Prototyping Process and Tools

An abbreviated overview of lifecycle

To start off you need to determine what is NEEDED (talk to people, observe people, do a "literature review" to see what's missing, etc).

You then iterate through the following three:

- User and Task generation and analysis.
- Forming your ideas into designs.
- Creating prototypes to have users try out (typically on the tasks you've developed).

At some point you have a "final spec" that you want to implement as a final product.

Low Fidelity

We've talked about low fidelity tools

- arts and crafts supplies
- hand-drawn mock-ups
- storyboards
- "screenshots" of widgets
- transparencies
- Post-it notes

These allow for rapid iteration with little time or cost (or emotional attachment) and give the users the most freedom to suggest changes. Sometimes thought of as the "fail fast" stage.

Low/Medium hybrid ideas…

Photo-based sketches

- Start with a photograph of a real space and sketch in the "new" thing you are working on.

Play acting

- Video "mock-ups in action"

Medium Fidelity

After a few rounds of low fidelity brainstorming and feedback, you move on to some form of medium fidelity prototype which is interactive and less rough.

- Wireframes/flowcharts for more formal planning
- Interactive mock-ups based on flowcharts
- Toolkits for realistic mock-ups
- Specs to get the size of things realistic
- Domain-specific tools
- More coding-centric toolsWizard of Oz
- Physical objects

These are not mutually exclusive things…

Wireframes/Flowcharts

- Wireframes/flowcharts for more formal planning.
- Interactive mock-ups based on flowcharts.
  - PowerPoint, InVision, MarvelApp
- Mock-up toolkits for making things that look real but aren't actually coded yet.
  - Pencil(pencil.evolus.vn), Moqups, Balsamiq

Physical Realism is sometimes needed

You'll want hardware specifications to have the actual size of things be accurate

- http://screensiz.es/phone

Some domain-specific tools exist…

- Prototyping on Paper for iOS (By Woomoo)

Physical objects can be useful…

- cardboard, clay, vinyl, etc.
- 3D designed/printed

Realistic Interaction becomes important

More coding-centric tools are used to support live interactions.

- Javascript, Flash, Silverlight, HTML5

Video "mock-ups in action"

- a storyboard is acted out, recorded, and edited

If needed, Wizard of Oz techniques for certain parts

- Ongoing research into WoO tools (SketchWizard, UISKEI, i2ME)

The “original” Palm Pilot

Mixed-Media prototyping examples

Wii U Gamepad

http://www.ign.com/articles/2012/11/08/check-out-this-early-wii-u-gamepad-prototype

Monster Maker app

https://www.youtube.com/watch?v=-SOeMA3DUEs