*D*is*T*rack

Team Members

Graeme Britz   Project Manager

Max-Ferdinand Gerhard Suffel   Writer / User Researcher

Maria Angela Suhardi   Writer / Designer

Bryan Djunaedi   Writer / Designer

Jackie Chui   Writer / Designer

Problem & Solution Overview

Maintaining focus during a work or study session is extremely important for a student's productivity and ensuing academic success. Students today are barraged with an increasing number of distractions both digital and non-digital in nature. DisTrack helps students manage these distractions and stay focused. By recording aspects of a student's behavior and their environment during work mode, DisTrack enables a student to reflect on and see trends in their study habits and performance. DisTrack also recommends strategies and tools, that can be activated when a user engages work mode, to reduce distractions and maintain focus that are catered to a student's distraction triggers and scores. By providing a platform for reflecting on distractions, DisTrack helps students be more effective.

Initial Paper Prototype

Our initial paper prototype utilizes two devices for DisTrack, a desktop application and smartwatch. The desktop interface allows users to reflect upon their performance in past study sessions, setup tools to be used during future study sessions, and start their work mode to utilize the tools they have set up while tracking their performance. The watch can be used to start a work session without the need of using a computer. It also provides real-time feedback to the user according to his current activities and can notify the user when they get distracted. Our first primary task in this prototype is about reflecting on past study sessions. The second is about finding tools to be less distracted by distracting activities, and implementing those tools in a future work session.

Initial Paper Prototype - Desktop

1. **Toolbar menu**
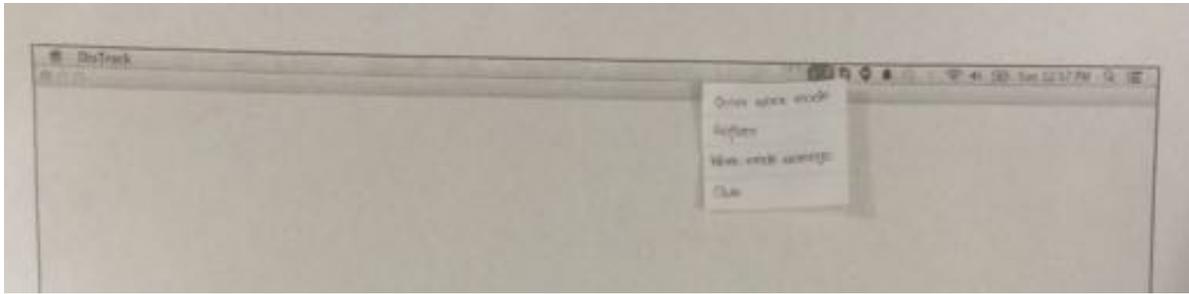
2. **Reflect screen with specific activity selected**
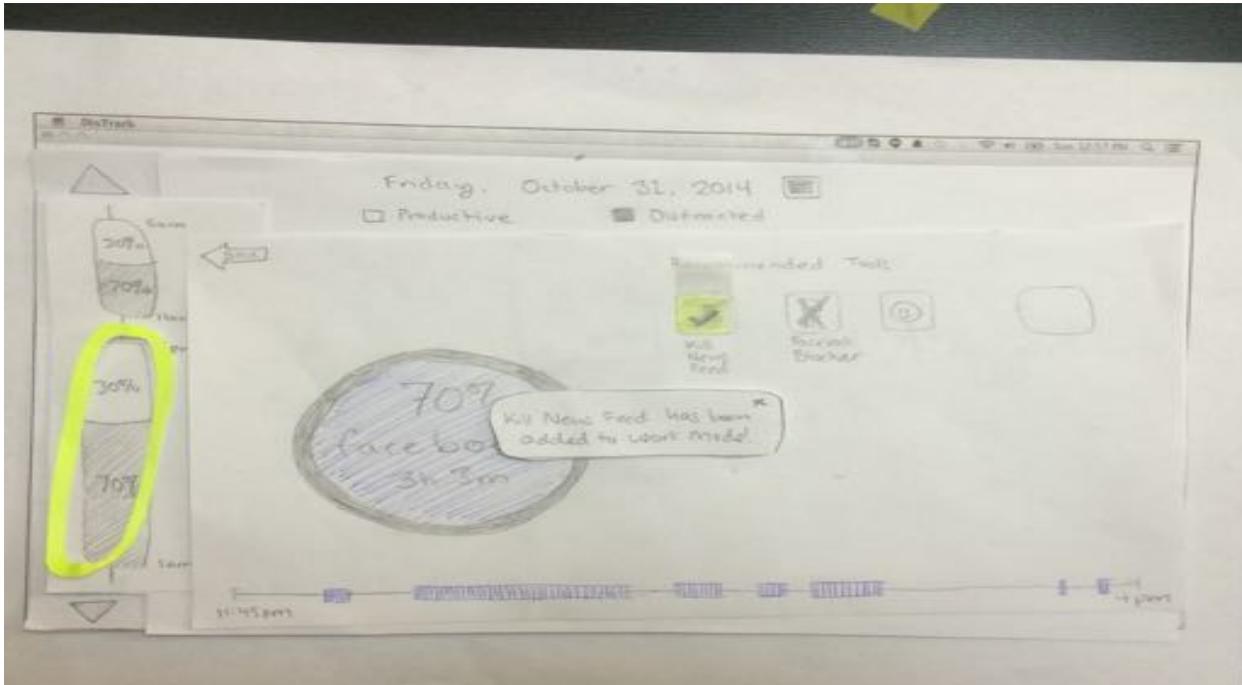
3. **Work mode settings**
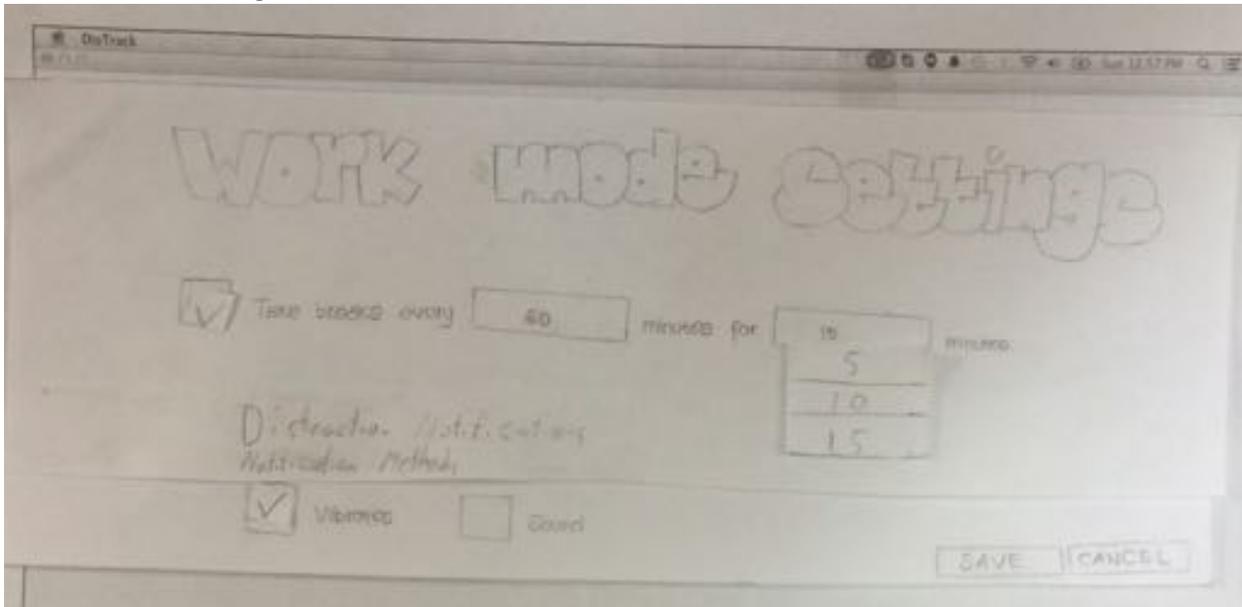
Initial Paper Prototype - Watch

1. Default watch face

2. Toggling work mode on

3. **Work mode watch face showing real time feedback on rim**
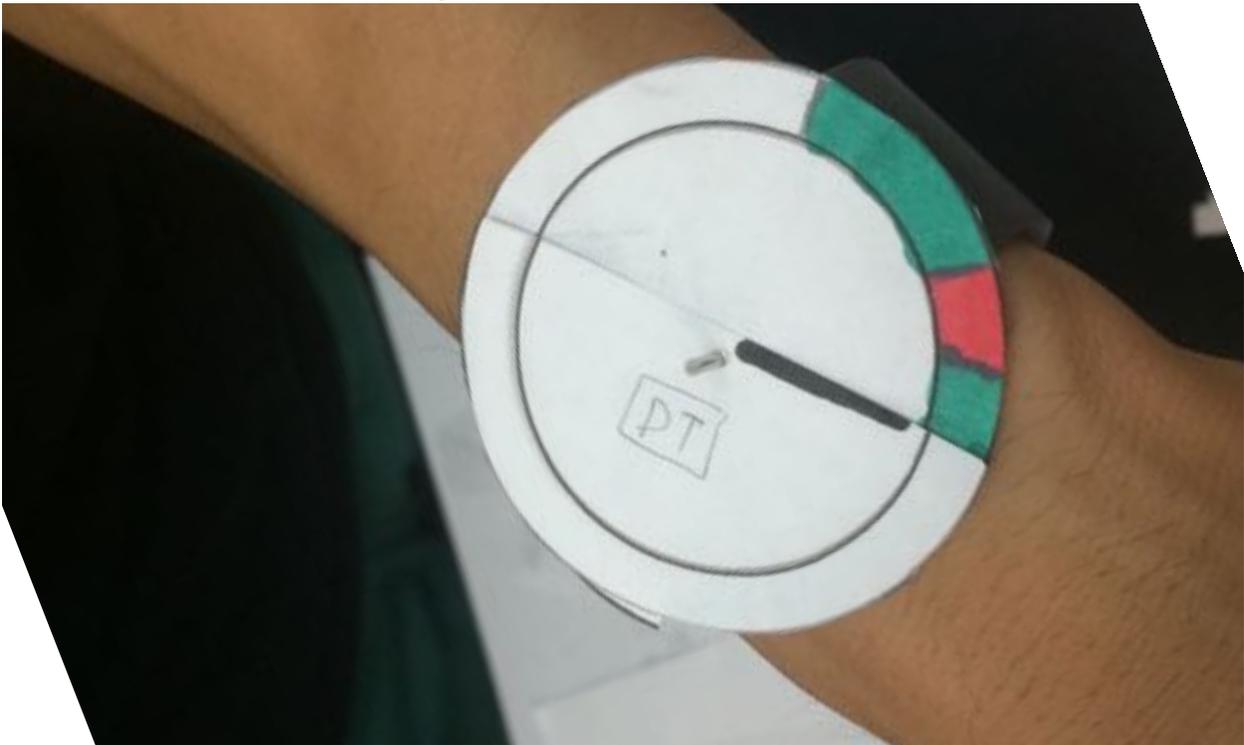
4. **User receives a distraction notification - one of their work mode tools**

The Testing Process

We tested our prototype through heuristic evaluations in class and usability tests outside of class. Our usability tests began with a description of what DisTrack was and how the paper prototype worked. We then had our test participants go through two different scenarios independently of each other. Each scenario had one more or tasks and a background story that explained why data or tools were already there. While the participants went through their scenario, we asked them questions about what they were thinking and their understanding of the system. We also asked general questions at the end of each test. Each test was conducted with two or more team members acting in separate roles. We did a total of three tests in this format.

Our first test was done in Odegaard library in the open area on the first floor. We chose this location because it has an abundance of undergraduate students studying. The participant we recruited there was a first-year, pre-engineering student named Ben[1]. In this test Graeme acted as facilitator as well as note taker while Bryan was the simulator. Ben was confused about his role in our fictional scenario and how he should interact with the prototype. When we told him to find his character's most distracting activity (Facebook), he kept saying his own (YouTube). We learned during this test that we needed to do a better job explaining how the paper prototype was simulating real devices and that the participant was playing out a mostly fictional scenario.

We wanted to run our second and third usability tests in a more controlled environment where there was less noise and we could set up our prototype more effectively. We tried to find participants to do this by reaching out to our contextual inquiry participants. We contacted them because they had expressed interest in being involved with our design as it progressed. Unfortunately, none of them responded quickly enough to us, so we had to find more participants in public spaces like before.

We decided that in our remaining usability tests, we needed to begin with a more thorough description of the participant's scenarios and demonstrate how to interact with the prototype to make it more clear for the participant. In this way we hoped to remove some of the confusion we had in our first test. We found that our changes helped when our team remembered to act on them.

Our second usability test was done in Odegaard Library again. This time, Bryan was the simulator and facilitator, Angel was the video-recorder, and Max was the note-taker. Our participant was a senior law student named Lauren. She was participating while waiting for her study group to arrive, and she did not seem very patient or interested in the test. She seemed annoyed with the prototype. This test ran into some difficulties because the prototype elements were not organized correctly beforehand, and the facilitator forgot to explain that the watch was a smart watch with a touch screen. Even so, we still ended up discovering some issues that we could resolve in our paper prototype upon the conclusion of this test.

Our third usability test was done in the Mercer Court Apartments' Great Room, a large common area where a number of students were relaxing or studying. During this test, Bryan was the simulator and facilitator again, and Jackie was the note-taker and video-recorder. Our participant was Karisa, a sophomore pre-engineering student. We ran her through the scenarios as we did in earlier tests. The testing went much more smoothly than in our second one. This was due to better organization of the prototype elements and remembering to give a thorough introduction. Our participant was also much more patient than our second one was. This test revealed several high-severity incidents; combined with incidents from our second test, they heavily influenced our final design.

Our testing process improved as we went along but could have been better due to a few team issues. We had scheduling and communication conflicts which lead to people switching their testing roles between the first and later usability tests. This led to some of the process improvements not being implemented in our second test. Our prototype components were often disorganized too. Another issue was not having enough time to find good participants; our second participant was not very interested and was thus less helpful. With more time our process would have continued to improve. But even so, our tests gave us very useful feedback for our design, input that was used in our prototype iterations.

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1 All participant's names have been changed to preserve their anonymity.

Testing Results

The majority of the feedback received during usability testing with our paper prototype revolved around either participant control or data visualization. Because our design has a lot of features, affording access to these features, such as activation of work mode or utilizing recommended tools, was a challenge our design posed to the majority of our study participants. In addition, since allowing users to view past performance is core to our application, the testing scenarios spent a great deal of time in the data visualization aspects of the interface, which allowed us to receive a proportionate amount of feedback on the way data was presented. Testing occurred in two cycles: the first cycle used our original paper prototype, while the second cycle occurred after significant changes had been made based on the first testing cycle.

Our first paper prototype catalyzed crucial changes that continued to influence our design decisions all the way into the final version. Prior to our first usability test, we put the first paper prototype through a round of Nielsen heuristic evaluation during critique that addressed a mix of severe and minor issues, some of which persisted into our final design. We violated 4 heuristics with a medium to high severity with our initial prototype: user control & freedom (3rd heuristic, Heuristic Evaluation Incident 1), consistency & standards (4th heuristic, H.E. Incident 5), error prevention (5th heuristic, H.E. Incident 3), and aesthetic & minimalist design (8th heuristic, H.E. Incident 6). We alleviated violation of the 3rd heuristic by allowing users to take breaks manually instead of allowing only automated, periodic break reminders. We addressed violation of the 4th heuristic violation by completely overhauling our data visualization, which was initially depicted through a vertical session timeline and activity bubbles whose size correlated to the amount of time spent on them. The timeline made people think that the session percentages were also time-dependent, which they are not. As a result, we gutted the timeline metaphor and instead merely arranged sessions in order of appearance. Meanwhile, Brad pointed out that our bubble chart, while effective in theory, might not as clearly depict the relative times spent on each activity. In the end, we settled for a more traditional stacked bar chart that you can see in our final design. We addressed violation of the 5th heuristic by allowing users to reclassify activities as either productive or distracting. We fixed violation of the 8th heuristic by arranging the activity bubbles not randomly but in order of decreasing percentage; although we ended up eliminating the bubbles, this ordering persisted in the stacked bar chart that is in our final design. We also included a popup window for productivity recommendations instead of blanking out all the other activity bubbles. Though we received this feedback prior to our first usability test, we were unable to make any changes to the prototype prior to conducting the test, which confirmed some of our heuristic evaluation results.

Though the heuristic evaluation was helpful, conducting our first usability testing yielded a greater quantity of impactful changes per incident. We initially had a timeline of sessions in the vertical orientation; this proved too difficult to correlate to the date, which was across the top of the screen in the horizontal direction (Usability Test 1, Incident 1). To alleviate this relational gap, we re-oriented the sessions across the top. Participants also had trouble distinguishing between overall and session-specific statistics, so we deferred to a more traditional tab-based system in order to differentiate between the two modes. Our first usability test also revealed two important deficiencies in user control: participants were unsure of what the recommended tool tiles did (U.T. 1, Incident 3), and the desktop-application-to-watch relationship was unclear (U.T. 1, Incident 4). As a result, we added several elements: descriptions for tool tiles once they were clicked, and laptop/watch icons in the work mode settings page to indicate whether they would operate via desktop or wearable. These changes made the team more consistently aware of making intra-application relationships more obvious in subsequent design iterations, as all of these changes from the first usability test alone persisted into the final design.

Proceeding to our second testing cycle, we thought our first-round changes would be sufficient to shore up the main issues brought up in the first testing cycle. Instead, we received feedback that underlined the severity of a few of our most important application paradigms: the purpose of "work mode" and how turning it on was different than choosing tools to enable within it, the differentiation between recommended tools and tools already added to work mode, and the ability to remove tools that were added to work mode. In retrospect, the changes we made after the first testing cycle cleared up the superficial problems with the interface and thus made plain more fundamental usability issues.

Several incidents contributed to our overhaul of how tools are depicted within our application. One of our participants could not remove a tool once added to work mode (U.T. 2, Incident 1). While the fix for this - adding a "remove from work mode" button to the description popup once a tool had been added to the work mode, it underscored a more basic problem in which the participant did not have a clear understanding of how added tools contributed to work mode, nor a clear pathway from the add page to the work mode settings page. The same participant quit DisTrack from the taskbar menu instead of turning work mode off (U.T. 2, Incident 3), again pointing to how un-emphasized Work Mode was to our participants' understanding of what our app's core functionality entailed. Meanwhile, our second participant thought the work mode tool tiles in the work mode settings page were already enabled in work mode; without any of them currently selected, she was unable to differentiate between enabled tools and disabled tools (U.T. 3, Incident 4). After enduring our explanation of how the tile interface worked, she successfully enabled the "Take Breaks tool" but thought that this action turned on work mode. When tasked with ending her study session by turning off work mode, this second participant chose to disable the "Take Breaks" work mode tool instead of turning off work mode itself (U.T. 3, Incident 5). Clearly, something had to be done to alleviate the confusion regarding work mode tools, enabling said tools, and the function of work mode itself.

We chose two avenues of attack to tackle this issue. First, we made an omnipresent work mode status indicator to the top left of all of our desktop UI windows. The intention and outcome of this change is twofold: it gives users much more visibility of system status and also makes "work mode" more present in the design in general so that users get used to seeing it. Funnily enough, this small element harkens back to our initial design sketches which called for a on-off indicator widget in the task bar. Our second solution completely eliminated the app-tile metaphor. Instead, we chose a metaphor that was more consistent with the word "tool:" lists of "equipped" tools vs "unequipped" tools. This has the benefit of categorizing equipped tools together for easy viewing and differentiating between enabled tools and tools that were merely added to work mode previously but disabled. This view together with the status element more clearly delineates the action of tool enabling and work mode activation. Our final addition linked recommendations with the new toolbox. After adding a tool to work mode, a user can click on a button that takes them directly to the "My Tools" page. Hopefully, this change will act as an educational opportunity for new users to learn how the recommendations relate to work mode.

Our final change out of this second round of testing eliminated the notification that "no work mode tools were enabled" upon activation of work mode from our watch interface. While in spirit this message was mostly for the purposes of usability testing to get participants to interact with the work mode settings page, we made sure to get rid of it as both participants in our second round ran into difficulty when they received this notification.

Our usability tests lead to a number of changes in our desktop interface. Many of these changes involved replacing more experimental design choices, e.g. using bubble charts for activity visualization, with more established ones, e.g using stacked-bar charts instead. In the meantime, our watch interface experienced only a few negative incidents. This may be because the desktop environment is so much more familiar to participants, with entrenched design idioms that people are used to seeing, while a wearable has a far more limited audience as of now. Because of this, we had to explain what was happening more while conducting usability tests on the watch ("time is passing, you're still studying, someone is now distracting you"), which may have limited the amount of independent feedback our participants could give us on the watch. However, these explanations could also simply be a symptom of the fact that our watch scenario involved real-time feedback while our desktop scenario consisted of more user-motivated actions than in-the-moment system actions. Ultimately, due to fewer critiques of our watch interface, we were able to exercise a greater degree of freedom in the way we designed it; in contrast, the desktop interface fell into step with external design patterns that have worked for a long time.

Final Paper Prototype

Our final paper prototype targets the same tasks as our first one did: The first task is about reflecting on past study sessions. The second is about finding tools to be less distracted by distracting activities, and implementing those tools in a future work session.

On the desktop, the DisTrack application is still accessible by an icon in the taskbar. When clicking on the icon, a menu appears which allows to start/stop a working mode, to access the reflection screen, to adopt the currently equipped work mode tools or to shutdown the DisTrack application.

The reflection screen now provides two views on the day the user is reflecting on, overall and sessions. The overall view combines all of the work sessions into one view and shows a summary of productivity percentages and time spent by activity. The sessions view presents the same information (time spent by activity and productivity percentages) split up by the work sessions that user had on the day being viewed. When looking at a session or the overall view, the user can click on specific activities to revise their classification. If the activity was a distracting one, the user will also see tool recommendations when the activity is clicked on.

A user can control which tools are in their work mode by going to the "Work Mode Tools" page. There the user can see equipped and unequipped tools, and can also get more tools through the tool store. Equipped tools are the only ones that will activate when work mode is turned on. Users can tweak the settings for individual tools by selecting them.

The watch is primarily used for our second task; specifically, for implementing tools in a work session. It is also useful for getting real time feedback on distractions and the state of the DisTrack application.

High Level Overview of the Desktop Application

Walkthrough of Scenario 1

1.) Click on the DT icon in the taskbar.

2.) Click on "Reflect" in the dropdown list.

3a.) Changing day via paging.

3b.) Alternatively, changing day via calendar.

4.) Click on the sessions tab.

5.) Click on "session 2".

Sunday, November 2nd, 2014 ▦ ▷

Overall / Sessions

🎁 Distracted   📦 Productive

Session 1   Session 2

Session 1 (9am – 1:20 pm) – 4h 20 m

| 2h 10 m Facebook | 20 m Conversations | 1h 50 m MatLab |

6.) Click on the largest bar in the stacked bar chart (in this case, Facebook).

🎁 Distracted   📦 Productive

Session 1   Session 2

Session 2 (3pm – 6:30 pm) – 3h 30 m

| 1h 29 m Facebook | 28 m Conversations | 1h 32 m MS Word |

Click on activity for more actions

7.) Click on one of the recommended work mode tools.

Session 2 (3pm – 6:30 pm) – 3h 30 m

| 1h 29 m Facebook | 28 m Conversations | 1h 32 m MS Word |

Reimify
⊙ Non-productive   ⊙ Productive

Recommended Tools

[X]   [X]

Kill Newsfeed   Facebook Blocker

Click on a tile to view its details and add it to work mode

12
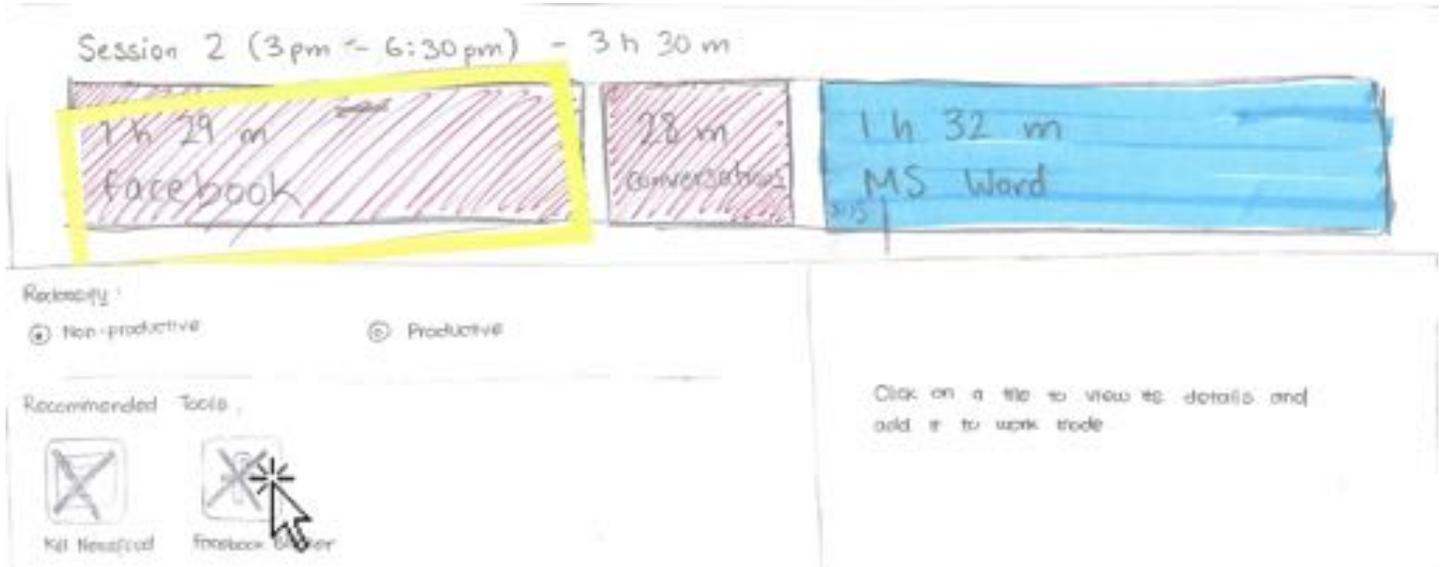
8.) Click on "Add to Work Mode" rational.

9.) Task complete! Tool has been added to work mode.
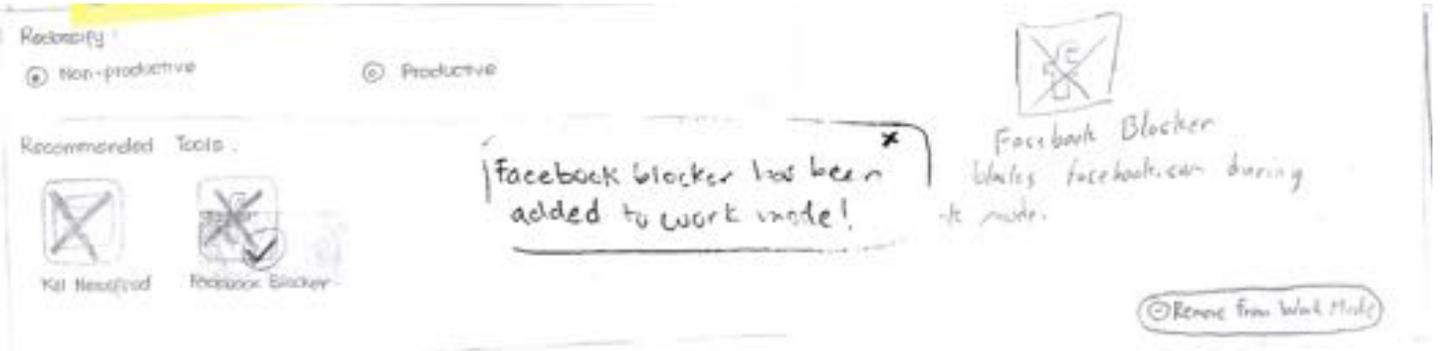
High Level Overview of the Watch - Walkthrough of Scenario 2

1.) Toggling work mode settings before using watch.
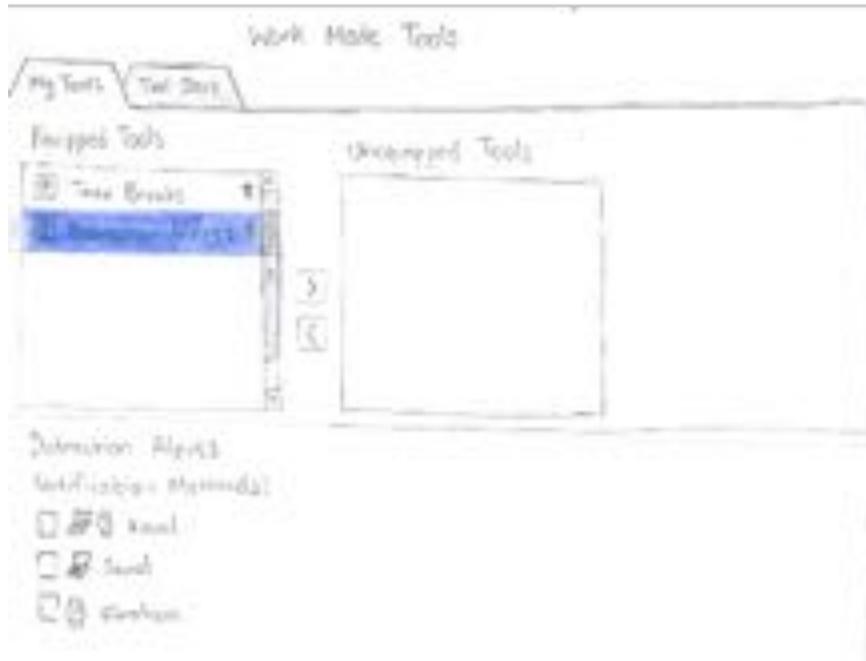
2.) First screen on watch.

3.) Work mode is currently off.

4.) Work mode turned on.

5.) Showing tools being activated.

6.) Beginning of work mode.

7.) Getting real-time feedback while working.

8.) Distraction notification.

9.) Taking a break.

10.) Turn off work mode when done.

Digital Mockup

High Level Overview of the Desktop Application

Main screen for reflection.
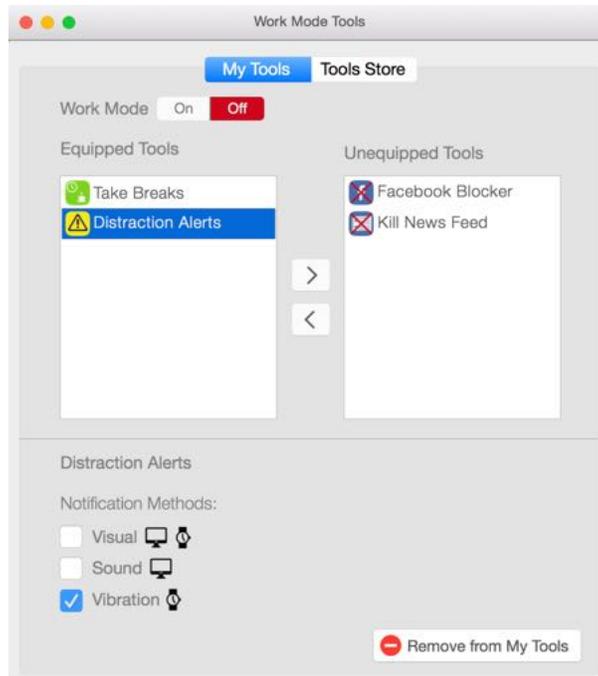
Work mode tools settings screen.

DisTrack

< Nov 2nd - Nov 8th, 2014 > 📅

View: Weekly

Work Mode On **Off**

Hours | Percentages

● Distracted ● Productive

Hours by Day

10h

5.5h
5.2h
4.1h
3h
3.6h
3.6h
5h
3h
2h
2.4h
.4h
.5h
.3h
2.7h

| Nov 2nd | Nov 3rd | Nov 4th | Nov 5th | Nov 6th | Nov 7th | Nov 8th |

Weekly view, highlighting hours.

DisTrack

< Nov 2nd - Nov 8th, 2014 > 📅

View: Weekly

Work Mode On **Off**

Hours | Percentages

Percentage of Productivity by Day

100%

8.75 hrs
9.33 hrs
100%
90%
4 hrs
6 hrs
5 hrs
60%
60%
47%
37%
.5 hrs
3 hrs
10%

| Nov 2nd | Nov 3rd | Nov 4th | Nov 5th | Nov 6th | Nov 7th | Nov 8th |

Weekly view, highlighting percentage of productivity.

Walkthrough of Scenario 1

1.) Click on the DT icon in the taskbar.

2.) Click on "Reflect" in the dropdown list.
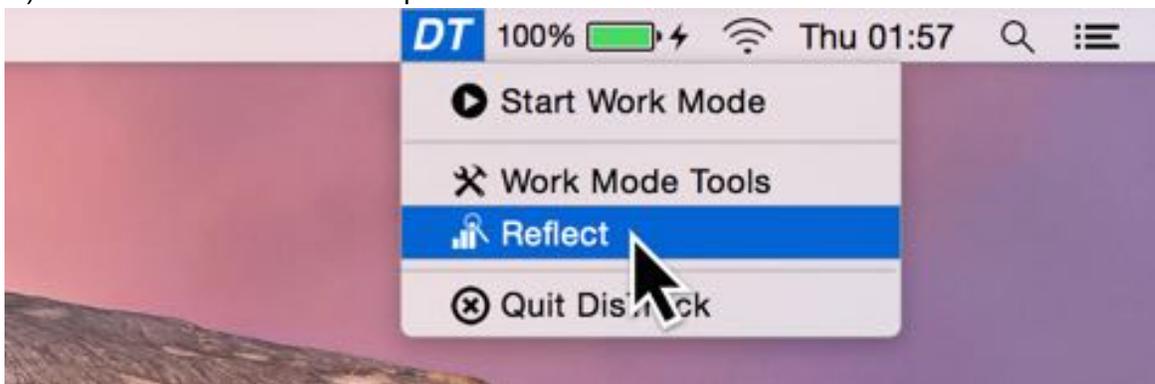
3a.) Changing day via paging.
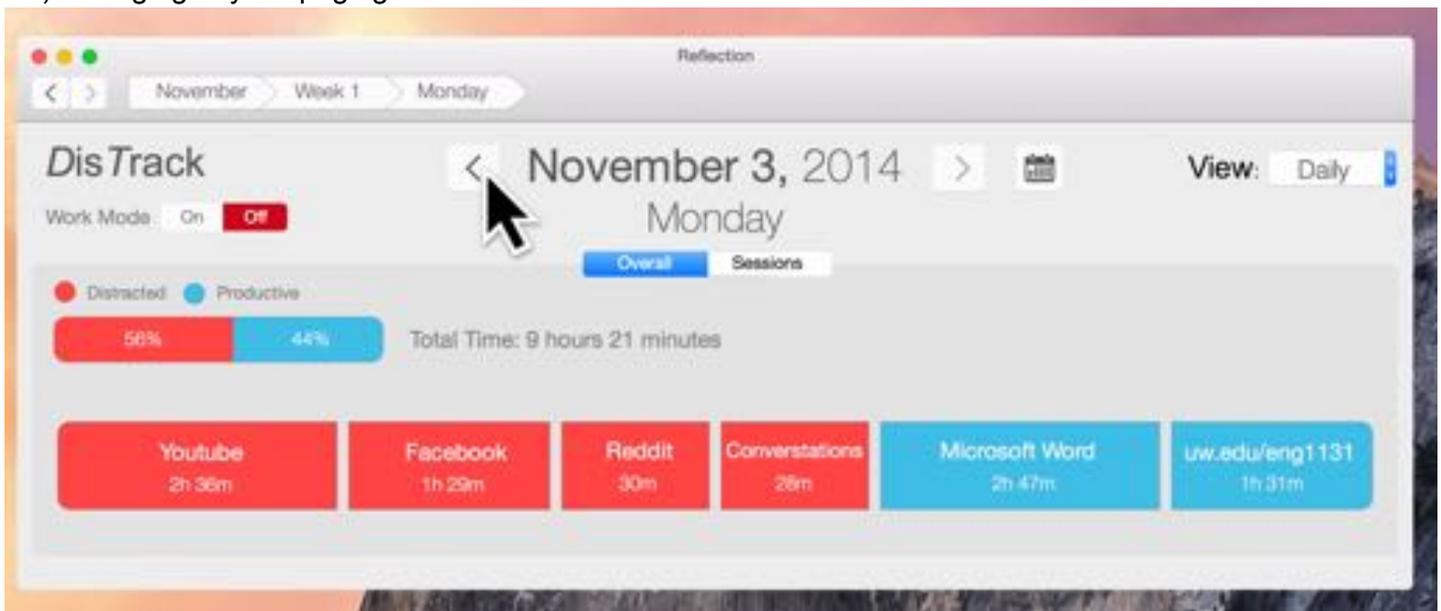
3b.) Alternatively, changing day via calendar.
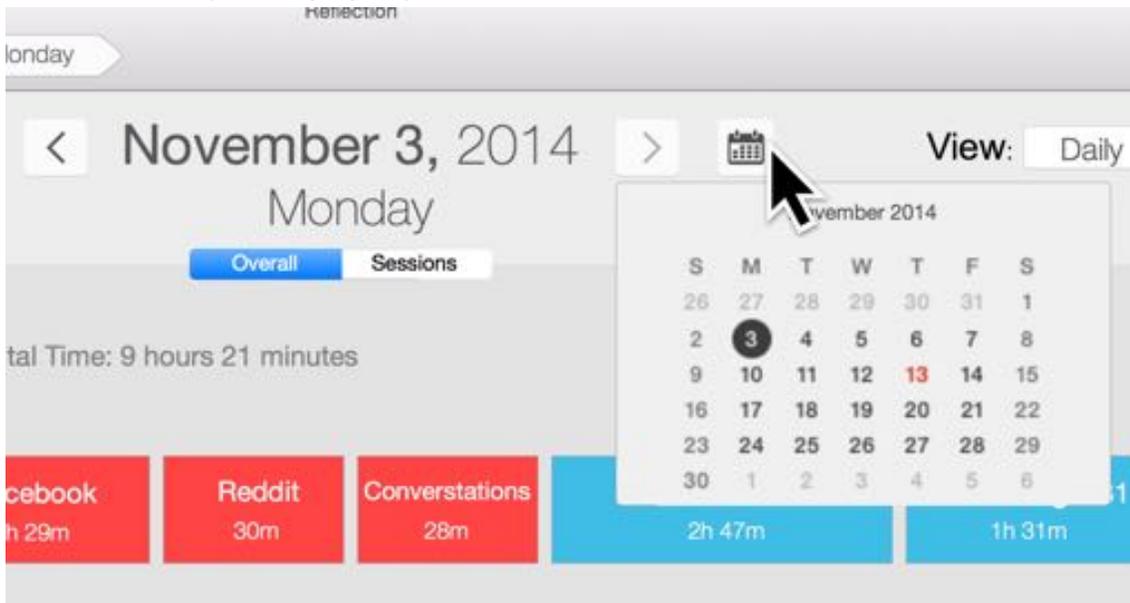
4.) Click on the sessions tab.

5.) Click on "Session 2".
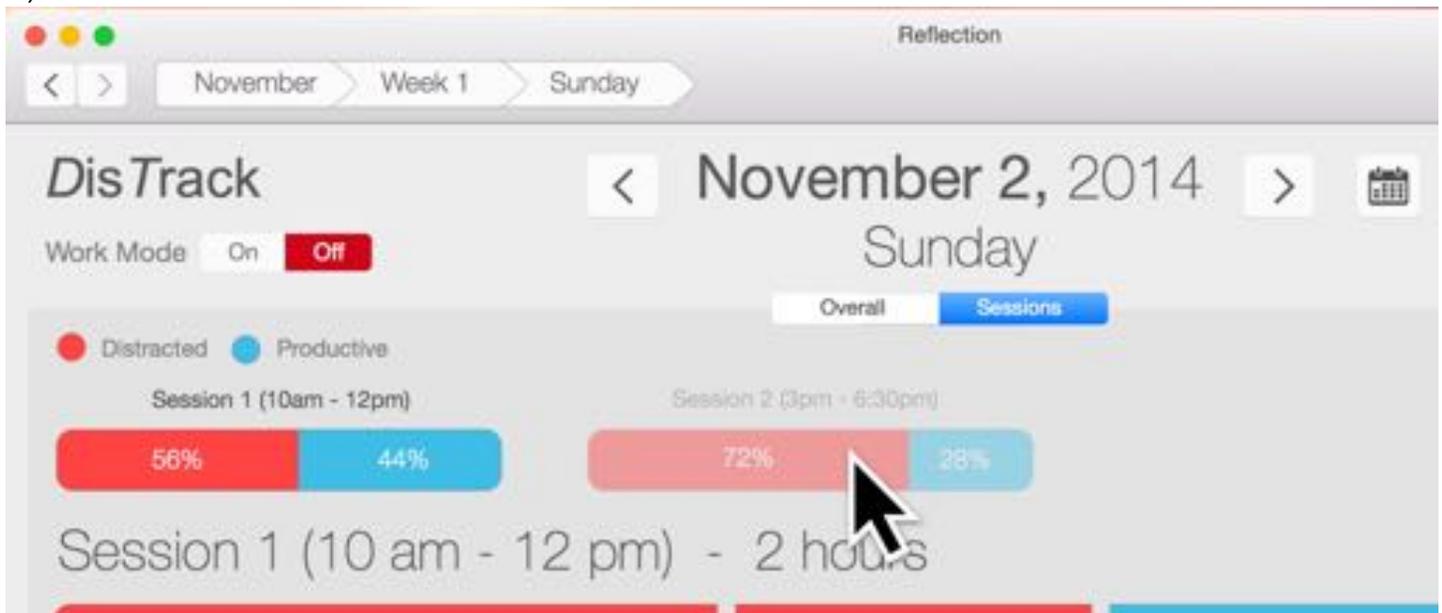
6.) Click on the largest bar in the stacked bar chart (in this case, Facebook).
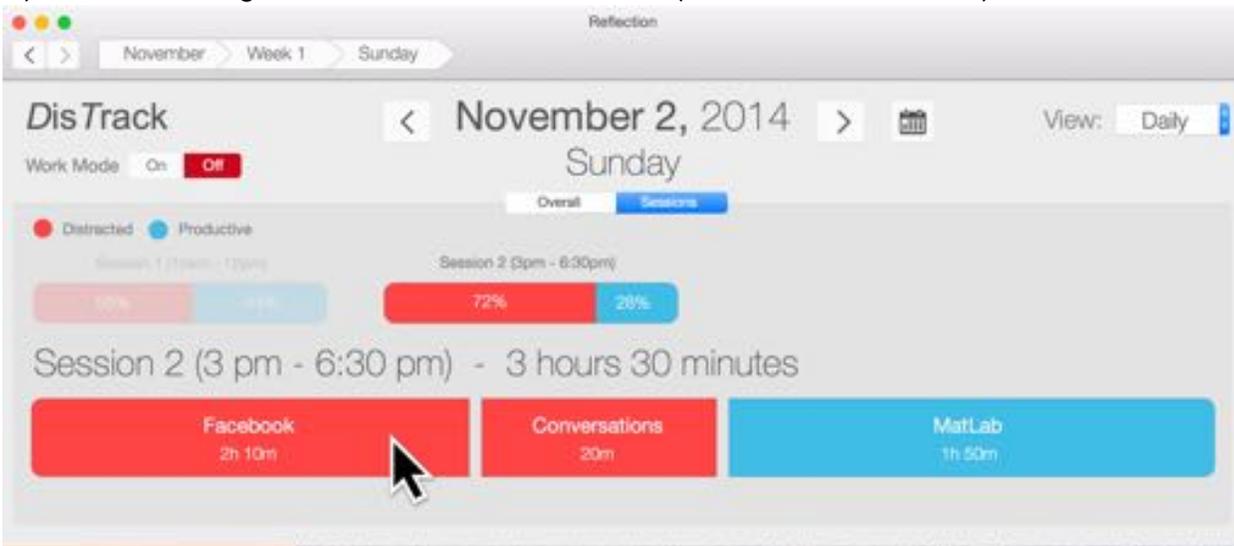
7.) Click on one of the recommended work mode tools.
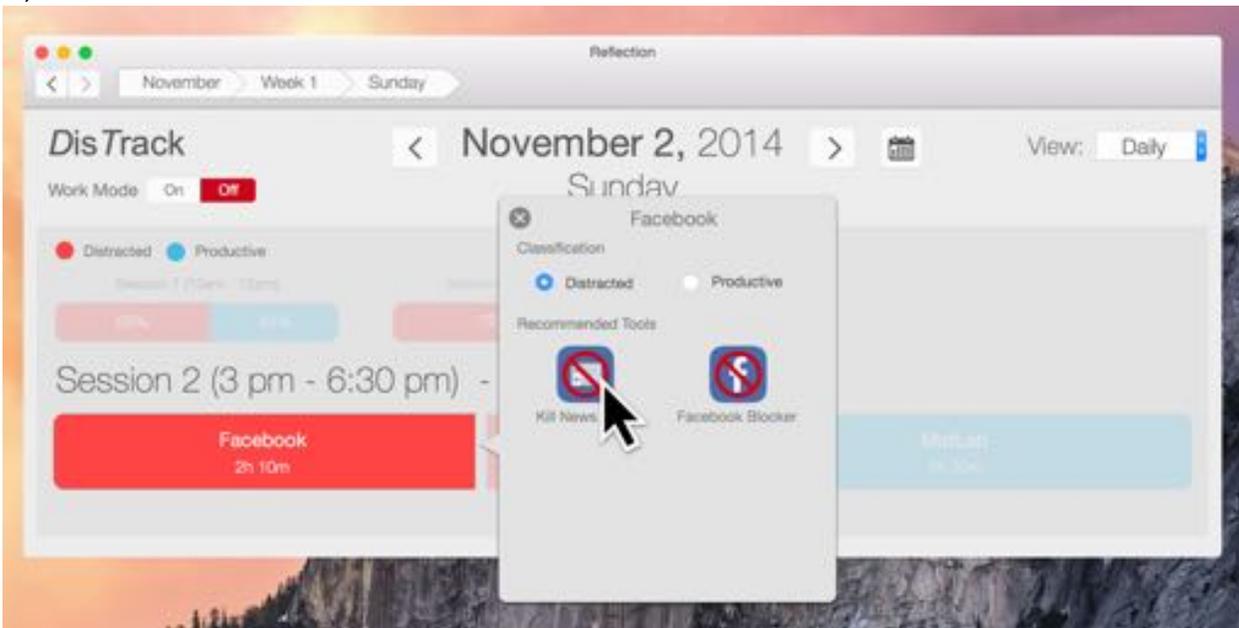
8.) Click on "Add to Work Mode".
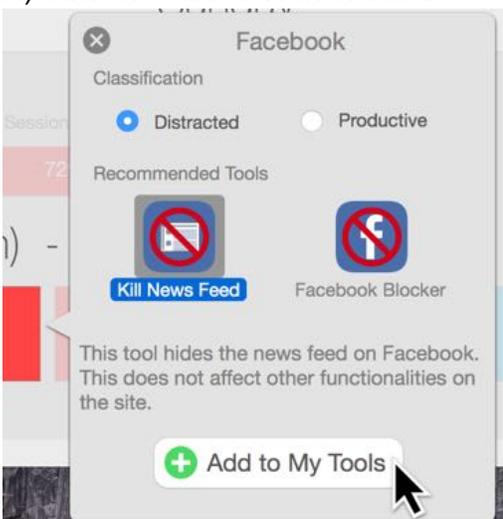
9.) Click on "View My Tools" to view existing tools.
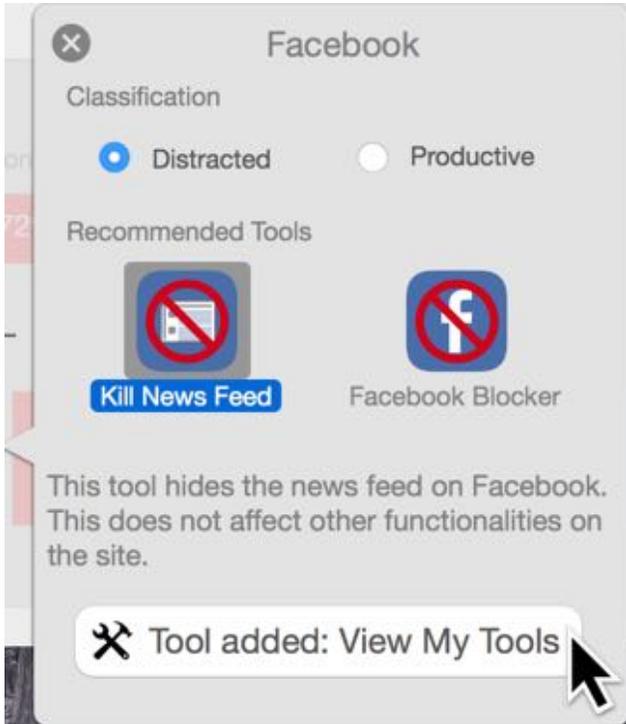
10.) Task complete! See Work Mode Tools screen to set up tools for next session.
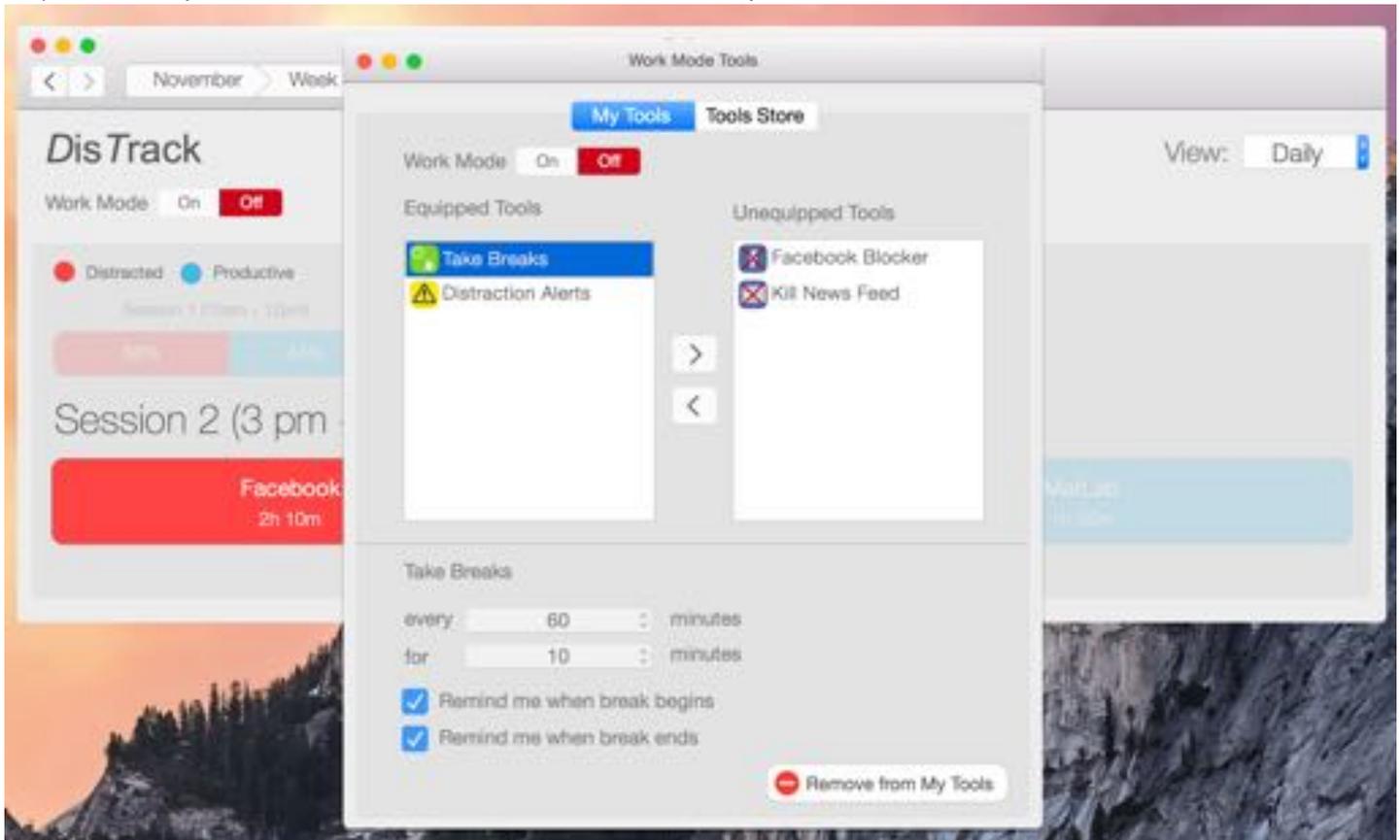
Changes after critique

In response to the critique we received during class, we made several changes to our digital mockup for the desktop application. One critique we got was that there was too much going on in the screen once the user reached the recommended tools panel. Another critique mentioned that the recommended tools panel middle split forced the user to drag their eyes a long distance across the screen before viewing tool details. Our solution to these problems was to convert the bottom panel to a popup box so that the activity and tools information floats above the session view, while at the same time lightening the color of everything apart from the selected activity. The popup also blocks a certain portion of the interface, reducing clutter. Finally, the tool description and Add button are located right below the icons, making them much easier to mentally correlate.

Before

After

We modified some of our tool icons: the big red cross seemed to convey that the tools were disabled in our application rather than the tool's actual function in real life.

Before

After

We received a suggestion to add in a feature for viewing trends of productivity across longer time periods. We implemented a weekly view to show and compare the days in a bar graph. To facilitate users' navigation to and from the multiple views, we added back and forward buttons as well as breadcrumbs on the window bar.


Week view for trends

Navigation and "bread crumbs" buttons

Digital Mockup - Watch

One of our tasks is using tools during a work or study session to minimize distractions and improve focus. The watch is an ideal interface for this task since it is likely to be always worn by its user and because it is better suited for tracking non-digital distracting activities.

Below is a walkthrough of a scenario using the watch:

1.) Make sure to set up the work mode tools on the desktop application before using the watch.
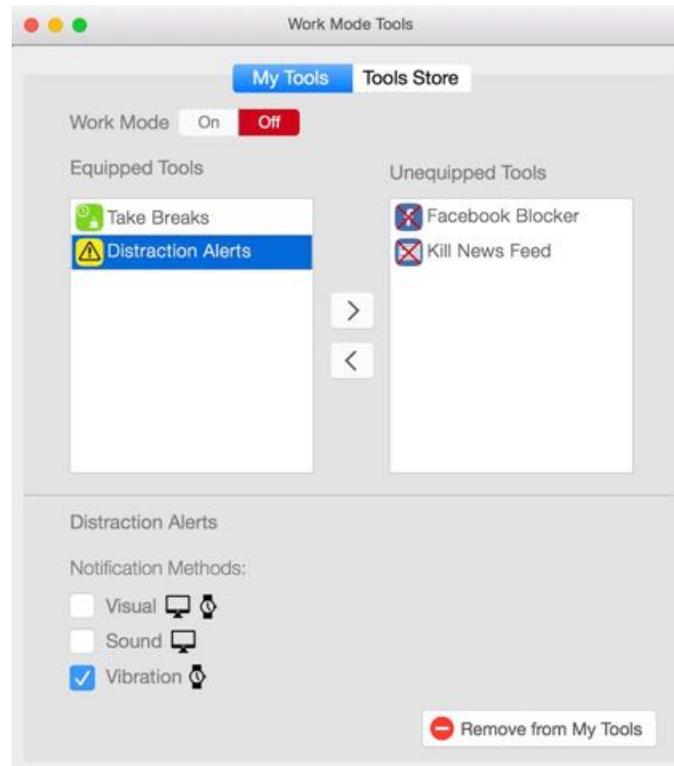
2.) Go to the watch and click on the "DT" logo or the physical button on the right side.

3.) Turn on the work mode by switching on the toggle button
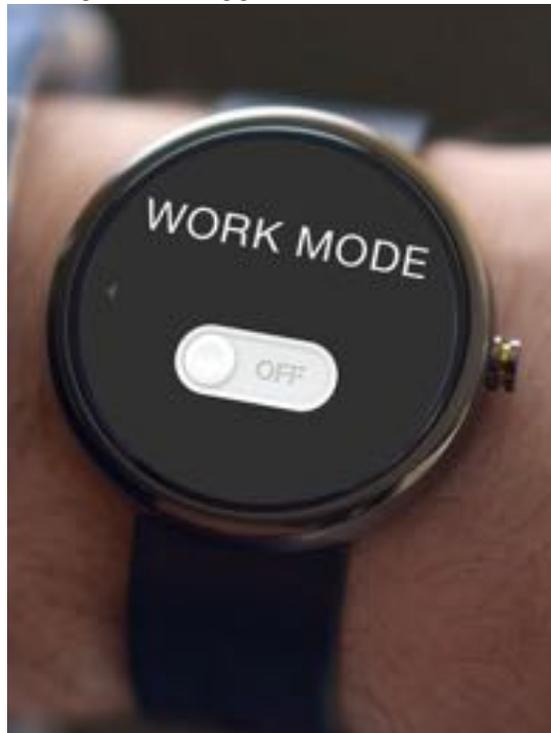
4.) Work mode has been switched on. User can come back to this screen to manually take a break if they wish.
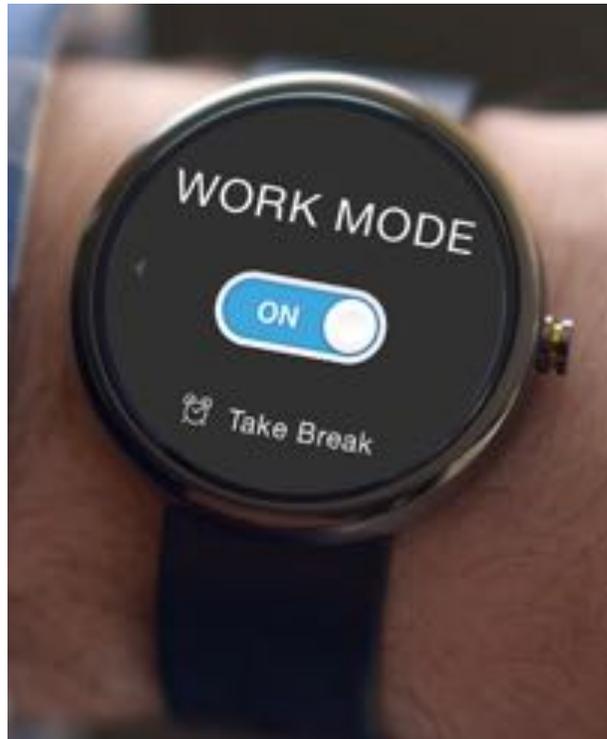
5.) Right after the work mode is switched on, the screen will show the tools that were just activated for this work session (these tools were configured on the desktop on image 1).

6.) Click "OK" and the tracking of the work mode will begin. The student will start getting real-time feedback via the color of the watch's rim while working: light blue for productive time, red for distracting time.

7.) If a student is using distraction reminders, they will get notified when they get distracted (e.g. by an unrelated conversation)
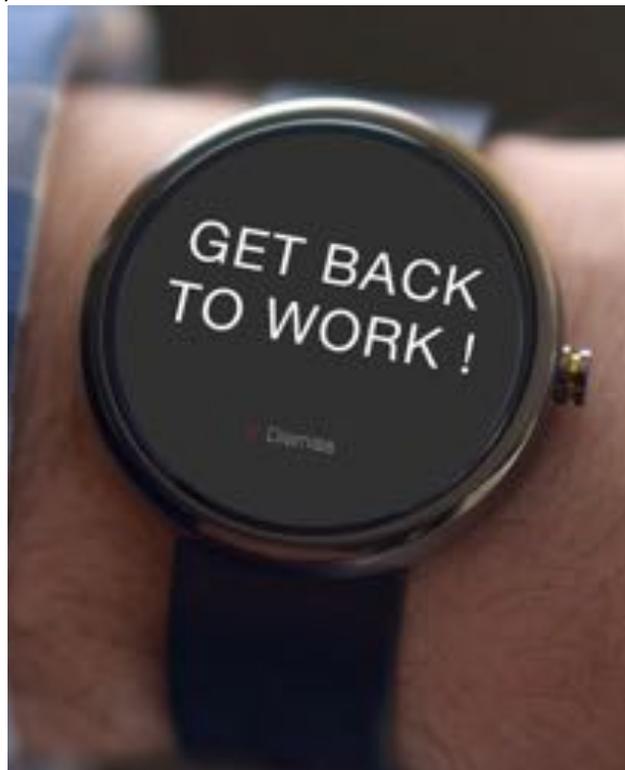
8.) When the student is taking a break, the watch will record the break on the rim as a white line.

9.) Turn off work mode by click the "DT" logo (or the watch button on the right) then the toggle button.
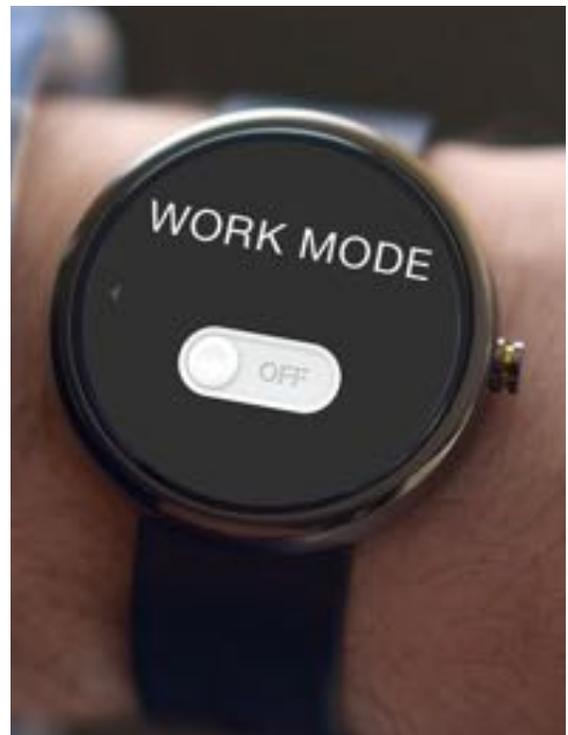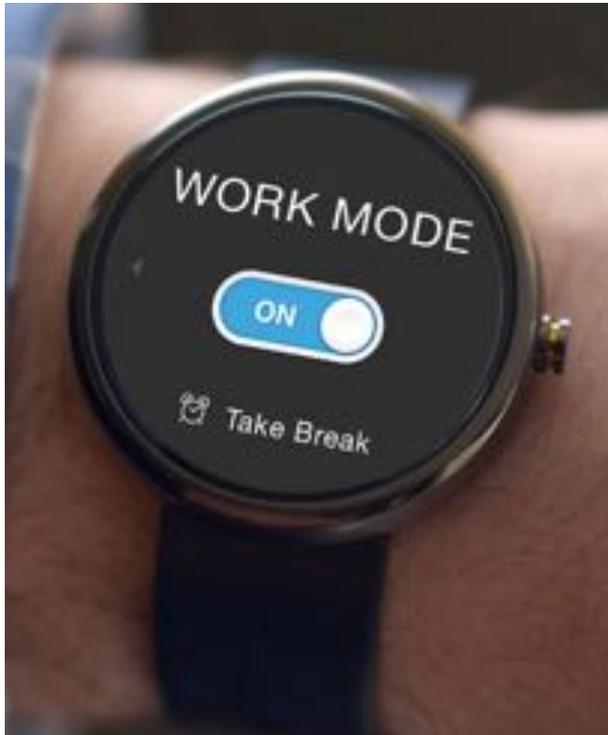
Watch Mockup Changes

We made a few changes to our watch in response to critique and as we converted our paper prototype into a digital mockup. Several of the changes were for consistency in color and icons between the desktop and the watch.

A few specific changes we made are below:

We also changed the visualization of the "break" rim because the previous one was too small and inconsistent with the other progress bars (productive and unproductive bars):

Last but not least, we changed the logos of the Newsfeed Blocker and Facebook blocker because the last icons seemed to indicate that the user had disabled the work mode tools themselves! It is a tiny distinction between the left (previous) and the right (current) images, but the left one has the red circle outside the white icon while the right one has the circle inside the main icon. This change is to tell the users that the red circle is actually a part of the application's icon.
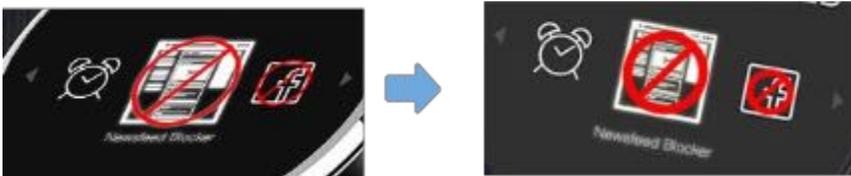
Discussion

The process of refining our design, or "getting the design right", has been a fruitful, albeit challenging, one for our group. We've come a long way with our design by going through four or five iterations of our prototypes. Most of those iterations were targeted at the desktop side of our application, but the watch has seen improvements as well. More iterations would definitely have been useful for us. We are still figuring out effective ways to work as a team, and could definitely have benefited from improving our testing process and running more tests.

Our design iterations have completely shaped our final mockups. Comparing our first paper prototype to our final digital mockups will show that we've made many interface changes but are still designing with the same themes in mind. Our initial prototype was rife with usability errors, the most severe of which related to the work mode's perceived function and how the computer and watch related to each other. The feedback we got through our tests and first in-class critique allowed us to discover these usability errors and target them in our second iteration. In the last class critique, we received additional suggestions and made a final iteration, but didn't get a chance to usability test this one. If we had more time to run additional tests, we would have been able to validate the changes we made in this iteration, which would have been very useful.

The watch interface of our design would also have benefited from more iterations. Designing two systems in parallel is difficult and time consuming. Digital watches are a metaphorical new frontier in digital interface design, and we had the possibility of being really creative with our watch. We unfortunately ran into limits with our time. We ended up sticking to tried and true interface patterns that you would typically see on a phone, rather than deeply exploring the limits, and possibilities, of a digital watch interface. Additional prototype iterations would have been very useful for that type of exploration.

While additional iterations would clearly have been good for our design, they would also have induced improvements for our design process and team dynamic. Our first usability test uncovered a handful of flaws in our process that we recognized, but recognizing errors in a process and acting on them are different matters. We failed to apply some of our improvements because of insufficient practice. More time to iterate would have given us more practice at running the tests themselves, which could have lead to even better feedback. The process of rapid iteration is a new practice for the majority of our team, and we often fell into the trap of over analyzing at each step instead of trying a number of ideas and rapidly iterating. More design iterations would have given us more experience learning this new process, which could have made us more effective at making more updates in the future.

Finally, it's interesting to note that there are little bits and pieces of each iteration in our final mockup. The DisTrack status taskbar widget we had initially pursued in our very first sketches made its way into the final version as a larger, ever-present in-application status element. The popup for recommended tools that was initially removed in favor of a split-screen at the bottom of the page was resurrected to reduce page clutter. So while the last iteration implemented the most sweeping changes, earlier decisions remain enshrined in our final design, showing our design's cumulative progress that is greater than the sum of its parts.

Appendix

Usability Testing - Scenario descriptions

Scenario 1 (Task of reflecting on digital & non-digital behavior in a study session)

You have been using *DisTrack* to record your study sessions since last Sunday. Use *DisTrack* to find out your biggest distraction on your second work session for that day. Find a strategy or tool you could use next time you study to be less distracted by that thing.

Scenario 2 (Task of engaging/maintaining a focused study session using focus-increasing tools)

You are about to start studying. Use *DisTrack* to enable some tools to use in your upcoming session, then start work mode. Try to remain focused while you study. When you are done studying, turn off work mode.

Usability Testing - Critical Incidents

Heuristic Evaluation

Incident 1:
Users should be able to ask breaks instantaneously
Violates user control & freedom (3th heuristic)
Severity 2

We add a button to allow users to take breaks manually.
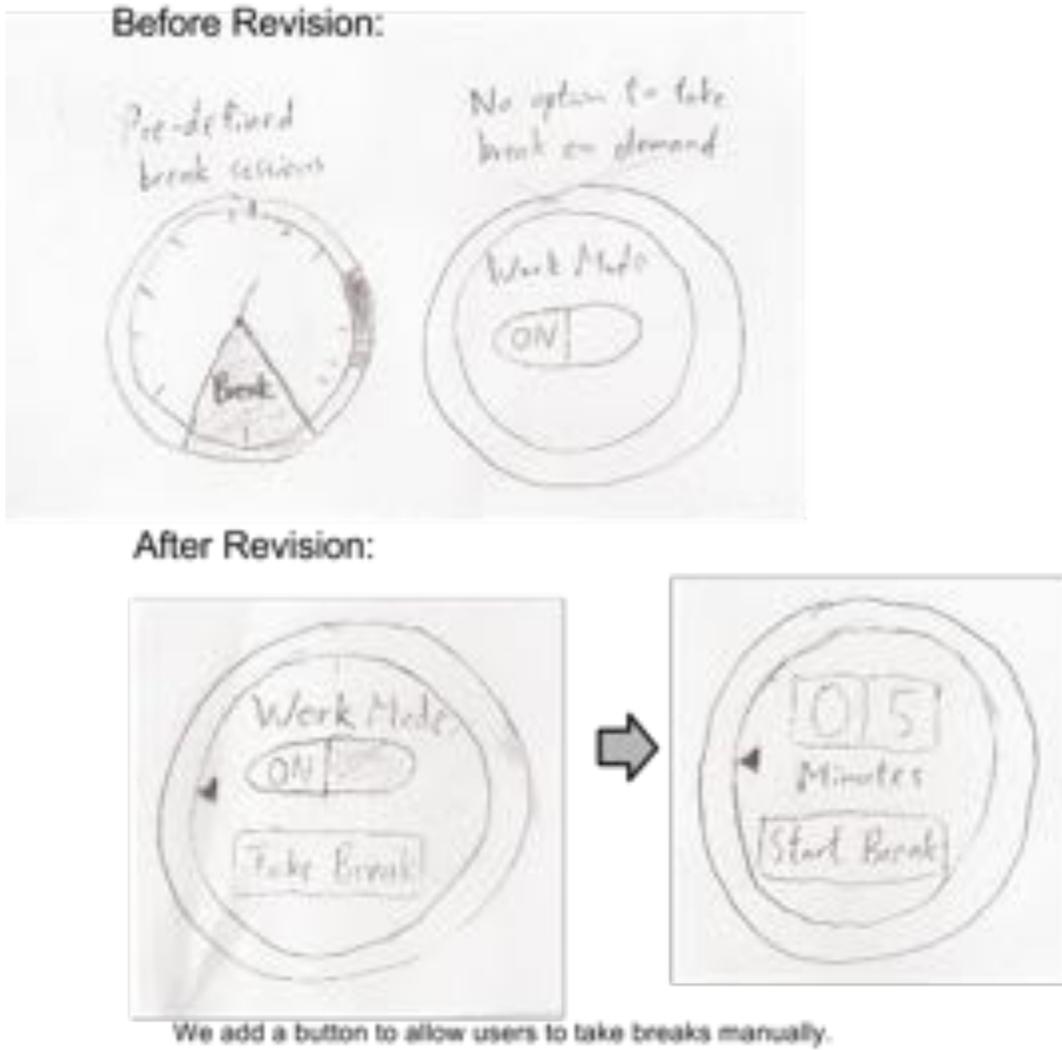
Incident 2: Correcting incorrect distraction classification
Violates error prevention (5th heuristic)
Severity: 3
Before revision: We did not have a button that let user to correct incorrect distraction classification.

After revision:

When user click on one of the bubble, a popup will be shown in which user can reclassify the activity as either non-productive or productive.
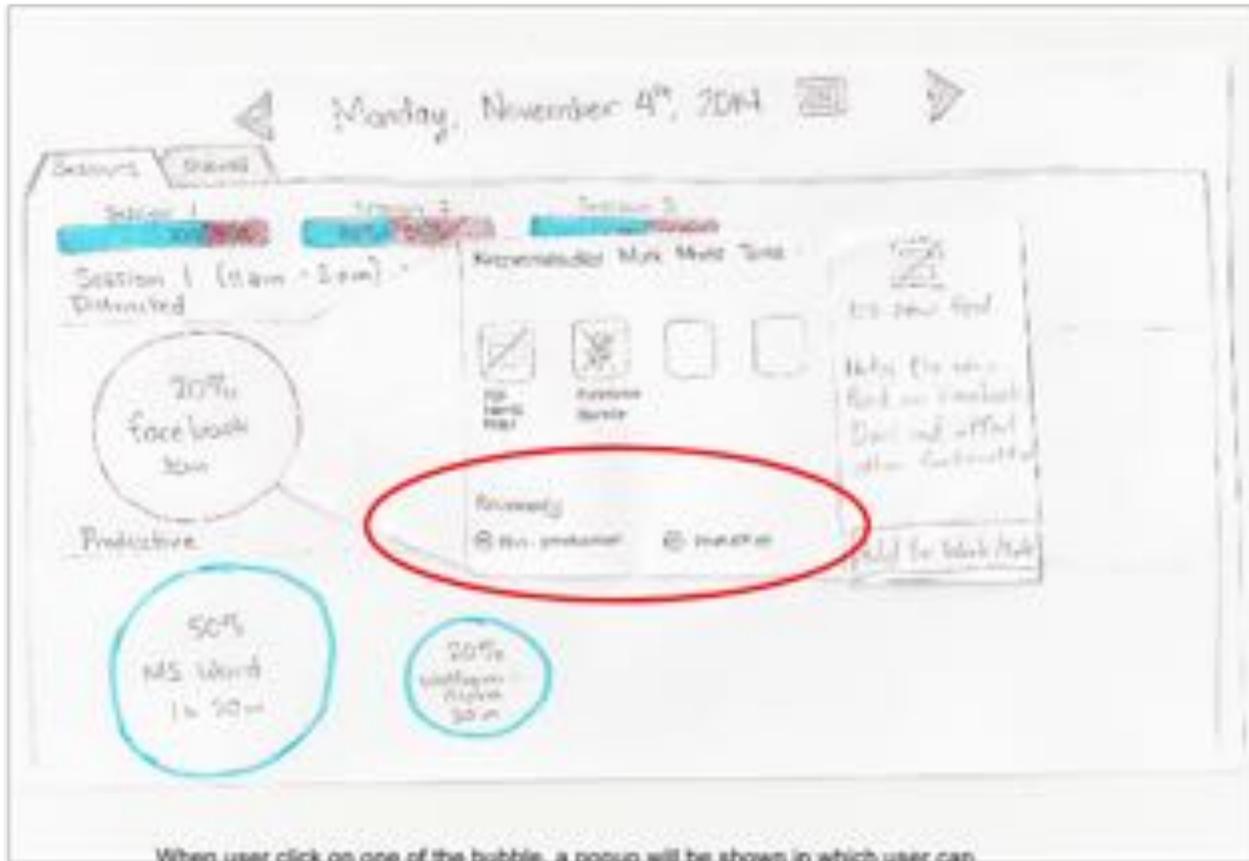
Incident 3: Many of the icons are not obviously clickable
Violates recognition rather than recall (6th heuristic)
Severity: 3
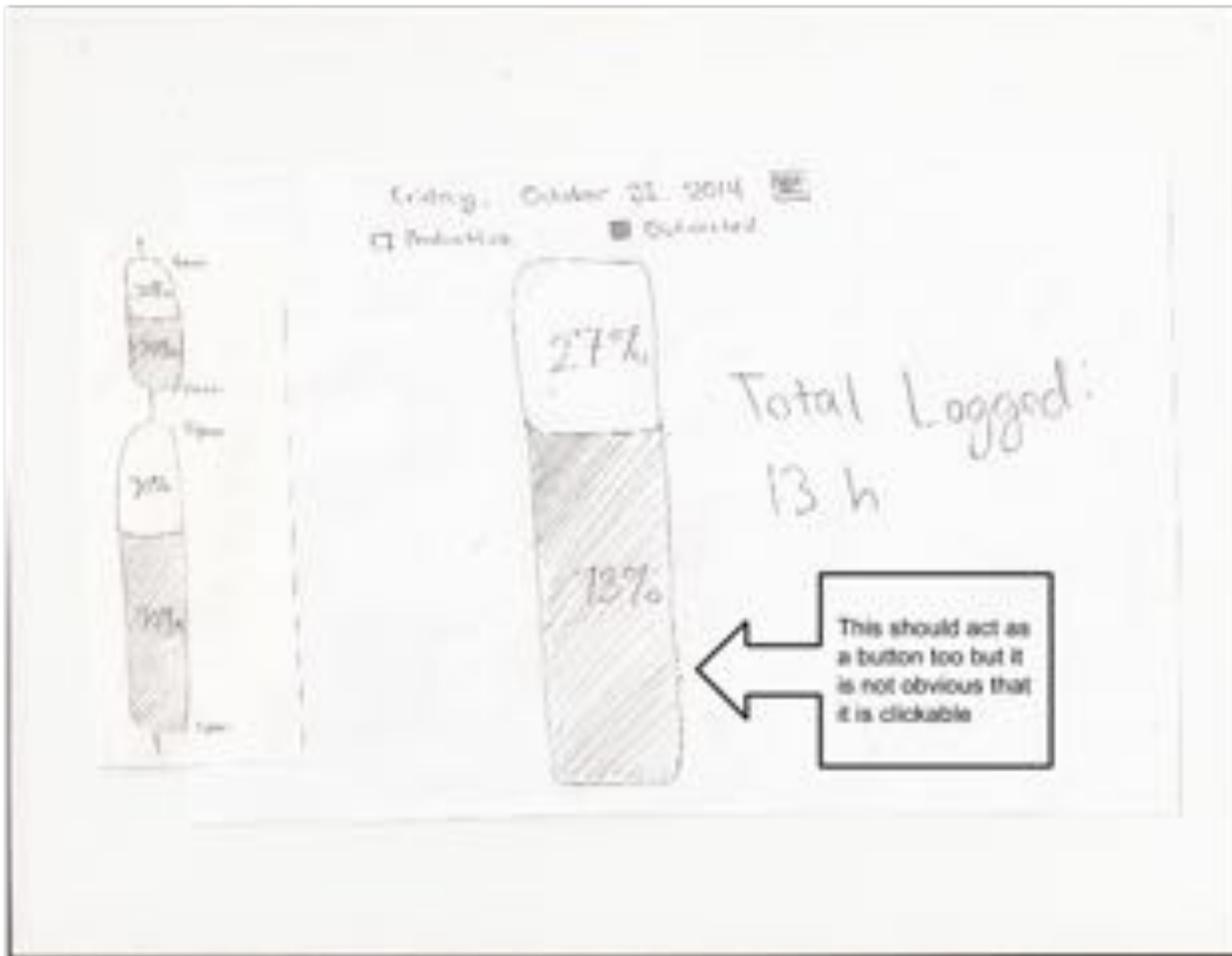
Before Revision:

Incident 4: +2 vs +5% for minor task displays in reflect mode for task details view
Violates consistency and standards (4th heuristic)
Severity: 0

Before Revision:
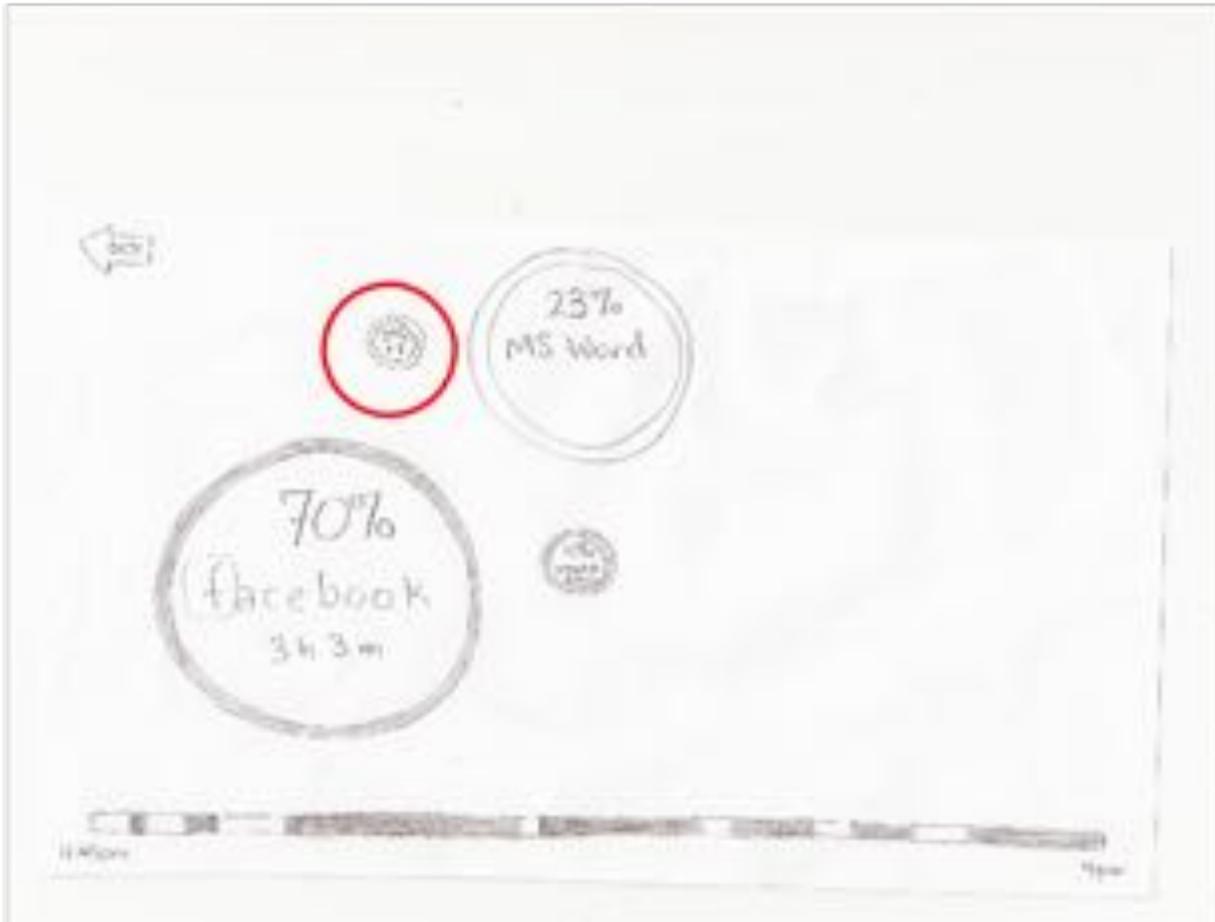
Incident 5:
Timeline views / data representations are inconsistent: the timeline for time spent per task does not match up with the bars showing different work sessions on the left.
Violates consistency and standards (4th heuristic)
Severity: 3

Before Revision

After Revision:

Incident 6:
Eliminating white spaces in desktop interface; Combining all contents from multiple windows to one.
Violates aesthetic and minimalist design (8th heuristic)
Severity: 2

Before revision:

Window 1   Window 2 (after the facebook is clicked)

After revision:
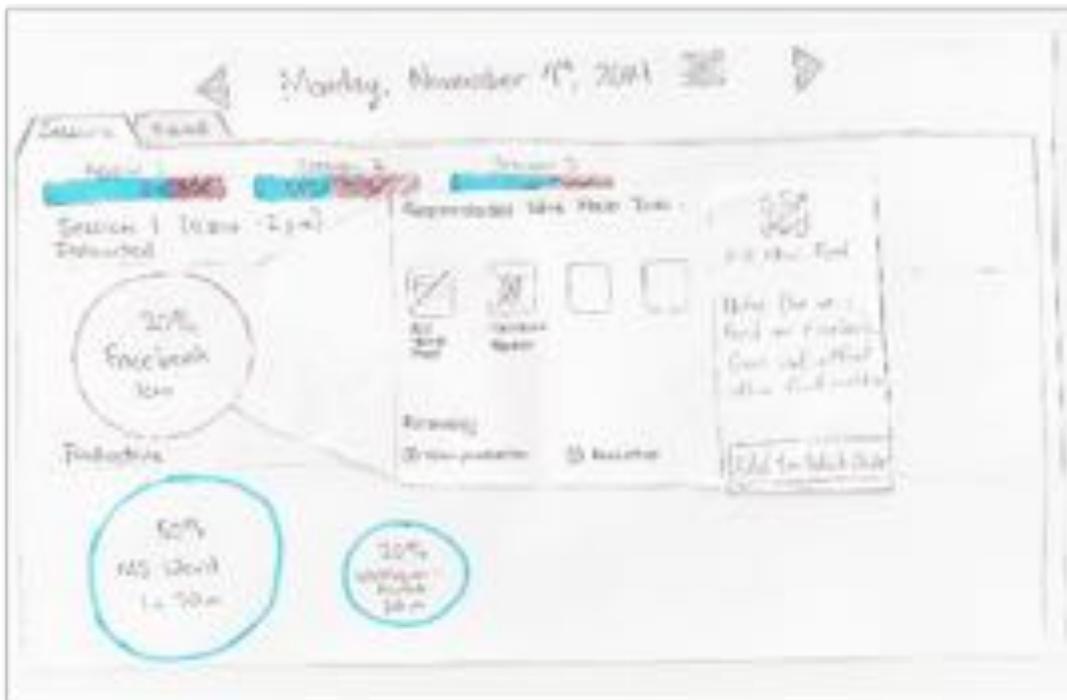
We combine multiple windows into a window with a popup: when the facebook bubble is clicked,
there will be a popup shown instead of another window.

Usability Test 1
Incident 1:
Unsure what the work session summaries were on the left of the reflection screen and if they related to the current day.
Severity: 2
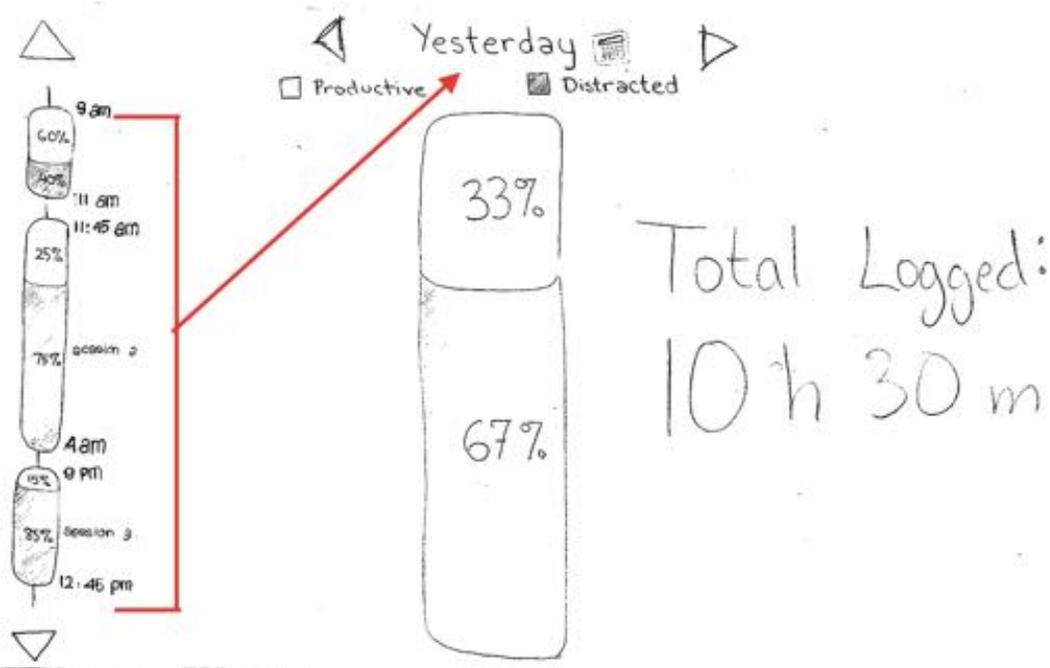
After revision:
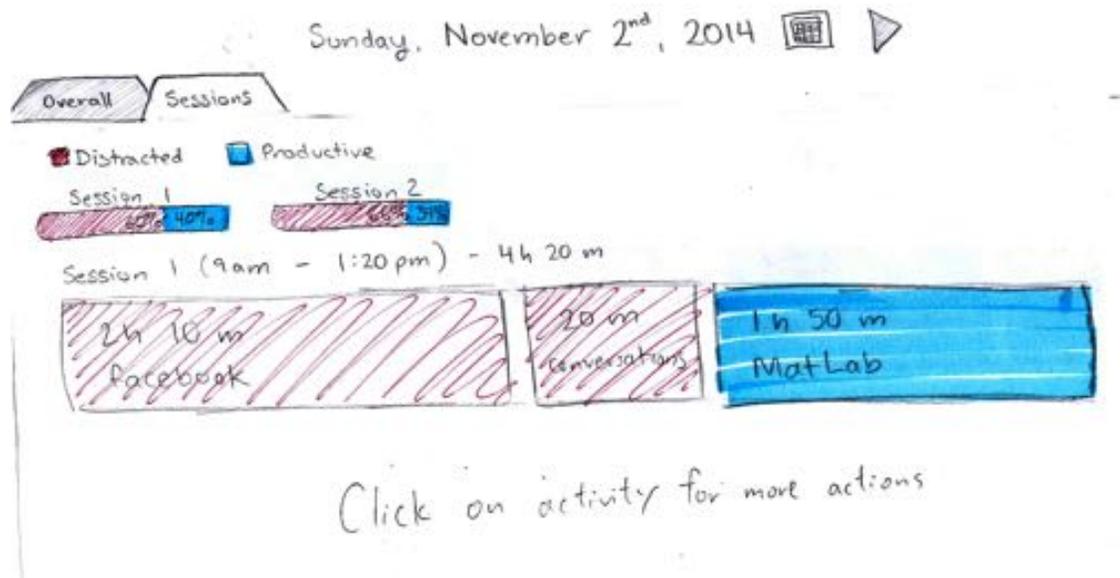
Incident 2:
He thought that the recommendations presented to reduce distraction by a specific task would apply immediately, not just to the next work mode. Severity: 2

Incident 3:
He did not understand what all of the tools did and thought when he clicked on them he would get more details, not activate the tool. Severity: 3

Before Revision:
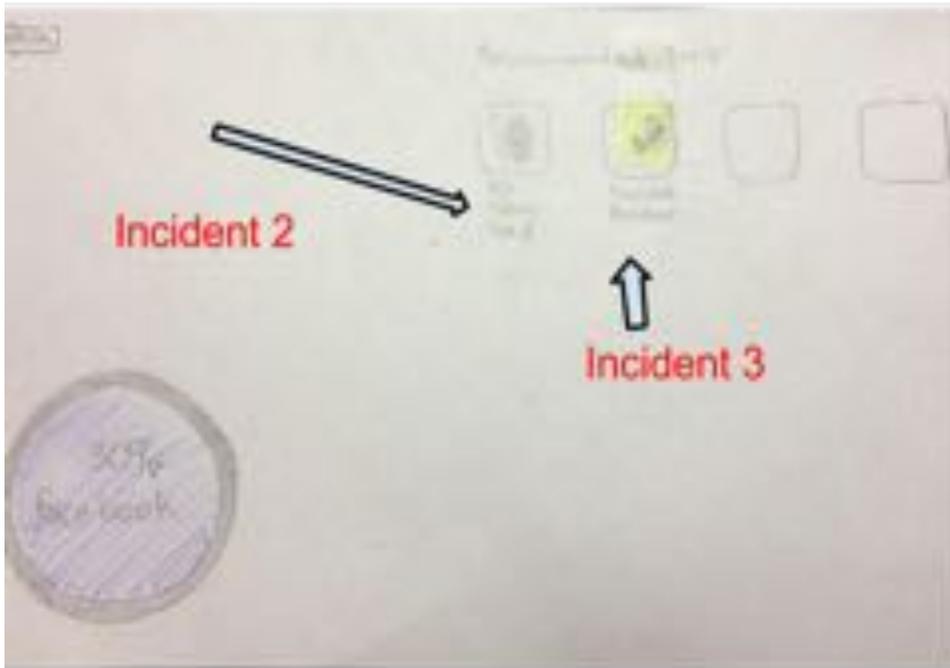
After Revision:

Incident 4:

He did not understand that the settings made on the computer would change his work mode on his watch. This means that our interface needs to more clearly show that the two systems are related. Severity: 4

Before revision:
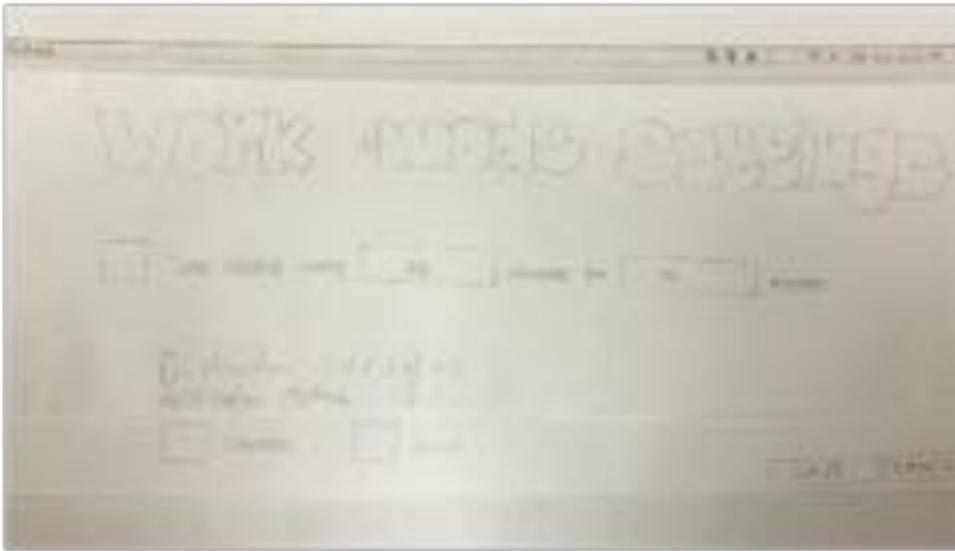

After revision (added icons to indicate device):
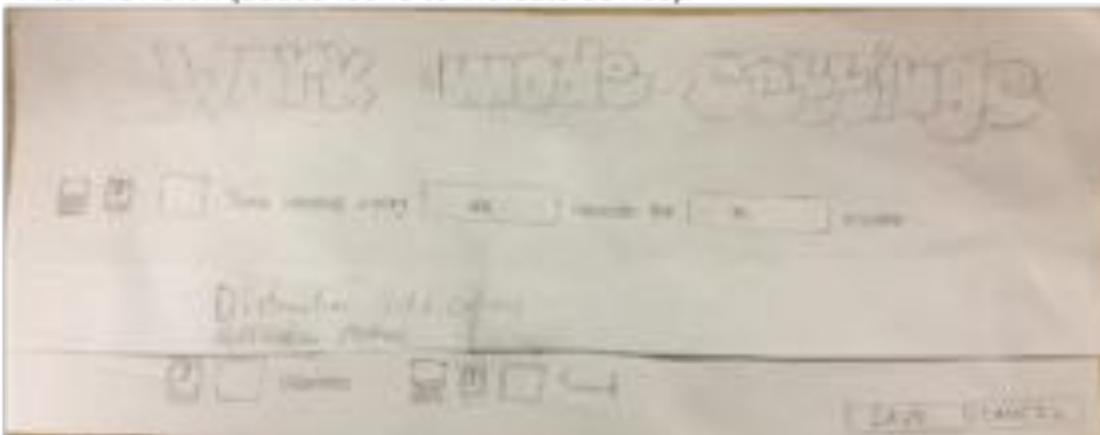
Our revision was to add icons that indicate which devices each tool is compatible with. Our intention with this revision was to show that the computer's settings would affect tools on the watch.

Usability Test 2
Incident 1:
During scenario 1: Lauren has added facebook blocker. When she clicked on the facebook blocker tile again, there is no remove button that allow Lauren to deselect facebook blocker from her set of work tools. Severity: 2

Before revision:
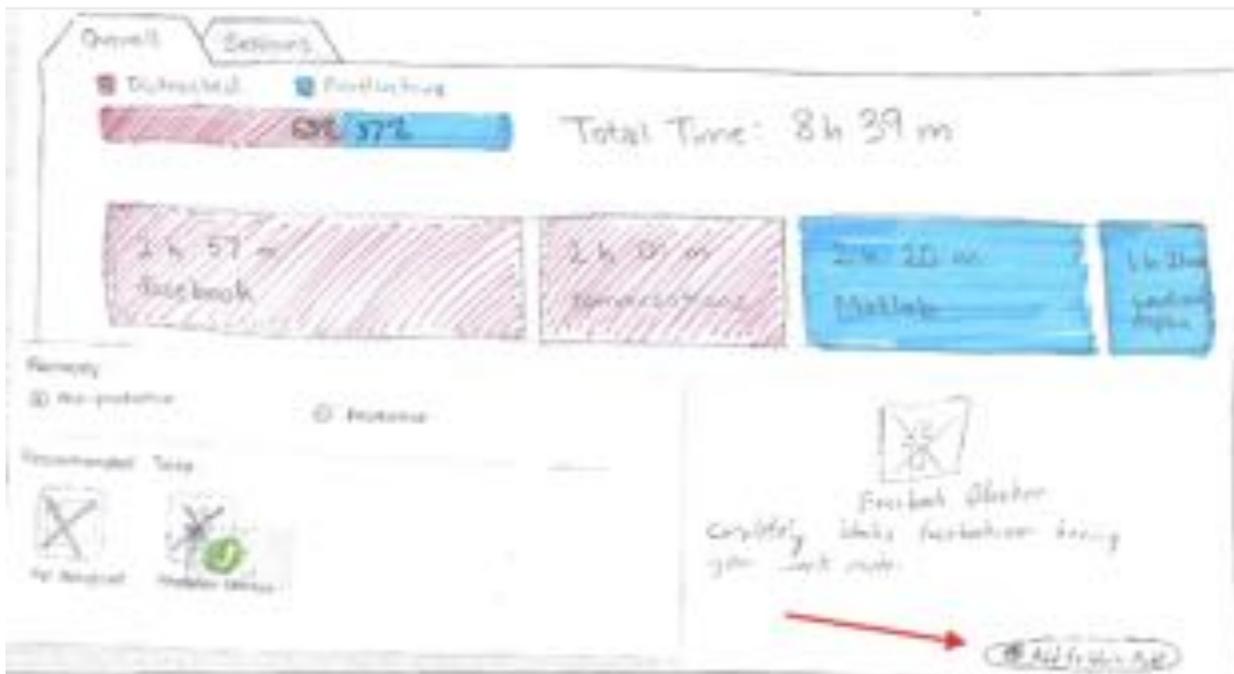
After revision:
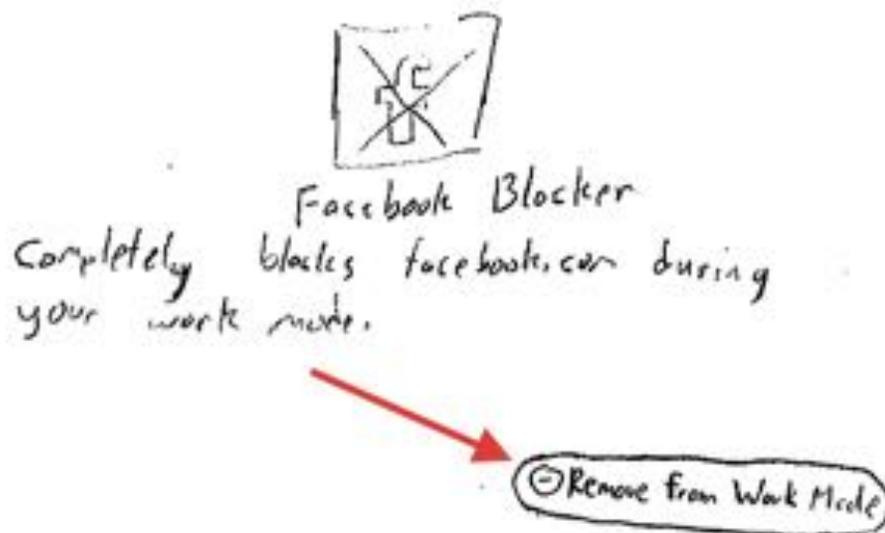
Our revision was to add a remove from work mode button for tools that had been previously added.

Incident 2:

During scenario 2: Lauren tried to engage the work mode twice from the watch before going to her computer to activate tools for it. She did not read the notification prompting her to add tools to her work mode the first time, and needed to see it twice before reading it.
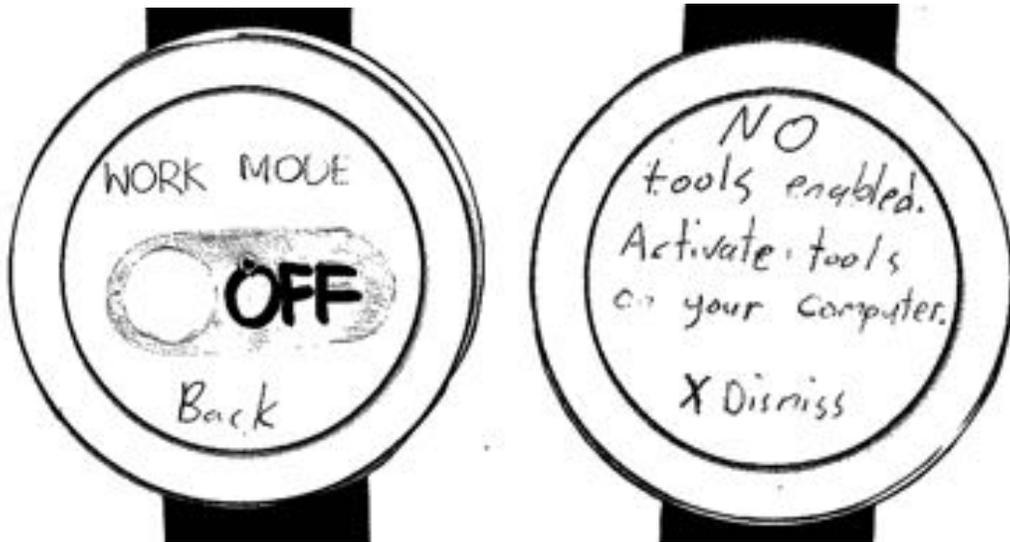

We decided that having a notification to enable tools was a poor design choice and removed this from our current design. If a user does not have any tools enabled, work mode simply starts tracking their productivity.

Incident 3:

During scenario 2: There were two issues with this incident. One was that she initially did not know how to use the watch to turn off her work mode, the second was that she got confused between our "quit" button in our main menu and our "stop work mode" button. After figuring out the differences between "stop" and "quit", she successfully stopped her work mode on the watch.

**Before revision:**   **After revision:**
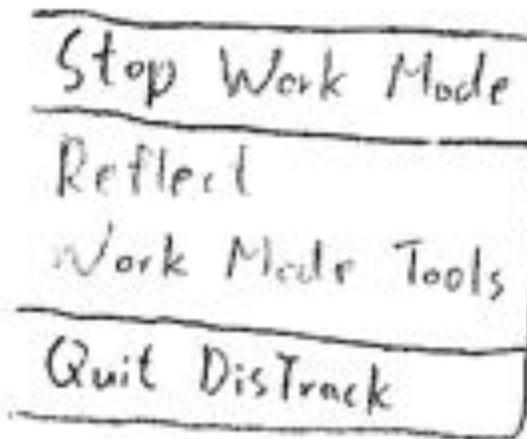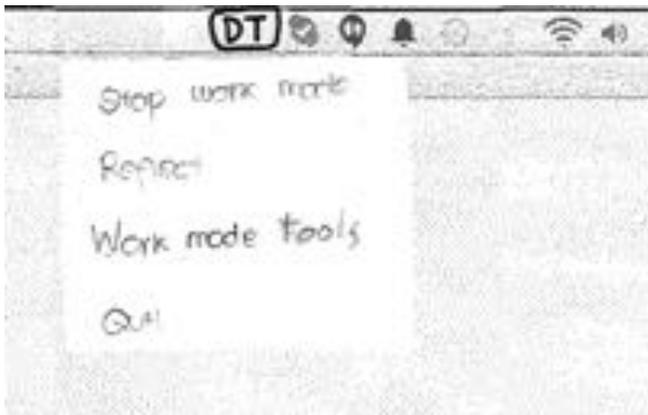
We addressed the confusion in the menu bar by following external consistency standards. There are divisions in the menu to separate the different meanings of the buttons there, and the quit button now has "Quit DisTrack" to signify that it is different from stopping a work mode

Usability Test 3
Incident 1 (positive):
Smoothly transitioned from desktop to Reflect mode to Sunday; correctly identified biggest distraction source that day (all without incident or extra explanation).
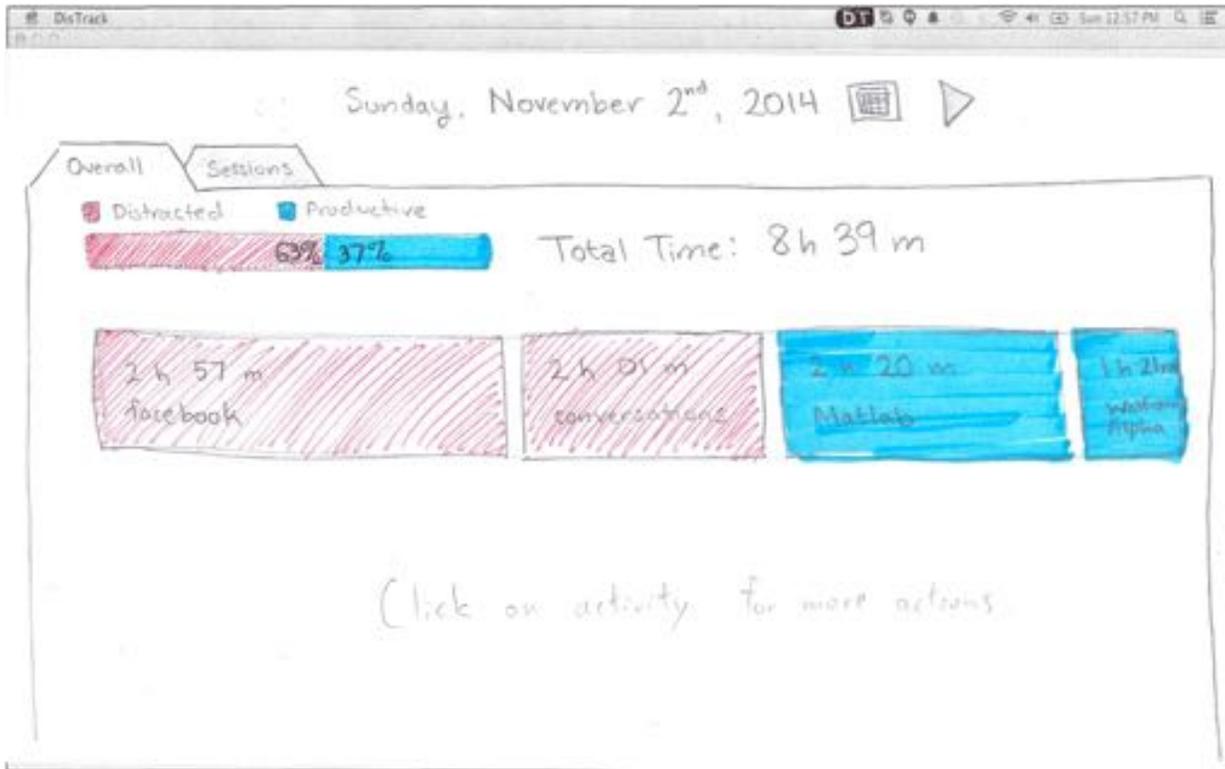
Incident 2:

During scenario 1, she was unsure of where to proceed when tasked with finding tools to help her avoid a specific distracting activity in the future: ultimately, unsure of whether the activities shown on the stacked bar chart were clickable. Severity: 4

Before revision:
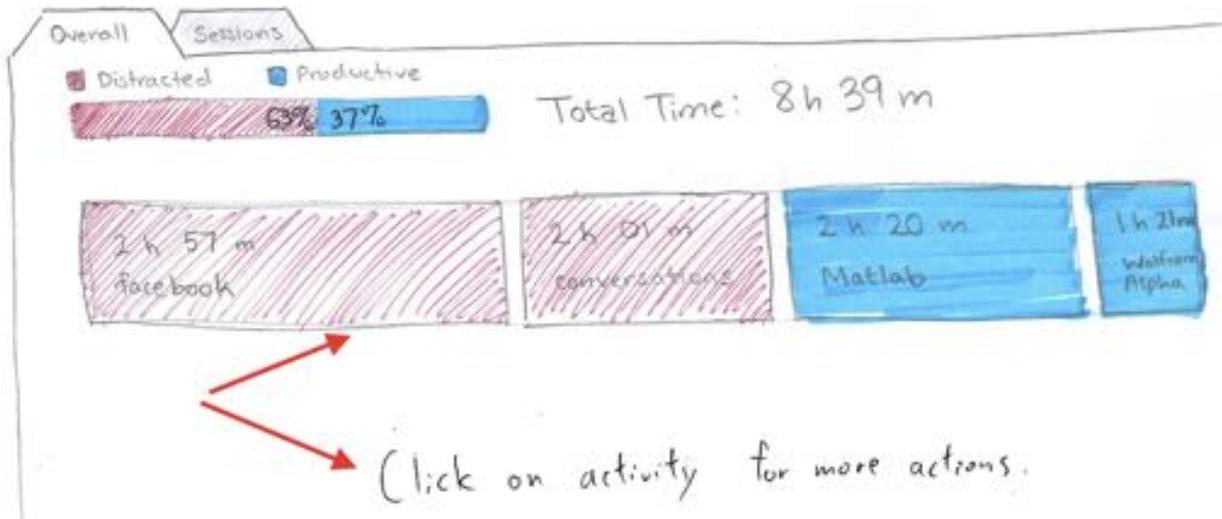
After revision:
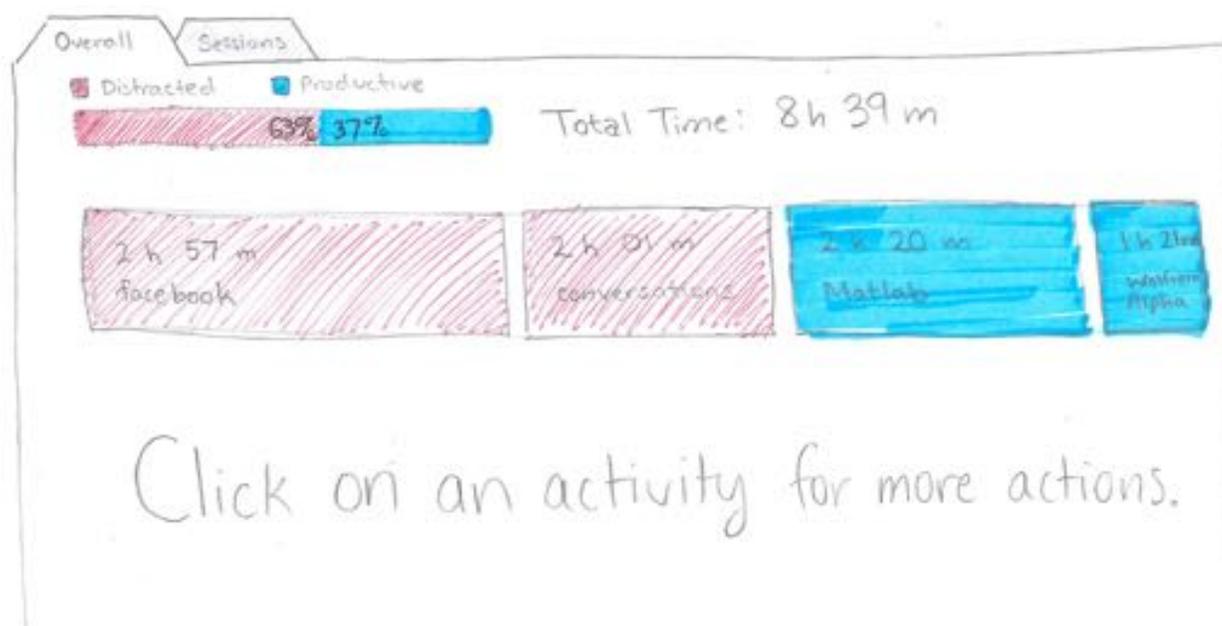
We made the text bigger to make it more clear that activities are clickable. We also think that in a digital setting their clickability will be more clear because of highlights triggered by mouseovers.

Incident 3:

During scenario 2: Clicked "dismiss" on the "no tools activated" screen without going to her computer; was taken aback when it returned her to the "OFF" toggle on the watch. Severity: 1

**Revision:** See incident 2 in Usability Test 2

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Incident 4:
During scenario 2: On "Work Mode Tools" screen, she initially thought the tiles were already in work mode. She didn't click on the tiles despite the reminder text on the right side because she thought these were already enabled in work mode.
Severity: 4
Before revision:


After revision (very salient):
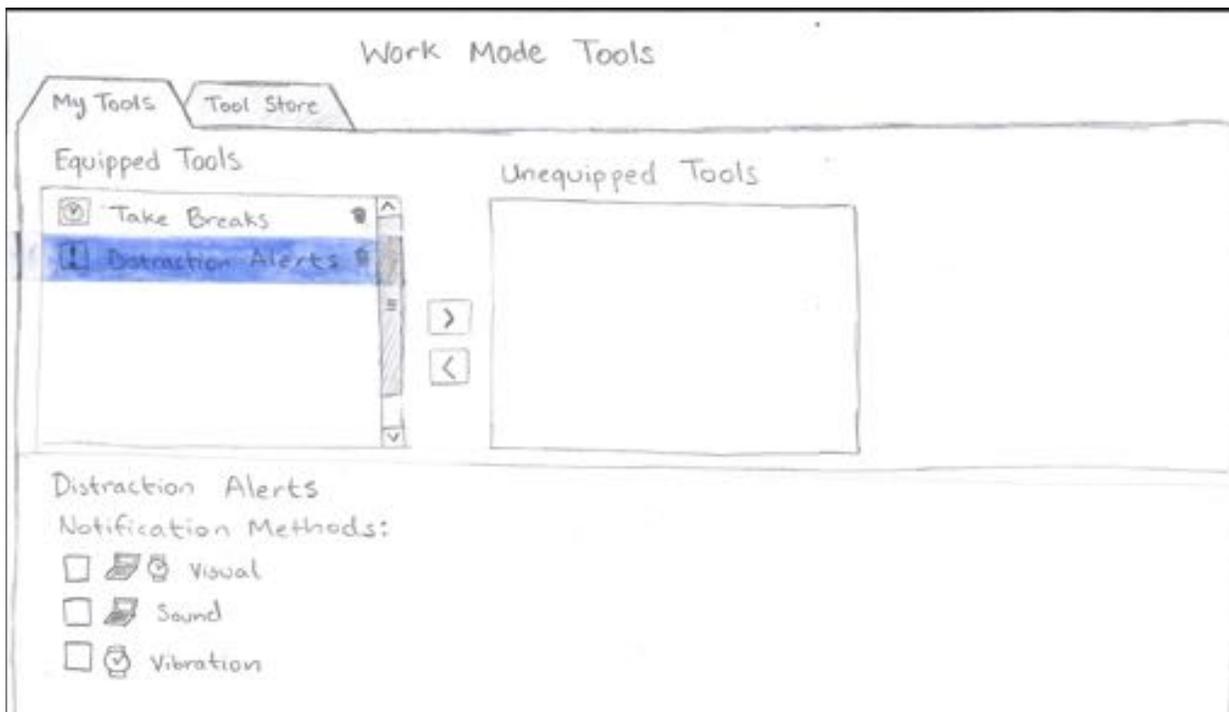
We restructured our UI to more clearly show which tools you have "equipped" vs "unequipped" into your work mode tools. We think this will help clear up the confusion with which tools are "enabled" vs "not enabled" which is more related to whether work mode is on. This is a very important update because we need it to be clear that work mode and work tools are different concepts.

Incident 5:
During scenario 2: After enabling "Take Breaks" work mode tool from the desktop, she thought she had successfully turned on work mode. Had to explain that work mode was still off. Severity: 3

Before revision:
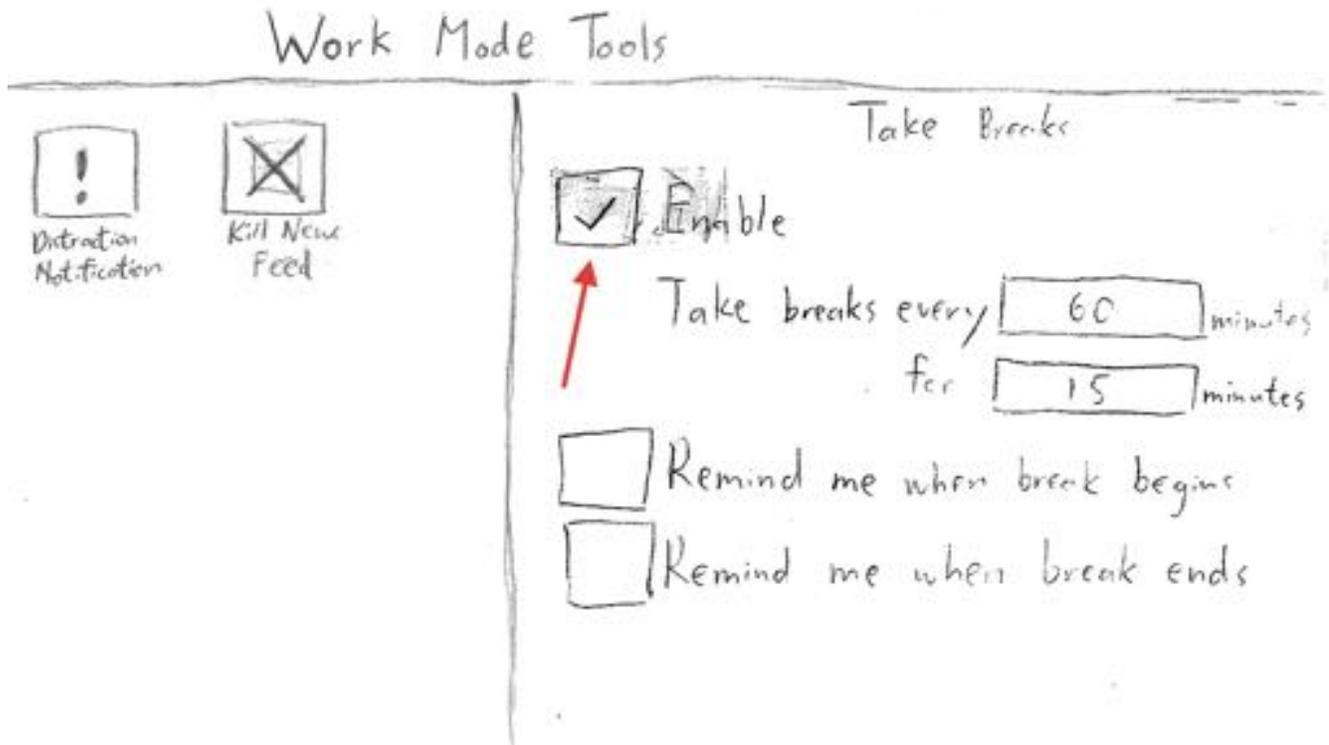
Incident 6:
During scenario 2: When done studying, she thought she should disable the "Take Breaks" tool on the computer in order to end work mode. Needed to be prompted to "turn off work mode" before she actually turned off work mode. Severity: 4

After Revision (for 5 & 6) (very salient):
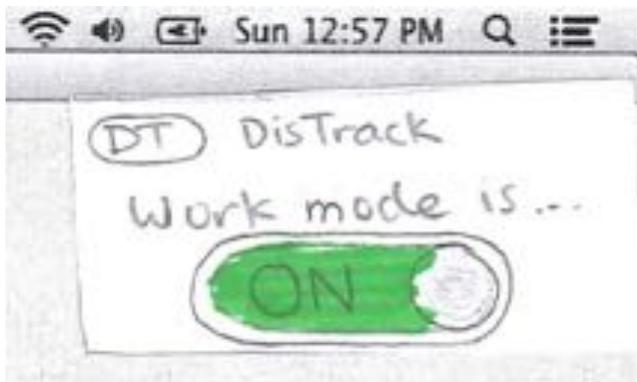
This revision addresses incident 5 and 6. We think these were related to a misunderstanding of the distinction between tools being used in work mode, and work mode itself being on. We added a persistent display that shows if work mode is on or off that exists on every page of the desktop. This is very important because users have been consistently confused about if their work mode was on while they use the application.