

FluidIA: Evaluation Cycle III

Research Goals

To validate the usability of the product concept and identify areas where users are having the most amount of difficulty.

Test Setup

Same as in the first test cycle, a high fidelity usability test was performed in order to obtain further feedback on the usability of the design. Four people have been tested in their natural working environment. The prototype was running on a laptop computer which also recorded facial expressions using a webcam. The users were given a number of tasks to be performed.

Usability Tasks

Participants were told the following introductory scenario:

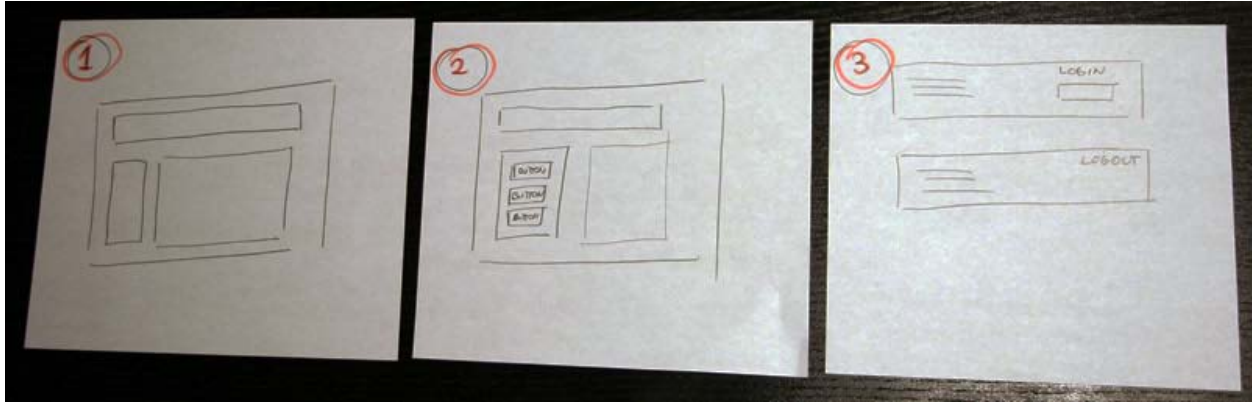
Background Script: *A friend of yours has recommended a new prototyping tool and you've decided to give it a try on a small project. It's a web based product and so you've very quickly gained access to it without having to read any tutorials or by passing installation. You managed to catch a glimpse of the tagline: fluidIA – agile UI prototyping.*

The following tasks were asked each participant:

1. You would like to draw a quick sketch of a wireframe for a new client web site. Here is what you have in mind ... [image: 1].
2. Now you're thinking ... the boxes look nice... but if you don't label them you might not remember what they mean in a week from now. Label: "header", "main content", and "sidebar".
3. Widen the sidebar more towards the right, and shorten the leftmost side of the main content area.
4. Populate the sidebar with little boxes [image: 2]
5. A developer runs in and screams to set the header to precisely a width of 800 pixels.
6. Duplicate the sidebar object onto two new pages.
7. Rename the second page to "Second Page"
8. Create two states for the header [image: 3].
9. Shift the whole second state a little downwards and the first state upwards.
10. Make sure both states are now positioned in the same pixel perfect precise way.
11. On page two you would like to make an exception and have the sidebar 20 pixels wider than on pages 1 and 3.
12. Please increase the importance of the header on page one.
13. Please delete the main content area and the last page.
14. Please create a new concept for the header.
15. Please add three checkboxes to the header.

16. You heard fluidIA allows to save screens for presentation purposes. Could you please create a quick story which shows how a user logs in?
17. Now you would like to save your work online as a link.

The image samples refer to the following:



Results - Completion Analysis

The following results for each task, for each user were recorded. Passed meant the task was performed in less than 1 minute. Difficulty meant the task took between 1 and 3 minutes, or required help or hinting. Failed meant that the user did not fulfill the task properly or gave up. On two occasions in the first and second test, as a result of a buggy prototype time two tasks were not evaluated and resulted with a marking of "N/A".

	Test 1	Test 2	Test 3	Test 4
Task 1: Drawing	Passed	Passed	Passed	Passed
Task 2: Labeling	Passed	Passed	Passed	Passed
Task 3: Resize	Passed	Passed	Passed	Passed
Task 4: Populating Boxes	Passed	Passed	Passed	Passed
Task 5: Precise Width	Passed	Passed	Passed	Passed
Task 6: Duplicating Sidebar + Creating pages	Passed	Passed	Passed	Difficulty
Task 7: Renaming Pages	Passed	Passed	Passed	Passed
Task 8: Creating States	Passed	Failed	Difficulty	Difficulty
Task 9: Repositioning	Passed	Passed	Passed	Passed
Task 10: Repositioning two states	Passed	Passed	Passed	Difficulty
Task 11: Making instance exceptions	N/A	N/A	Difficulty	Passed
Task 12: Setting Priority	Passed	Passed	Passed	Difficulty
Task 13: Deleting	Passed	Passed	Passed	Passed
Task 14: Creating a new idea	Passed	N/A	Difficulty	Difficulty
Task 15: Creating form elements	Passed	Passed	Passed	Passed
Task 16: Creating stories	Failed	Difficulty	Passed	Passed
Task 17: Saving as a link	Passed	Passed	Passed	Passed

Results - Qualitative Observations

Test 1

- Started off by drawing a container of sorts to get a sense of dimensions.
- Wanted to adjust the layering order but could not as the feature was still missing.
- Thought that “contents” in the footer would bring about some sort of properties box upon clicking.
- User has commented on lower contrast of the interface which he has proposed to increase.
- User requested an alignment feature that would allow to snap objects to each other.
- User understood that the ideas feature allows to create alternatives, but was not certain to what exactly they would apply to (page or objects).
- User would try to unsuccessfully drag items without first selecting them.
- The idea of states was understood.
- User has accidentally moved the mouse on top of the save box which resulted an unwanted menu expansion.
- The user tried to select a box while not knowing it was selected already. The high visibility of a parent indicator in relationship to the selected outline of an object is stronger. Also, the selected state of an item is too low over toned objects.
- Eventually understood the parent to child relationships. However, was not certain how to break that relationship.
- User felt that the notion of ideas, master-instances where conflicting in some conceptual way. Somehow the “ideas” tab is too dominant.
- User also suggested having clickable areas for managing states and ideas.
- User also suggested to separate experience threads away from the tools, as the experience thread tool conceptually seems more significant and more encompassing than the drawing tools.
- A number of times, the user has unintentionally launched the save and load menus, by aiming to change the nearby page. The recommended change of interaction would be to make the save and load buttons only launch onclick (and not onmouseover).
- User also suggested that the triangular indicator is too directional and strong over the border of the selected item which disappears. The indication of the selected item should be more integrated with the “drawing inside” indication and not disappear after such a short time.
- The user has resized an item by grabbing the right most bottom corner (instead of resizing using the left hand side which would have been quicker). The interface should have stronger resize handles all around.
- The user also suggested to have higher contrast “page add” icons and even possibly bring them closer underneath to the where the pages are listed (as opposed to at the very bottom).
- When creating an experience thread, there was a lack of hinting that a sequence of snapshots ought to be generated. User has failed to create a snapshot in the first place.

- The user has created a second thread after creating the first one. This suggests that the snapshot and action tools are too hidden and deemphasize in comparison to the “create new thread” icon.
- It was not too clear to the user in which snapshot he was in. This also resulted in an uncertainty of whether the snapshot would update if the interface was changed.
- The user was not certain if he could replace an existing snapshot or action
- The user has accidentally deleted a snapshot by thinking it was a close menu.
- User has expressed a need for more complex actions such as typing, or clicking and dragging.
- It was a bit uncertain for the user how to bring back the thread line again after closing it.
- There was uncertainty of what the “load” keyword was. Perhaps it should be renamed to the more conventional “open”.
- User has clicked on the plus icon in the experience thread bar without a resulting action. His suggestion was to make use of the top icon in the experience thread, as opposed to just having it cause a pull down.
- The use pressed CTRL X which cause X key to execute and bring up the ideas menu. This is considered conflicting in convention, as CTRL+X is typical “cut” command.
- Another idea suggested was to start the software with a predefined tutorial like project that would demonstrate to various features to first time users.
- Technical problem: Selecting of form elements is still buggy and difficult as it requires a form element to be clicked twice before a drag is allowed.
- User also suggested to increase the emphasis of the existing page by duplicating the page name in the top header.

Test 2

- The user was drawn to the top left icon with uncertainty if it has any associated actions.
- The user was irritated by the contracting bottom menu as she was initially not certain how to make it stop from disappearing.
- Understood the “drawing inside” message after selection of a tool.
- Didn’t like the drawing tool defaulting back to the select tool after a draw operation.
- Tried to drag an object unsuccessfully without selecting it first.
- Suggested to hide the inactive scrolling arrows surrounding the page icons.
- Technical bug: user tried saving a page rename by clicking underneath of the editable box, expecting it would save. However there was no result.
- Mistakenly has thought that after “Editing as Master”, the “edit instance” would save the executed change. There is a need for stronger feedback that a master has been edited.
- The currently selected item was not noticed, and therefore caused an unintentional delete. The difference between what is selected and not selected is too faint.
- User wanted to perform an undo action.
- The master and instance relationships were not understood in the beginning.

- There was no visual feedback that multiple form elements were being inserted from the form tool. The form elements were overlapping each other and it did not look like new ones were being added.
- For form elements and text elements, the additional prompt for action request during a “paste as” while pressing “Ctrl+V” is not necessary.
- The user was not certain that she was able to “delete snapshots” or “replace snapshots” when using the experience threads feature.
- The user was not able to create a new state. The user thought that “HOLDING X” was actually some financial term. Suggested to use the wording “PRESS”.
- The “loading” wording in the top right was not as clear as “open”.
- Experience Threads were referred to as a “user flow” or “sequence”.
- The user was not certain about the difference between the two “snapshot” icons in the experience thread bar while the overlay menu was being expanded.
- The user was pressing the user flow icon continuously. She was expecting additional feedback which was not present (the thread bar was already expanded.)

Test 3

- Tried to start off the design task by looking for a canvas sizing option to allow him to specify the dimensions.
- The dotted outline generated uncertainty in terms of whether the object was drawn or not (resembles the marquee tool from other applications.)
- Tried to insert buttons by dragging them into the canvas (as opposed to just clicking).
- Understands the concept of a master, and has adjusted a master with the expectation of the remaining instances to change. However, because their inheritance settings were not inheriting and noticed, the user was confused as to why the rest of the instances did not update. Idea: bring to attention inheritance during the “edit as master modes”.
- Eventually understood the concept of inheritance.
- The user was a bit uncertain as to what the up and down arrows around the pages panel did. Idea: perhaps they could be hidden if they are inactive.
- During a paste, the user was not certain that the pasted instance would be related to the master.
- The user when copying a set of items, selected both the parent item and its children elements. It was not understood that the children elements (within the selected object), were already selected.
- User suggested “Inheriting” could be “Use Master Properties”.
- User was not certain if the item was still on the clipboard for the second paste.
- While “editing master” user has relied on the “edit instance” toggle button to save his changes. A sense for closure was needed.
- Perceived “holding Z” as a name of a company. The state creation was missed and the user instead duplicated an element onto a new page with the intention of creating a new state.

- The user has trouble switching states. The radio buttons are still too close to the state, and the pressed and depressed states don't vary enough.
- User thought of "ideas" as "versions".
- To create a new idea, the user first created a new page. The ideas tab also looks not very actionable.
- The user first pressed backspace with the intention of deleting something.
- In order to create an experience thread, the user first went into present mode.
- The user also felt that the experience thread tool was bigger conceptually than the rest of the sidebar drawing tools. Visually, this suggests that it should be separated.
- After creating the experience thread, the user wanted to press play and test the story.
- Mentioned that sometimes during design time, he would not be certain in where (inside of what) he would draw an item. This suggests that there should be a way to change the nesting order in the future.
- The user also suggested a feature to save multiple ideas into clusters.

Test 4

- While drawing an object, the user was not certain of the sizing dimensions of an object.
- While after finishing writing a label, the user tried pressing ESC to accept the written label.
- Understood the concept that an instance is local and not global.
- Liked the toolbar getting out of the way.
- The user wanted to line up drawn items.
- The drawing inside gives an understanding that a relationship is set during drawing.
- Technical BUG: Drawing inside makes it impossible to select or resize an item which it is overlaying.
- Technical BUG: selecting form elements is difficult as it requires a double select.
- Technical BUG: when a form element is selected, new form elements cannot be inserted.
- When copying and pasting, the user held down C to paste again and was not certain how to bring back the "paste" window.
- It took the user a while to find the page add button.
- The user was not completely certain in which mode he was in "instance" or "master".
- While editing as master, the user was not certain how to exit out of that mode and ensure the changes would be saved.
- User understood the "new master" and "instance of master" relationships in the paste menu.
- The user accidentally deleted an item which he did not intend to delete. The selected state is too weak.
- While changing states, the user has still clicked on radio buttons instead of the state buttons.
- It was hard for the user to find the "edit states" feature, as it was not very actionable.
- The user was expecting that "edit all" states would provide more feedback and highlight all visible states.
- The user has successfully created an exception using inheritance.

- The user wanted to “Get out of edit master” even though he was in instance mode. There should be stronger indication in which mode the user is in.
- Thinking of creating a new state on a new page.
- Understood ideas as less committal and exploratory.
- The user did not understand the word “tone” and was looking for “colour”.
- Not sure what the difference is between “experience” and “thread”.
- The user created snapshots successfully.
- After creating the thread, the user was curious how to play or preview it.
- The taken snapshot icon at the top confuses the user that the button is still actionable. Requires a “taken snapshot” state.
- The two delete icons in the experience thread bar are confusing. One pertains to the thread, and one to the thread points. However, being aligned on the same line, a false relationship between the actual story and its administrative functions is being established. Similarly “the see all” throws the user off as it is too close to the actual story.
- Feature Idea: The user thought it would be interesting to emphasize certain objects during an experience thread playback.
- “That’s great. You need narratives”.
- Feature Idea: The user suggested an idea for showing a quick animation how it might possible to create states and experience threads.
- User has referred to experience threads as “stories”.

Concluding Summary

The biggest findings in the third testing cycle included the following:

- State and Idea controllers. In this iteration, users have become less informed as to how to create new states and ideas. The footer has decreased the visibility of the actionable instructions (holding X or Z) which users found more difficult to identify. Once pointed to the HOLD interactions, users were able to create and edit states and ideas. A second problem for states was that the state switching buttons still were not differentiate enough in terms of their selected and unselected states.
- Experience Threads. Most users really felt the feature was interesting; however there were a few problems. For one, after completing a thread, users felt a need for closure and to play back or test a created thread – a feature which was missing. Secondly, users had some hard time finding the “snapshot” tool which was hidden under a sub menu. Thirdly, conceptually, experience threads felt to users as if they were bigger than the existing tools, and should be brought out more into a separate position or location. Fourthly, due to a lack of feedback, users did not really know in which thread they were currently in.
- Selection. Any currently selected item that is selected has diminished visually. As a result of not knowing clearly what is selected, more users have deleted items unexpectedly as well as tried selecting items which were already selected. The visual indication of currently selected items (and its sub child items) should be made stronger.

- Instance and Master. Even though now the master edit mode requires an explicit toggle, some users still expressed confusion as to which edit mode they were actually in. A stronger indication is required in the next iteration. After the introduction of this explicit Master Edit Mode, users still expressed a need to get out of this mode in with more certainty that their changes were being saved.
- Inheritance. Although the idea of inheritance was understood by users. To most it was still not identified and required guidance to be actually found.
- Auto grouping. Most users understand the parent – child relationship (“drawing inside” feature), however they do not know how to adjust or change that relationship. For example, users expressed the desire to move an object into a different object (thus changing the parent).