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Envisionment

Study Report

**Summary**

Envisionment and prototyping bring designs to life for both designers and the people who will use the new designs. Prototypes can be anywhere along the spectrum of technical sophistication, be put together in half an hour or take several days of programming. The point is to explore ideas, not to build an entire parallel system or product. Prototyping is at the heart of a human-centered design process.

* Envisionment – the making concrete of design ideas – is a key feature of design. All aspects of the system can and should be envisioned: concepts, functions, structure, interactions.
* Envisionment aids the generation, communication and evaluation of ideas.
* People should take an active part in envisionment wherever possible – the process allows essential feedback from customers and clients.
* Basic techniques include storyboards, different forms of sketch, mood boards, navigation maps and concrete scenarios.
* Prototyping may focus on a vertical or horizontal slice through the system, or cover the whole system, and may evolve into a final product or be thrown away and re-engineered.

**Facts from the book Designing Interactive Systems**

**Envisionment:**

* Envisionment is concerned with making ideas visible; with externalizing thoughts.
* Externalization can take all manner of forms: stories and scenarios, presentations, sketches, formal models, software prototypes, cardboard models and so on.
* Envisionment is a visual exploration & presentation of key features of design
  + Allows for feedback from users and clients
  + Aids generation, communication and evaluation of ideas
  + For different people at different stages of development
* All aspects can & should be envisioned
  + Concepts
  + Functions
  + Structure
  + Interactions
* Methods go from sketches (‘back of the envelope’) to full computer prototypes
  + May focus on part or whole of the system
  + May evolve into final product or be re-engineered

**Why Use Envisionment?**

* **Understanding**
  + What the client wants
  + The PACT of the project
  + The user, what the user does, what the user needs and context of use

**Envisionment Techniques:**

There are a number of basic techniques that can help.

1. Sketches and snapshots
2. Storyboards
3. Mood boards
4. Navigation maps

1. Sketches and snapshots

* The art of sketching is something that all designers should practice.
* Ideas and thoughts can be quickly visualized – either to yourself, or to others – and explored.
* The millennium bridge across the river thames in london was reputedly designed on a paper napkin in a restaurant.
* Designers do well to carry a sketch book with them so that inspiration can be quickly captured and preserved.

1. Storyboards

* Technique from film-making:
  + Series of scenes/frames from the user experience point of view
  + Communicate the feel of the ‘flow’ of the design
  + Usually based on [scenarios](http://hci.ilikecake.ie/env_scenarios.htm)
* Storyboards normally contain
  + A sketch of the visual elements
  + Descriptions of animations
  + Descriptions of interactions (e.g. Dialog boxes)
  + Descriptions of sounds
  + Descriptions of any other media
* Types of storyboards
  + **Traditional** - frames with a sketch of what is on screen sometimes with some text underneath.
  + **Scored** - style applicable to multi-media presentations / dynamic designs. Uses notation that tells you what motion effects, sounds, animations are occurring.
  + **Text only**: what images/text/other media are on screen, what’s happening – but using text only.

3. Mood boards:

* A mood board is a collage of materials (images, text, colors, textures, website screen shots, etc.) which captures the ambience or feel of a place or design. Widely used in interior design and advertising.
* The rule with mood boards is that ‘anything goes’**.**

Why to use mood boards?

* + Widely used in interior design/advertising
  + Gather together visual stimuli that capture the essence of the design
  + Photos, other images, textures, shapes, quotes…
  + Inspiration not specification
  + Can also be generated by clients or users
  + Useful in developing team vision
  + Easy to communicate with clients via visual stimuli

4. Navigation map

* Navigation maps represent how the user navigates through the system (not same thing as directory structure!)
* Show pages/screens together with links and their direction
  + 1 box per page/key moment - where can you go from here
  + Include backwards as well as forwards flow
* Not just for web sites
* Frequently, drawing them helps spot:
  + Orphan pages
  + Dead ends
  + Structure is getting too complex and users will get lost

## Why to use navigation map?

* Help identify how the user might navigate
* Help identify how the information should flow

**Prototype**:

* A prototype is a concrete but partial representation or implementation of a system design
* Prototypes are used extensively in most design and construction domains.
* Prototyping involves creating a basic system which is a (semi / fully) working version of the current incarnation of the system - a concrete but partial implementation of a system design. It
  + Is realistic and professional-looking,
  + Can use for formal acceptance with client
  + Identifies problems early-Can be used to explore usability issues
  + Improves communication
* Supports exploration of imagined use – the prototype does not have to be able to do everything that the finished product does
* Types of prototypes

There are two main kinds of prototyping

* low fidelity (lo-fi)
* High fidelity (hi-fi).
* Low fidelity prototype
  + Don’t look very much like finished product
  + Simple, cheap and easy to modify
  + Often used in conceptual design to encourage discovery
  + Generally use a medium that is far away from final implementation
  + Never integrated directly into finished product
  + Examples: [paper prototype](http://hci.ilikecake.ie/eval_paperprototyping.htm)
* Hi fidelity prototype:
  + Hi-fi prototypes are similar in look and feel, if not necessarily in functionality, to the anticipated final product
  + Mockups and models
  + Make computers disappear: e.g. build boxes to house computer screens
  + Generally use high quality, realistic representation medium - video, computer animation
  + May use software tools such as html, PowerPoint, visual basic, director
* Video Prototype:

Other type of prototyping

* The products display dynamics are simulated in an animation program, and are superimposed (or composited) on the video ensuring synchronization to give the appearance that the product is actually responding to the person’s actions.
* Vertelney’s method involves the creation of a physical mock-up model of the product, a video is then shot with an actor interacting (or “acting”) with the model as though it were fully functional
* The “weatherman” technique, where a video image is superimposed onto computer graphics.

Different approaches to functionality in prototypes

### Full Prototype

1. whole system description
2. Full functionality
3. but lower performance

### Horizontal Prototype

1. All or most aspects of user interface, little functionality
2. only top level functions work
3. Everything on screen should work, but not 'go' anywhere

### Vertical Prototype

1. One or two threads of interaction in depth
2. from top to bottom
3. Only some things on screen should work - links to interaction you want user/tester to follow

### Incremental Prototype

1. Designed, developed and evaluated stage-by-stage, eventually becomes the final product
2. Evolutionary prototyping and rapid prototyping are similar concepts
3. This is useful when the user is unsure what the system should be like. It is a simple way of ensuring that the design is right. It allows the user to evaluate the system as it develops and user feedback can then be used in the further development of the system.

Envisionment in practice

* In using the prototype, designers sit alongside the people who will use the final system to make the prototype ‘work’ if it is a lo-fi version.
* It helps to have two designers, one to ‘play computer’ and one to make notes.
* People find it difficult to react to a prototype if it is just placed in front of them devoid of any context.
* The most common strategy is to have people step through a scenario using the new application or to try carrying out one of their current tasks if the application is to replace an earlier system.

Trade-off in prototyping

* As with so many aspects of design the designer has to consider the trade-offs in terms of time, resources, the aim of the evaluation, the stage of the project and so on.
* Indeed, when reflecting on how and what to prototype, the designer should think in terms of the pact elements – people, activities, contexts and technologies.
* Who is the prototype aimed at?
* What is the designer trying to achieve with the prototype?
* What stage of the project are things at and what is the context for the use of the prototype?
* What technologies (hi-fi or lo-fi) are appropriate?

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**References:** ‘

1. Designing with the Mind in Mind by Jeff Johnson ISBN-13: 978–0124079144
2. Sketch and Human-Computer Interaction Laurent Grisoni, University Lille, INRIA/CNRS Mastère Creacity
3. <http://hci.ilikecake.ie/envisionment/envisionment.htm>
4. <http://hci.ilikecake.ie/envisionment/navigationmaps.htm>
5. <http://hci.ilikecake.ie/envisionment/moodboards.htm>
6. <http://hci.ilikecake.ie/envisionment/storyboards.htm>
7. <http://hci.ilikecake.ie/envisionment/prototypes.htm>
8. https://www.interaction-design.org/literature/book/the-glossary-of-human-computer-interaction/human-error-slips-and-mistakes