

Design Brief IV : Digital Mockup Prototyping

Objective

Develop an interactive prototype to demonstrate your solution in greater details: smooth, logical interaction behaviors, and vivid and engaging visuals. Pay attention to not only the technicality of prototyping, but also how your product provides solutions to users, addressing their needs and pain points. User evaluation is not required in this design brief, but in week 12, we will organize a cross evaluation between you and your buddy group, mimicking user evaluation.

We recommend the following steps:

- 1) Develop key path scenarios based on your context scenarios (see more information below).
- 2) Screen by screen, develop an interactive prototype to support **two or three** key path scenarios, excluding user signing up and registration from consideration. Since some apps have fewer but longer KPSs, we let you decide whether your prototype will support two or three KPSs. But a good rule is that you make between 20-30 screens. Use FluidUI or equivalent for prototyping (tutorial on FluidUI coming up around week 11).
- 3) The above process can be messy. Iterate on your own or within your group. Before you finalize, meet with everyone in your group and make a complete walkthrough of your software. Group screens into clusters (see the example in the lecture of week 10 on prototyping methods).
- 4) If the clusters reflect the structure of your task tree, then you most likely have successfully prototyped a system whose logic reflects the user mental model.
- 5) Otherwise, optimize the screen clusters with everyone in your group, most likely by deleting superfluous screens.
- 6) Meet with everyone in your group another time to finalize the visuals: make UI controls and information units visible and predictable and adhere to screen inertia (landing screen and subsequent screens have similar look and feel), etc.
- 7) By now, you are ready for a walkthrough performed by a friend or a peer from the class. 2-3 such users suffice, even just 1. Use this opportunity to observe breakdown points. Improve the design. If your prototype is very buggy, you may consider re-designing and doing a partial walkthrough with more users.

Key path scenarios

A context scenario is revised to become a key path scenario (KPS) by more specifically describing user interactions with the product and by introducing the vocabulary of the design. These scenarios focus on the most significant user interactions, always maintaining attention on how a persona uses the product to achieve their goals. Key path scenarios are iteratively refined along with prototyping as more and more detail is developed (Cooper book).

For example, if “Vivian picks up her phone and starts calling her client” is a context scenario, a KPS is “Vivian picks up her phone, wakes it up, swipes until she finds the ‘ClientReach’ app, clicks it open, taps on client list, switches to ‘most recent clients’, scrolls down to ‘John Smith’, clicks on his name, and starts dialing”.

Most importantly, a KPS guides the development of a sequence of screens connected by transitions, defining the behavior of a system.

Grading Rubric

Task tree and Key path scenarios Based on your vision statement, context scenario and task tree, develop 2-3 key path scenarios in English. Only submit the vision statement and the task tree in the report. Do not exceed 1 page.	10%
Digital mockup (overall scope and ease of use) Develop your digital mockup prototype based on your KPSs defined above. Do not exceed 30 screens (one screen is one interface). We evaluate the flow and ease of use of your prototype and whether the prototype has been developed far enough to demonstrate the key ideas of your product. We ask whether the designer model is clear and matches to users’ mental model, and the KP scenarios reflected are related to your app’s vision statement and context scenarios.	15%

<p>Digital mockup (qualities)</p> <p>We assess the digital mockup further based on the following criteria:</p> <p>Suitable: your product has addressed challenging interaction issues;</p> <p>Useful: it is useful for a real user population with real needs</p> <p>Novel: the solution uses technology in a novel way</p> <p>Adequate: the technology being assumed in this project is adequate for this user population</p> <p>Playful: it engage users in a delightful and engaging manner</p>	15%
<p>Application of interaction design principles</p> <p>In the report, please provide one example in your prototype to demonstrate your application of each of 8 interaction design principles:</p> <p>Provide clear visibility of user actions in the UI • Design constraints to offer visual mapping between tasks and controls (the stove example) • Provide meaningful feedback to ease evaluation • Help users accomplish their tasks by breaking down a big problem into smaller pieces (piece-wise problem solving) • Help users finish their tasks by providing task closure • Congratulate the user • Provide clear exit marks • Allow errors (provide emergency exits)</p> <p>If necessary, use a screen shot to explain your answers. Do not exceed 6 pages.</p>	20%
<p>Visual design principles</p> <p>We employ the following detailed criteria while examining the information and user control units on each screen of your prototype. Do users understand clearly the purposes of each information and control unit? Can they predict what happens when they interact with them?</p> <p>Useful design guidelines are drawn from color harmony, space usage, alignment, grouping, structure, organisation, visual hierarchy, and screen inertia.</p> <p>No extra document is needed. We will perform walkthroughs using your submitted interactive prototype.</p>	20%
<p>Peer evaluation</p> <p>Prepare task scenarios for a complete walkthrough of your prototype, paying attention to the most important tasks. What were some of the interaction and visual design problems your peers have pointed out? What principles allowed you to address them? How did you improve the final version?</p>	N o t grade d

<i>Was the design solution effectively presented?</i> The final video presentation recounts the users' experience journey in a vivid way. The scope is well chosen. The video has good image quality and it transits smoothly between segments. The speech is comprehensible. The music (optional) is audible. Maximum 5 minutes.	20%
Total	100%

Submission

Please submit a

- 1) A document containing:
 - Your vision statement and task tree
 - Explanations of how you applied interaction design principles
- 2) A url of your prototype or a document in pdf of the screens in color. It's important that we can perform walkthroughs in your submitted prototype.
- 3) A url of your video (Switchtube or Youtube)