Using Storyboards and Prototypes

Scott DeLoach

userfirst
s e r v i c e s

Overview

- Introduce storyboards and prototypes

- Discuss high- and low-fidelity prototyping

- Describe the development process

What are prototypes?

- Prototypes are incomplete representations of a target system for testing and design purposes.

- Prototyping is an essential element of an iterative design process.

logo

time   date

[search field]

Search

📁 Assets

📁 Work Orders

└ 📁 Service Request

└ 📁 Emergencies

└ 📁 Preventative

└ 📁 Close

📁 Inventory

📁 Administration

📁 Accounts

📁 Reports

| Work Order | Close Work Order |

Work Order Number [_____]

Status   Open
                Pending
Date Needed   Need Parts
                Rejected
Code   Recurring

Requestor

Est. Hours   [_____]

Team   [Select Team ▾]

Shift   [Select Shift ▾]

Description

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What are storyboards?

- Storyboards are a series of illustrations that represent a process, product, or idea.

- Used for multimedia and movie development

Client:

Project:

Version:

Date:

Hayes   ALL ABOUT HAYES

ONLINE DOCUMENTATION

Newsletter

PRODUCT INFORMATION

Advertising

EMBOSSED GROOVE

Script:

Graphics:

Audio:

Interaction:

What are animatics?

- Animatics are moving storyboards.

- Used for *Lord of the Rings*, *Star Wars, Raiders of the Lost Ark, Titanic, X-Men*, *Jurassic Park*,* and *Dragonheart**

  * included on DVD

Why create prototypes or storyboards?

- Fast, cheap, and easy

- Settle disputes
- Try out alternate designs
- Focus on the user
- Provoke innovation
- Provide common point of reference

Recommended by ISO 13407

Four essential user-centered design activities:

- understand and specify the context of use
- specify the user and organizational requirements
- produce designs and prototypes
- carry out user-based assessment

ISO 13407 is the standard for Human-Centered Design Processes for Interactive Systems.

Save money

100x savings when a software problem is found and fixed in the design phase versus after delivery.

- Boehm, B. 1987. "Industrial software metrics top 10 list." *IEEE Software, 4(5),* 84-85.

Reduce code

Prototyping reduces code by 40%.

- Boehm, B., Gray, T. W., Seewaldt, T. 1984. "Prototyping versus specifying: A multiproject experiment." *IEEE Transactions on Software Engineering., 10(3),* 290-303.

Prototyping will answer these questions...

- How much will fit on a screen?
- How do we handle navigation?
- How can we accommodate different user skill levels?
- Are the buttons and icons intuitive?
- Does the design match the users' expectations?

Low-fidelity prototypes

- Represent planned designs

- Can be created with paper, pencil, transparencies, and screenshots

- Often used for early design testing and validation

Advantages of low-fidelity prototypes

- Less intimidating to users
- Easy to modify
- Keep people focused on tasks and issues rather than "superficial" things
- No bugs
- Low cost
- Evaluate multiple concepts

Disadvantages of low-fidelity prototypes

- Limited error checking
- Poor detail
- Facilitator driven
- Navigation and flow limitations
- Not effective for time on task or aesthetics (fonts, colors, etc.)

High-fidelity prototypes

- Mimic the actual product as closely as possible

- Can be created with Captivate, Director, Authorware, Toolbook, VB, or HTML editors

- Often used to fine-tune designs and for functional testing

Advantages of high-fidelity prototypes

- More functionality
- User driven
- Look and feel issues can be addressed
- Marketing and sales tool

High-fidelity prototyping was used to design Space Station Freedom.

Disadvantages of high-fidelity prototypes

- Can be expensive

- Time-consuming to create

Ten steps to a successful prototype

1. Obtain buy-in from upper-level management
2. Have decision makers sign off on the prototype
3. Start early
4. Be realistic
5. Know the competition

Ten steps to a successful prototype (cont)

6 Keep to the schedule

7 Share the prototypes with everyone on the team

8 Be flexible

9 Be ready to make changes

10 Keep your prototypes as a product history (and as evidence…)

Keep to the schedule

It will be "wrong" so don't obsess:

- "The prototype will be done by 5:00 this afternoon."
- "Tomorrow at 10:00 we will demo the prototype."

Prototyping supplies

- Paper and note cards
- Scissors
- Rulers
- Colored pencils and pens
- Highlighters
- Post-it glue
- Transparencies
- Correction tape

How to create prototypes

1. Create a template
2. Focus on movement and placement rather than detail
3. Keep it simple
4. Number the pages

Design sessions

- Be creative and have fun
- Identify alternatives
- Identify potential problems and limitations
- Take advantages of opportunities
- Construct models, not illustrations

Testing methods

- Think-aloud protocol
- Point-and-describe - pretend that the paper prototype really works, then describe what you think will happen as you click. For example, where you will go when you click "View Report."
- Wizard of Oz

Test checklist

- Objectives
- List of questions
- List of tasks and/or scenarios
- Non-disclosure agreement
- Facilitator script
- Prototypes, backups, and supplies
- Refreshments (and payment)

Roles - Facilitator

- Welcomes user and puts them at ease
- Has user fill out forms
- Explains and runs the test
- Encourage the user to express their thoughts
- Makes sure the test runs on time

Roles - "Computer"

- Runs the computer
- Moves the model in response to users "actions"
- Makes sounds/special effects as needed (sound of hard drive, etc)

Roles - Observer

- Takes notes
- Try writing one observation per index card

Testing tips

- Provide different pointers to make it fun and because a finger is too big (magic wand, etc)
- Ask user to "voice the click" -- say "click the send button"
- Let the users write on the prototype and interact with it as needed

What to look and listen for

Places where users:
- ask questions
- seem confused or frustrated
- appear hesitant
- make a navigational "wrong turn"
- do not understand messages

Discussion

Order-taking screen for "Pizza Nut"

- pizza toppings and 3 pizza sizes
- drinks

Recommended resources

- *Human Factors for Technical Communicators*
  by Marlana Coe

- *Film Directing Shot by Shot*
  by Steven Katz

- "Prototyping for Tiny Fingers"
  in *Communications of the ACM* 4/94
  by Mark Rettig

- "Low vs. High--Prototyping Debate"
  in *Interactions* 1/96
  by Jim Rudd, Kenneth Stern, Scott Isensee

Conclusion

"When I am working on a problem I never think about beauty. I only think about how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong."

- Buckminster Fuller (1895-1983)

Questions?

Feel free to e-mail me. Or, catch me later at the conference!

Scott DeLoach
Founding Partner, User First Services, Inc.
Macromedia Certified Instructor, RoboHelp and Captivate

404.520.0003
scott@userfirst.net

www.userfirst.net