At the planning phase:

1. Budget time and effort for Usability
2. Ensure user feedback prior to requirements sign-off
3. Identify clear tasks for Usability testing in product development plan
4. Bring visibility to management on Usability

Usability Engineering Process

At the design phase:

1. Prepare an initial prototype based on signed-off requirements
2. Iterate the design to evaluate if it meets the user model
3. Watch what real users do with the prototype
4. Also watch what users do not do ?

Usability Engineering Process

At the implementation phase:

1. Give attention to detail on standards and guidelines
2. Review screens, workflows and iterate
3. Ensure clear positioning of real time elements
4. Evaluate boundary conditions and all error messages

Usability Engineering Process

At the testing phase:

1. Ensure enough number of Usability Test cases
2. Simulate the end user environment to the maximum possible extent
3. Track and verify usability testing recommendations if conducted separately
4. Check for usability guidelines & standards

Usability Engineering Process

At the release phase:

1. Identify a representative user
2. Watch this user install and use the product
3. Ensure an overall smooth user experience
4. Incorporate user feedback either in the same or future releases

Tracking and Verification

- Role Playing Walkthrough
 - Validate incorporation of Usability Testing feedback
- Standards inspection
 - Check against standards if any, use checklist
- Comparative Study
 - Check if icons, words have different meanings for same context

Tracking and Verification

- Consistency Inspection
 - Test for consistent use of words, icons and symbols
- Performance issues
 - Test if the product meets user requirements of performance
- Check if user is left high & dry during error handling
 - Look for vague and incomplete error messages

USABILITY, IT WORKS !

Integrate Usability in your
product engineering activities

THANK YOU FOR YOUR TIME