**Maintenance Application Design Critique**

**The Simplifiers**

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This document is a summary of the critique of another group’s new website to assist in the task of booking a travel experience. Contained in this document is a set of design artifacts that detail the user experience and user interface when interacting with our website. Most importantly, we have created the wireframes that will eventually connect to form the final, polished design of our website. The following is an outline of the contents of this summary document:

1. **Executive Summary**
2. **Introduction**
3. **UARs**
4. **Final Conclusion**
5. **Reflection**

**Executive Summary**

This summary is a brief condensation of the results of my thoughts on Team 9’s mobile apartment/business maintenance reporting wireframe user interface. The report contains nine Usability Aspect Reports (UARs), with each UAR denoting a different violation of (or adherence to) one of Nielsen’s heuristics. The idea behind these UARs was to highlight the main issues with the wireframe – if there were any – and to allow the author team to make adjustments to their design as necessary.

In general, issues that were found with the system were minimal, and those that were sound were often small in scale, except for a few. These reported issues ranged from whitespace issues to general UI continuity errors, and only one would, in my opinion were major enough to warrant a complete overhaul of a tab. This report also includes a brief conclusion to summarize the problems, and a reflection to share my thoughts on the report and project as a whole.

**Introduction**

This interface is a mobile application that members of an apartment complex (as well as workers and managers present there) use to request maintenance jobs for their apartment as well as check for updates and notifications on their job status. If one creates their account as a user, they have access to a list of their in-progress and completed requests, as well as detailed information of said requests when tapped on. They can also view the maintenance phone number, read the message log of their current and past maintenance requests, send messages to the maintenance worker assigned to the job, and view notifications of updates on said requests. They can also edit their account settings, app settings, and sign out from their account in a side menu.

If one creates their account as a maintenance worker, the user has access to a list of all the current work orders available for that day, a list of the jobs they have accepted, a camera for the ability to scan in new work orders, and a menu to read their direct messages with customers in a similar fashion to that of the user accounts. If one creates their account as a supervisor, they will have the same view as the maintenance worker, minus the ability to see accepted jobs.

There should not be any technical jargon needed to understand the UARs, outside of “Work Orders” being tasks for the maintenance workers to complete. Otherwise, I think the wireframe is pretty clear cut and simple in terms of terminology, and I tried to avoid using this terminology whenever possible.

**UARs**

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| No. **\_\_\_-tyler Ki Tyler Kidd- 01\_\_\_** | **Problem/Good Aspect** Problem |
| **Name:**  Header Borders | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The borders underneath headers only appear under the “Maintenace Form” header (There is one under “Messages” but not in the same position or color)  **Heuristic:** Consistency and standards | |
| **Explanation:**  The heuristic is violated because the design of the header is not equal across all tabs. | |
| **Severity or Benefit:**  **Rating:** 1  1 – cosmetic problem (does not matter too much)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* Moderate  *Impact:* Low  *Persistence:* High  *How I weighted the factors:* This problem is fairly frequent, as pretty much every header has a tab. This would affect ever user of the app, as they would use the large majority of these tabs fairly often.  Regardless of how presistent or frequent this problem shows up, however, the fact remains that this is a simple cosmetic issue than can be fixed very easily. | |
| **Possible solution and/or trade-offs:**  A possible solution would be to either add header lines to all tabs where they are missing or remove the lines from the tabs they are present in. | |
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| No. \_\_\_-Tyler KIdd Tyler Kidd - 02\_\_\_ | Problem/Good Aspect Problem |
| **Name:**  “List of Jobs” Clutter | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The “List of Jobs” tab for the Maintenance Worker is very cluttered and tough to read.  **Heuristic:** Aesthetics and minimalist design | |
| **Explanation:**  The heuristic is violated because there is barely any whitespace in between windows or text. The text is cluttered and blends together, so the user will have to search through a lot of information to read what they need to use. | |
| **Severity or Benefit:**  **Rating:** 3  3 – major problem (a problem that should definitely be solved with high priority)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* High  *Impact:* Moderate  *Persistence:* High  *How I weighted the factors:* This problem is common, as it is the list of open jobs accessed by all maintenance workers that use the app. The problem could affect new and casual users the most, as experienced users likely know where the info they need to look for is, and how to access it. This problem is moderately difficult to overcome for the user to overcome, as it makes them waste time so that they can see what they need to do for their job.This problem occurs in arguably the most vital tab a maintenance worker uses: the tab telling them their orders for work. Therefore, it is frequent, persistent, and could have a potentially high impact on the speed and efficiency at which the worker does their job. | |
| **Possible solution and/or trade-offs:**  A possible solution would be to implement an interface similar to that of the user’s “notifications” tab, with only the most necessary info displayed (job name, client, location and status). This shows only the necessary information as well as adding much needed whitespace (and also prevents text from overlapping like it does here). | |
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| No. Tyler Kidd - 03\_\_\_-TTtttt\_\_\_ | Problem/Good Aspect Problem |
| **Name:**  “Messages” has no differentiation between New and Old Messages, unlike “Notifications” | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The Notifications tab and Messages tab, which share information and general formatting, are displayed differently  **Heuristic:** Consistency and standards | |
| **Explanation:**  The heuristic is violated because the two tabs, both of which relate to each other, are not presented in the same fashion. | |
| **Severity or Benefit:**  **Rating:** 2  2 – minor problem (would be nice to solve, but not a high priority)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* High  *Impact:* Low  *Persistence:* High  *How I weighted the factors*: This problem is common, as both Residents and Maintenance Workers with be viewing both menus, Residents specifically. As such, this will probably impact new and casual users the most. Although the persistence is low, and overall impact is low, the unnecessary confusion and general lack of consistency it causes would be good to be avoided. Given these are two important tabs a large majority of the userbase will use these two tabs, I would argue it is more than a cosmetic problem, but still is not a high priority issue). | |
| **Possible solution and/or trade-offs:**  A possible solution would be to make the UI more consistent (ex. Adding filters to messages, hiding the Settings Gear until a message is long pressed, add the ability to select and delete notifications, make the specific job the Notification is referring to clearer using methods from Messages, etc.) | |
| **Relationships:**  Tyler Kidd - 07 | |

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| No. Tyler Kidd - 04\_\_\_-TyT T\_\_\_ | Problem/Good Aspect Good Aspect |
| **Name:**  Interaction back buttons on every tab | |
| **Evidence:**  **A close up of a logo  Description automatically generated**  **Interface aspect:** Every tab has a return button in the interface  **Heuristic:** User control and freedom | |
| **Explanation:**  The heuristic is met because the user is allowed to escape from any action they take (other than actions on the main menu, with a simple press of the top left button in the interface. | |
| **Severity or Benefit:**  **Rating:** NA  NA – good aspect  **Justification (Frequency, Impact, Persistence):**  *Frequency:* High  *Impact:* Moderate  *Persistence:* High  *How I weighted the factors:* This aspect is beneficial to the user because it gives them freedom to interact with the interface however they see fit and back out of any tabs they no longer want to use. This way, users are not forced into any actions they do not want to do by the interface. | |
| **Possible solution and/or trade-offs:**  N/A | |
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| No. \_\_\_-Tyler Kidd - 05 \_\_\_ | Problem/Good Aspect Problem |
| **Name:**  “Previous/Next” buttons on “Maintenance Form” tab and “Create Account” tab are different | |
| **Evidence:**  **A close up of a logo  Description automatically generatedA screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The “Previous/Next” buttons on “Maintenance Form” tab and “Create Account” tab are different.  **Heuristic:** Consistency and standards | |
| **Explanation:**  The heuristic is violated because the “previous/next” icons in the “Create Account” tab are grey buttons while the same icons in the “Maintenance form” tab are < chevroned icons with no border. | |
| **Severity or Benefit:**  **Rating:** 1  1 – cosmetic problem (does not matter too much)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* This problem has a hairy high frequency, as this will be encountered by every user creating an account, as well as the large resident requesting maintenance  *Impact:* This problem is very easy to overcome and likely does not leave a lasting impact beyond minor annoyance.  *Persistence:* This problem will persist throughout both menus and will likely annoy many users.  *How I weighted the factors:* Although the affected userbase and persistence is fairly high, at the end of the day this is a cosmetic change that does not affect the interface in any way outside of appearance | |
| **Possible solution and/or trade-offs:**  A possible solution would be to implement the menu interface that “Maintenance Form” uses into “Create account, as it is cleaner and gives the user a better sense of progress. | |
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| No. **Tyler Kidd - 06\_\_\_- Ty=\_\_\_** | **Problem/Good Aspect** Problem |
| **Name:**  Inconsitencies between Resident and Maintenance Worker homepage layout | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The layouts between The Resident home page and Maintenance Worker home page are different.  **Heuristic:** Consistency and standards | |
| **Explanation:**  The heuristic is violated because the two interfaces do not match. It is important to keep things consistent across the application, and the two interfaces are different even though they are providing basically the same function to the user. | |
| **Severity or Benefit:**  **Rating:** 2  2 – minor problem (would be nice to solve, but not a high priority)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* High  *Impact:* Low  *Persistence:* High  *How I weighted the factors:* This problem is fairly common, as it is the first home page users will see both after creating an account and when starting the app after an accoutbn has been created. Although the overlap in potential customers affected is likely low, workers could also be residents in another apartment complex, or a Supervisor/Worker could be asked by a Resident on how to use the application effectively, and be lost because the layout is completely different. Although the potential overlap in userbase is small, this problem is very persistent and carries with it a lot of frequent issues and unnceessary complexities that could plage a user. It is a fairly simple fix as well, especially in this prototyping stage. | |
| **Possible solution and/or trade-offs:**  A possible solution would be to have the Resident layout similar to that of the Maintenance worker layout. It is very unlikely the user will have a large number of maintenance requests open at one time, so there is a lot of whitespoace being wasted where the tabs currently hidden in the side menu could go. My suggestion would be to make the request viewing a button, layout the notifications and messages tab similar to the layout of Maintenace Worker, and then keep Settings and Sign Out in the side tab. This gives the Residents a much simpler interface, which is arguably necessary as they will be both the most unfarmilar with mobile interfaces and the largest userbase using the app. | |
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| No. Tyler Kidd - 07\_\_\_-Tyler K\_\_\_ | Problem/Good Aspect Problem |
| **Name:**  Inconsitencies between Maintenance Worker messaging layout and Resident layout | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generatedA screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The layouts between The Resident messages page and Maintenance Worker messages page are different.  **Heuristic:** Consistency and standards, Recognition rather than recall | |
| **Explanation:**  These heuristics are violated because the two interfaces do not match and the maintenance worker is forced to recall the names of the user rather than the job title/ID itself. It is important to keep things consistent across the application, and the two interfaces are different even though they are providing basically the same function to the user. | |
| **Severity or Benefit:**  **Rating:** 3  3 – major problem (a problem that should definitely be solved with high priority)  *Frequency:* This problem is fairly common, as it imessaging is avital function of the app so that the Resident and Maintenance Worker can communicate with each other. Although the overlap in potential customers affected is likely low, workers could also be residents in another apartment complex, or a Supervisor/Worker could be asked by a Resident on how to use the application effectively, and be lost because the layout is completely different.  *Impact:* It is not super easy to overcome, as expecting maintenance workers to rememeber customer names instead of job names/locations is difficult. As it stands, the maintenance worker has no way to tell what job this user belongs to outside of their name and their chat history.  *Persistence:* This problem is very persistent as it cannot be avoided or fixed by the user, and is encountered every time they open the app.  *How I weighted the factors:* Although the potential overlap in userbase is small, this problem is very persistent and carries with it a lot of frequent issues and unnceessary complexities that could plauge a user. It is a fairly simple fix as well, especially in this prototyping stage. However, while this issue is nowhere near as vital to fix as UAR 07 is, it is a problem that is beyond cosmetics. | |
| **Possible solution and/or trade-offs:**  A possible solution would be to edit the Maintenance Worker interface to give more information on what Job/Work order this customer name is attached to, by including the ID, name of job, apartment #, etc.) | |
| **Relationships:**  Tyler Kidd - 03 | |

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| No. Tyler Kidd - 08\_\_\_-T\_\_\_ | Problem/Good Aspect Problem |
| **Name:**  Cogs in “Messages” tab | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generated**  **Interface aspect:** The cog/gear icon in the “Messages” tab  **Heuristic:** Consistency and Standards | |
| **Explanation:**  This heuristic is violated because the cog icon is usually associated with a menu to change the settings of a tab/application, while this cog simply opens up a submenu for the user to select and delete messages. | |
| **Severity or Benefit:**  **Rating:** 2  2 – minor problem (would be nice to solve, but not a high priority)  **Justification (Frequency, Impact, Persistence):**  *Frequency:* Moderate  *Impact:* Low  *Persistence:* High  *How I weighted the factors:* This issue appears every time the user opens up one of the tabs they will likely be using the most on this application. While it may have a low overall impact, the user will likely click this option instinctually fairly often, expecting to see messaging settings but instead being graced with a submenu for unrelated options. | |
| **Possible solution and/or trade-offs:**  A possible solution would be for the settings tab to be replaced with a more fitting icon, like the A close up of a logo  Description automatically generatedicon used by many applications today. This is a farmiliar icon that users likely know means a submenu. | |
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| No. Tyler Kidd - 09\_\_\_-T\_\_\_ | Problem/Good Aspect Good Aspect |
| **Name:**  Colored Circles on “Messages” Tab | |
| **Evidence:**  **A screenshot of a cell phone  Description automatically generated**  **Interface aspect:** Red, Yellow, and Green Colored circles on the “Messages” tab  **Heuristic:** Match between system and the real world | |
| **Explanation:**  This heuristic is adhered to because the red, yellow and green circles on the side of each chat window in the “Messages” tab. Obviously, these colors relate to a stoplight, an object that most users see daily, so it is clear and easy to understand what the circles mean in relation to the maintenance requests (Complete, Paused, and In Progress respectively). | |
| **Severity or Benefit:**  **Rating:** N/A  **Justification (Frequency, Impact, Persistence):**  *Frequency:* High  *Impact:* Medium  *Persistence:* High  *How I weighted the factors:* The large majority of users will be using this tab to view their messages. A feature like this makes the status of your job/request quick and clear to understand. It provides a quick and necessary bite of information that can be expanded upon by clicking the chat window or browsing to the Notifications Tab. | |
| **Possible solution and/or trade-offs:**  N/A | |
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**Final Conclusion**

The problems that I found were largely cosmetic and consistency related, with a pretty big focus on making UI consistent across all users of the application, including Residents and Users of all proficiencies. These ranged from the small (such as “Previous” and “Next” UI buttons not matching, header borders missing from most tabs) to the larger issues (entire parts of the application that provide similar information looking different). There were also issues regarding minimalism and whitespace, where certain tabs had no whitespace where they desperately needed some. There were also minor issues regarding recognition rather than recall, where users would have to remember the name of someone they are texting at all times rather than their job title.

As far as potential solutions go, they largely revolved around changing the inconsistent parts of the interface to match with the rest of the interface. I offered my opinion on which designs I though looked better, but in the end that is all up to the group to decide. I also recommended options on what data to hide/how many items to show in the case of the whitespace problem, as well as what information to provide to the user instead in the case of the recognition rather than recall problem.

**Reflection**

I found a total of 7 problems when assessing these wireframes. I’m sure I didn’t find all the problems that were in the wireframes, but to be honest I struggled to find 7 major issues, and thought I was getting nitpicky with some of the problems I reported (this will be discussed later). This entire process took me about 5-6 hours in total, with distractions not being a factor.

Honestly, I feel like Nielsen’s Heuristics are a good starting point for finding usability problems, but they should not be a major tool or an “end-all be-all” process for finding issues. What I mean by that is I think they are a good guideline if someone is struggling to find issues/things to praise off of the top of their head. Maybe it was because of my thinking, but I found plenty of issues that I would have loved to report on, like the interface in the “Create Account” tabs being much to small for anyone to reasonably be able to use on a mobile device, or the redundancies of having the red/yellow/green light in the “Messages” tab, but also saying “In Progress/Paused/Complete” right next to it, but I felt like these didn’t fit into any of the categories provided for these heuristics, so I didn’t report them. Making these reports not tied to the heuristics specifically, instead taking on a more casual peer review format, may help future studentys have more issues to report.

However, the UARs are a pretty good template for getting the problems across in a clear manner for the designers, as well as casual users reading it. If there was anything to change about the template, I would either get rid of the “Explanation” section, or merge it into the “Interface Aspect” section. Between those two sections and the title, I felt like I was reiterating the problem/good aspect I was reporting on three times over, which felt very redundant. Other than that and the aforementioned issue with the heuristics, I had no major problems with the template.

Overall I would improve the process by sort of relaxing on the constraints when it comes to the heuristics. The biggest issue I had(and why I felt it took so long), was simply because I had barely any issues to report that met the heuristics. Keeping the UAR diagrams but adapting a more relaxed, peer review format would make the assignment much smoother.