Survey Report

Alex Heilgeist

Goals and Context

The survey I designed was aimed at getting a larger sample size of respondents for usability testing of the XMCweb system than a simple interview would typically allow for. I was mainly focused on what features XMCweb users found helpful and beneficial, and what problems users had with the application. Additionally, gauging the interest of the users in seeing a mobile version of XMCweb is a useful side benefit. Knowing where users place the most value in an app allows for me to decide which features of a mobile application are most essential. Hard, statistical data provided by something such as a survey allows for data driven adjustment of priorities, and provides very concrete avanues of change for the application

Past research I have conducted has been the conduction of an Observational study and an interview of a Boeing manager. The observational study was beneficial in determining an inventory of features that XMCweb contained, and what features appeared to work effectively. Features such as informational redundancy, clarity of information, and useful reporting tools were my primary findings. My interview procided more detailed results in these areas. The interview was able to highlight specific areas that were unintuitive or ineffective for users, such as confusing date selection mechanics or neglectable result number selection boxes. I found that many beneficial features already existed in XMC software, thus a mobile version of the application could easily be similar to the desktop application.

Plan

Participants in my study were individuals who often used XMCweb, selected through their contact with ROY-G-BIV. While this selection of people does not tend to represent multiple populations, they all use XMCweb and were thus chosen. Inside of this criteria, the selected participants were from different departments, and had different levels in the hierarchy of their companies. The survey was voluntary response, thus I receives relatively few responses, and some responses were incomplete. This is an unfortunate reality of voluntary surveys, but as many subjects are busy people, it is likely as good as we can get.

My questions are as follows.

General Usability Questions

Question 1 was an open ended question. The question asked “Describe how you use XMCweb in your typical business routine.” This question was designed to get a sense of how the subject used XMCweb, and to get an idea of the sorts of interactions they have with the software. Two people using the software may use different parts of the application, so this data is valuable.

Question 2 asks about the difference of ease for their job pre and post XMC web. This question is a standard satisfaction question, asking if XMCweb had improved their experience. If the answer is no, there are serious issues. Having the question on a linear scale allows for degrees of subtlety. If most people report their job as just as easy as before, than XMC provides no benefit. If they report their job as slightly easier, then XMC may not be beneficial enough to be worth the investment, for example.

Question 3 pertains to ease of learning the software. Even if XMCweb makes a job easier, if it is difficult to pick up then users may resist learning the software. Software that is not learned becomes software not used. If our goal is to make easy to use software, but users are reporting differently, that would be somewhere to look at.

Specific Feature Questions

Question 4, "Which XMCweb features do you typically use?" is designed to get a specific count of what parts of the application the user uses. The data is also useful for determining the most popular features. If a feature is barely used, it may not be worth porting to a mobile application.

Question 5 specifically asks users what features they would like to see in a mobile application. I included this question to determine the difference between usage of features and desired usage of features. If a user wants a feature in the mobile application, yet the feature has low usage, it could indicate an essential feature that is just rarely used.

Question 6 asks "How much labeling or explanation of XMCweb features would you find most useful?." I noticed in the observational study and interview that proper labeling of features of XMCweb may be underutilized. I wished to test this theory through the survey question.

Question 7 proposes many possible design changes, and asks the users to rank how useful certain changes may be. This approach is an effective way to quickly week out changes that users do not find appealing, and to avoid investing time and energy into their development.

Question 8 is a final catch-all question, asking the respondent if they had any additional comments. If a user had a complaint of suggestion I neglected to add into the survey, here is the place to make that comment.

General Demographic Questions

Question 9 asks the respondent what job position they have in their company. This question provides data as to how different types of users use XMCweb differently.

Question 10 asks the gender of the respondent. This question is designed to see if usage varies between genders.

Question 11 asks the age of the respondent. Different aged individuals may have different relationships with computers, changing how they work with XMCweb.

Question 12 asks how long the respondent has been in their industry. This question gauges how stuck in their ways a respondent may be, as many times people do not like to change procedures.

Question 13 asks how long the respondent had been in their current position. This question is similar to question 12, but is more specific to the procedures of a specific job title.

Question 14 asks how long the respondent has been using XMCweb. A user using the software for a long time may be more positive towards the software, or may have more useful complaints of suggestions due to being familiar with the software.

Question 15 asks how often the respondent uses XMCweb. In conjunction with question 14, the question helps gauge how much experience a user has with XMCweb

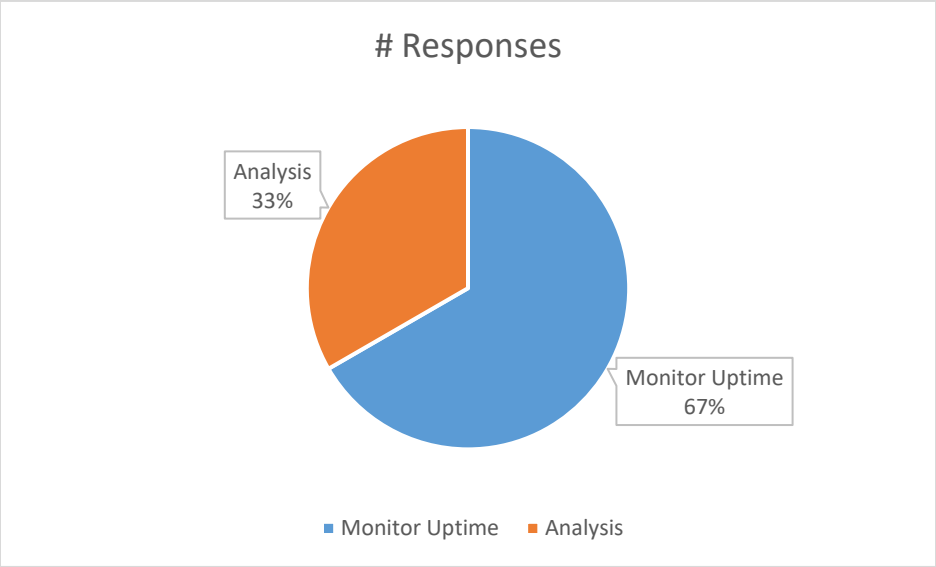
Results

Results were gathered from 6 respondents

General usability Questions

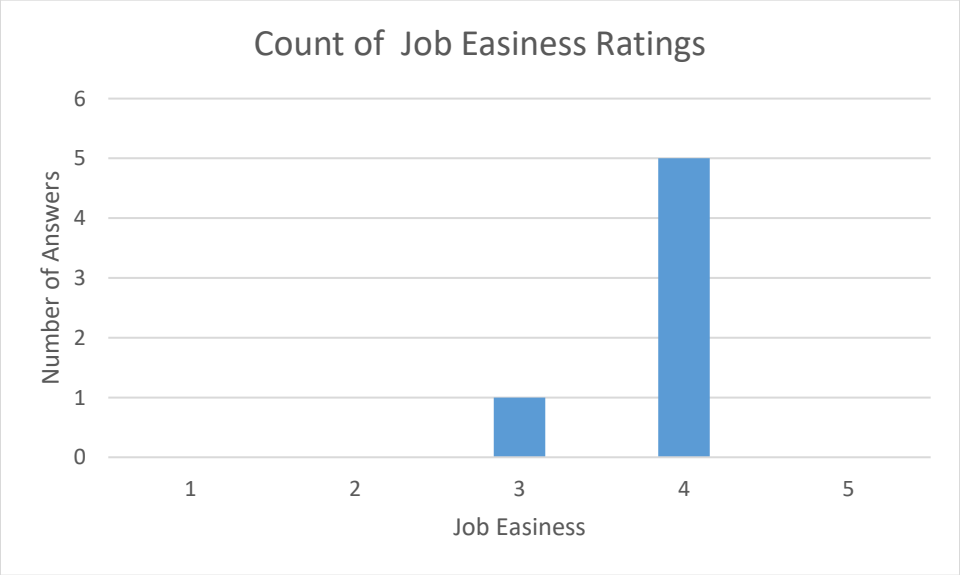
Describe how you use XMCweb in your typical business routine

67% of respondents mentioned using XMCweb for monitoring machine uptime. 33% mentioned using the software for production analysis.



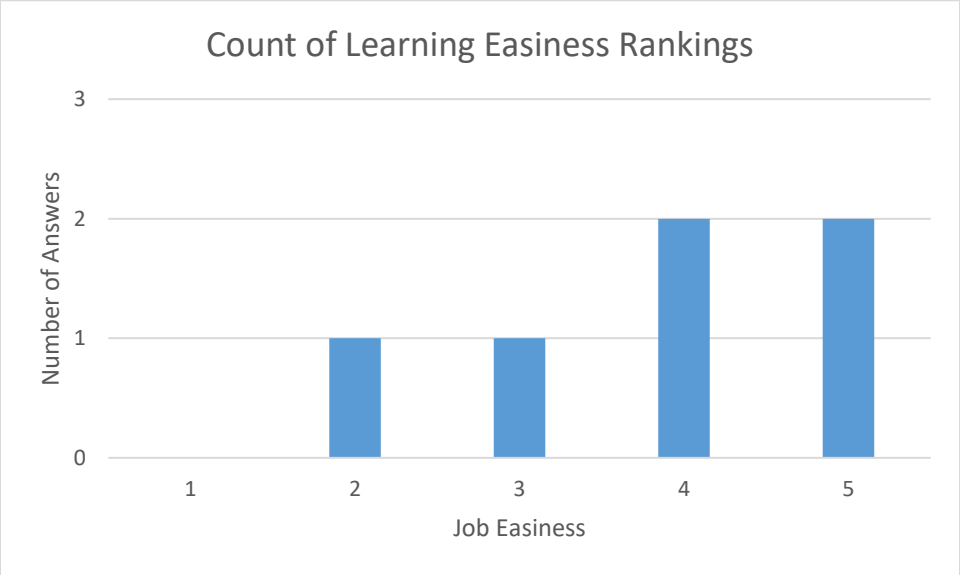
How much easier is doing your job now, than before you used XMCweb?

Four individuals said that their job was slightly easier than before XMCweb. One individual said their job was the same difficulty. On average, XMC made jobs 27% easier than previously



How easy is XMCweb to learn?

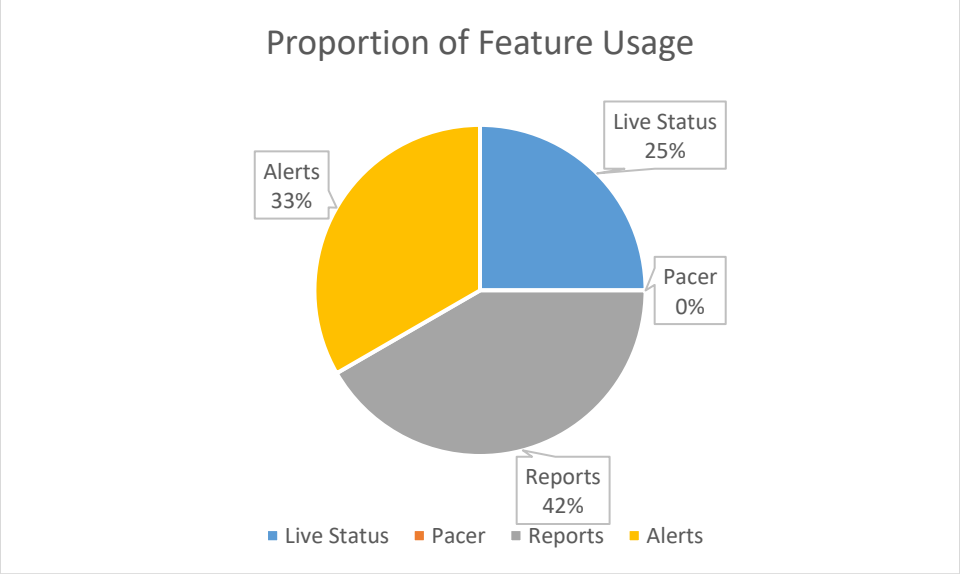
One individual reported that XMCweb is slightly difficult to learn. One reported an average easiness to learn. Two reported slightly easy to learn, and two very easy to learn. The average ranking was 3.8, indicating XMCweb tends to be slightly easy to learn.



Specific Features Questions

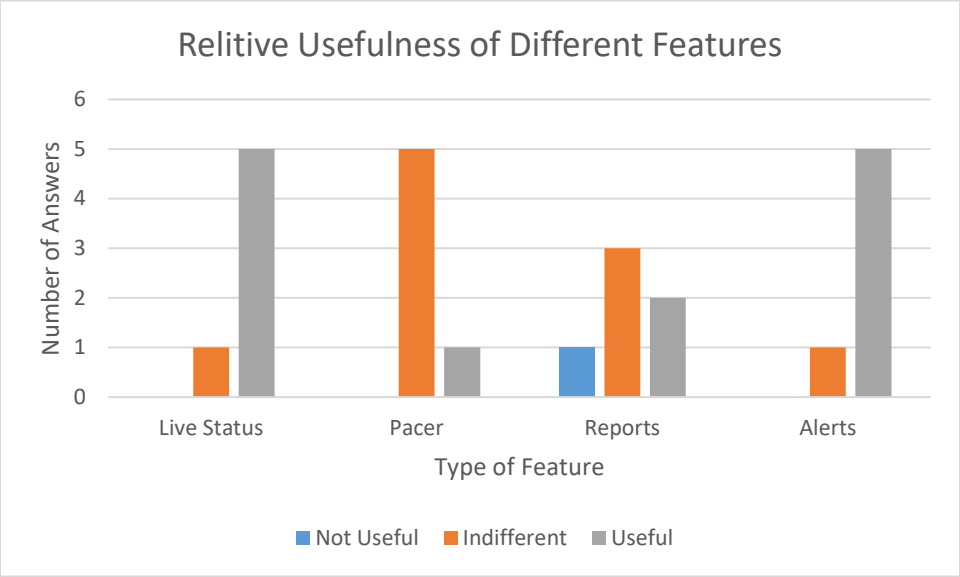
Which XMCweb features do you typically use?

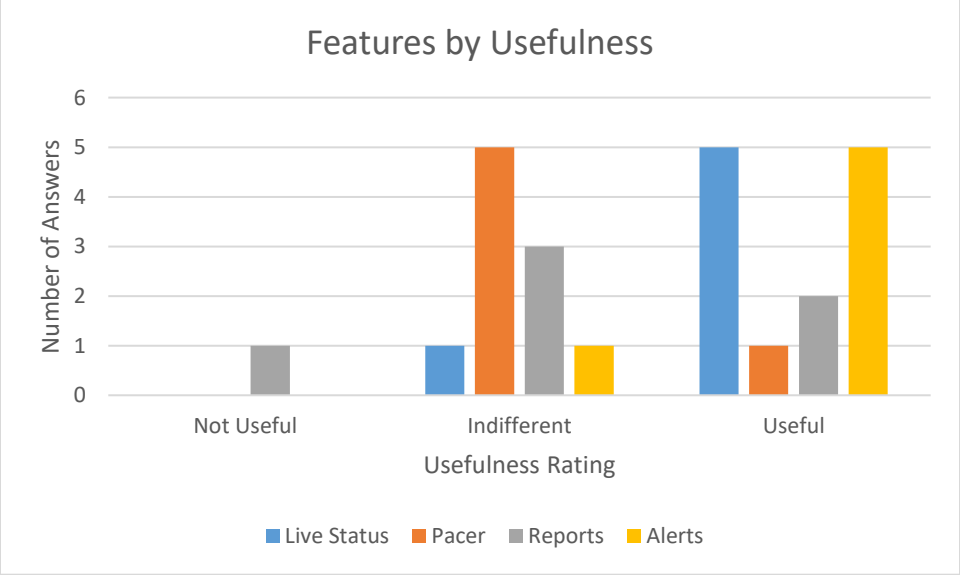
Three respondents, or 25% of users reported using Live Status. Five, or 42%, reported using Reports. Four, or 33%, reported using Alerts. No user reported using the Pacer.



Which XMCweb features would you find useful in a mobile application?

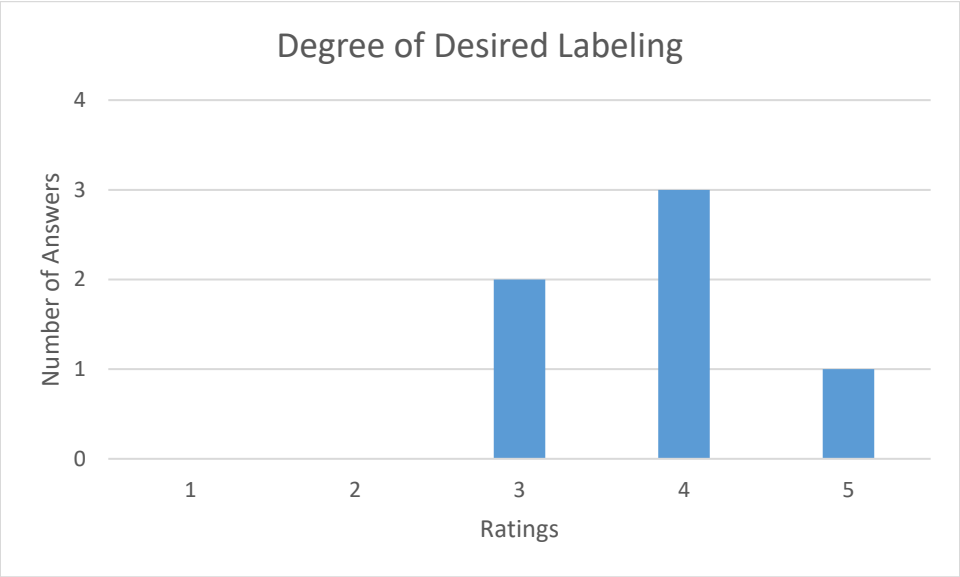
For Live Status, five users reported it as useful, one as indifferent. For Pacer, five users were indifferent, and one found it useful. For Reports, one user found the feature not useful, 3 users were indifferent, and two found it useful. For Alerts, one user was indifferent, and five found it useful. Thus, Live Status and Alerts were considered the most useful, while Pacer received the most indifference. The Reports feature received mixed reviews, but with a general lean towards negative.





How much labeling or explanation of XMCweb features would you find most useful?

Two respondents reported they would like moderate labeling. Three indicated decent labeling. One indicated extensive labeling. Overall, the average labeling score out of 5 was a 3.8, indicating most users prefer moderate to decent labeling. This indicates most users want increased labeling.

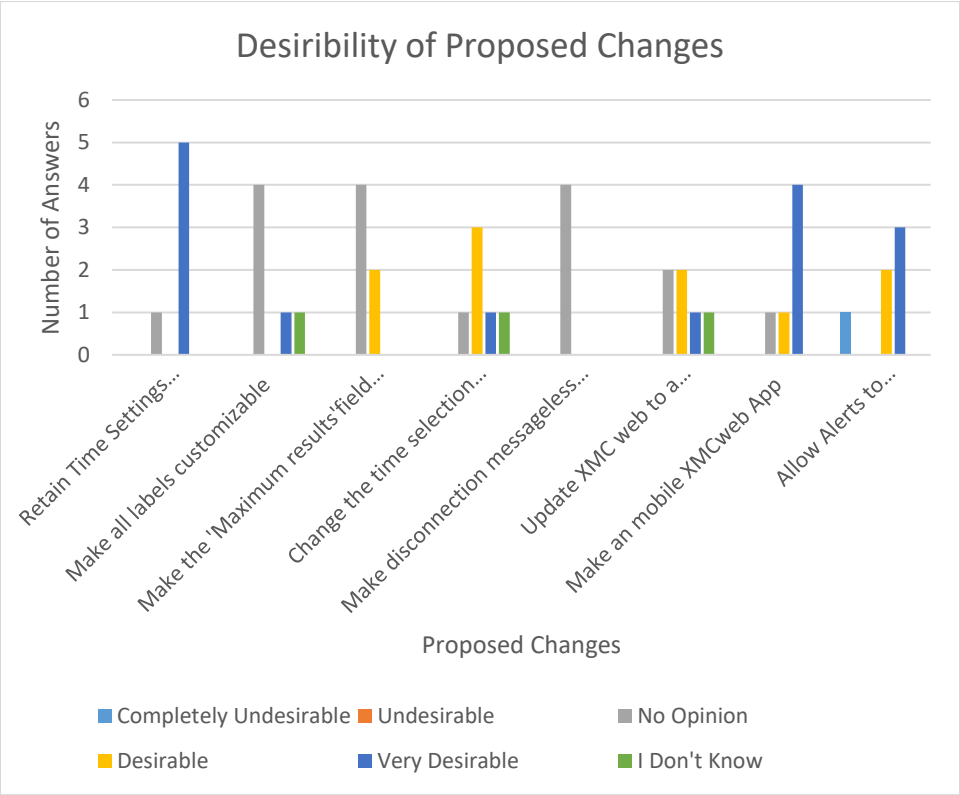


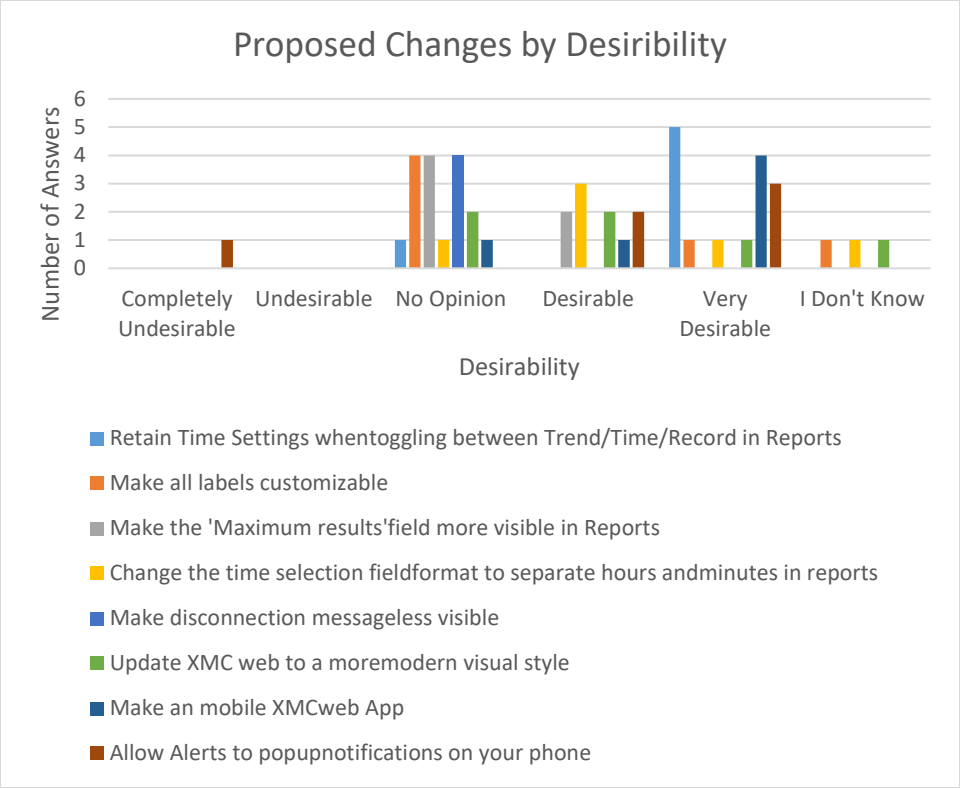
Have you encountered any unintuitive features, or features that do not work how you expect? If so, please explain.

Only two responses were received and there was no common theme. The raw data can be referred to for making suggestions.

Indicate the desirability of possible tweaks and features

Five respondents rated ‘Retain Time Settings when toggling between Trend/Time/Record in Reports’ as Very Desirable, one as No Opinion. ‘Make all labels customizable’ received four No Opinions, and one Very Desirable. ‘Make the 'Maximum results field more visible in Reports’’ received four No Opinions and two Desirable. ‘Change the time selection field format to separate hours and minutes in reports’ received one No Opinion, three Desirable, and one Very Desirable. ‘Make disconnection message less visible’ received four No Opinions. ‘Update XMC web to a more modern visual style’ received two No Opinions, two Desirables, and one Very Desirable. ‘Make an mobile XMCweb App’ received one No Opinion, one Desirable, and four Very Desirables. ‘Allow Alerts to popup notifications on your phone’ received one Very Undesirable, two Desirable, and three Very Desirables.





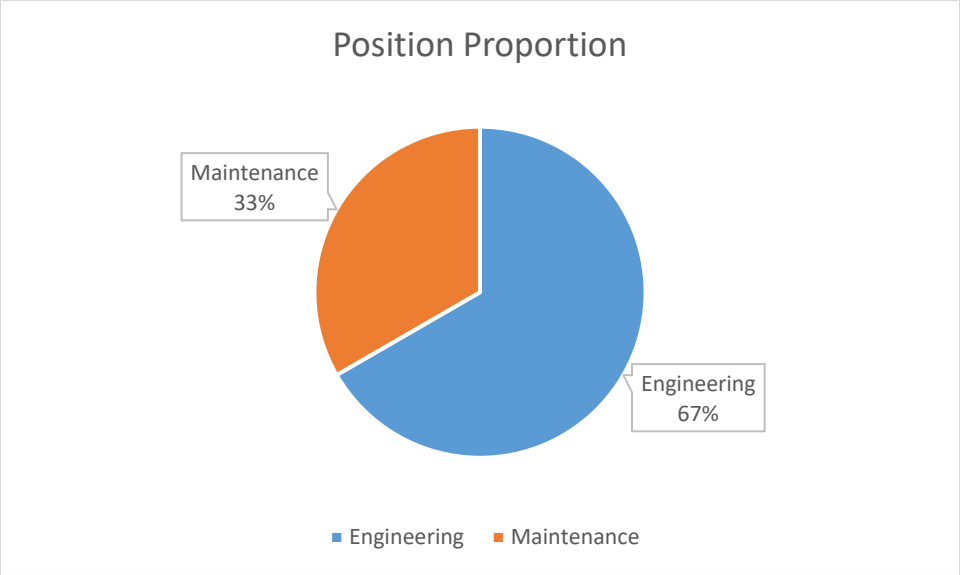
These results indicate that Retaining time settings when toggling between Trend/Time/Record in Reports should be a strong priority. Followed by making disconnection messages less visible, and allowing Alerts to produce popup notifications to your phone. It should be noted that the popup alerts also received a Very Undesirable rating, indicating it should be a togglable feature

Do you have any additional comments about XMCweb?

Only two responses were received and there was no common theme. The raw data can be referred to for making suggestions.

What is your job position?

33% of respondents were maintenance, 67% were engineering

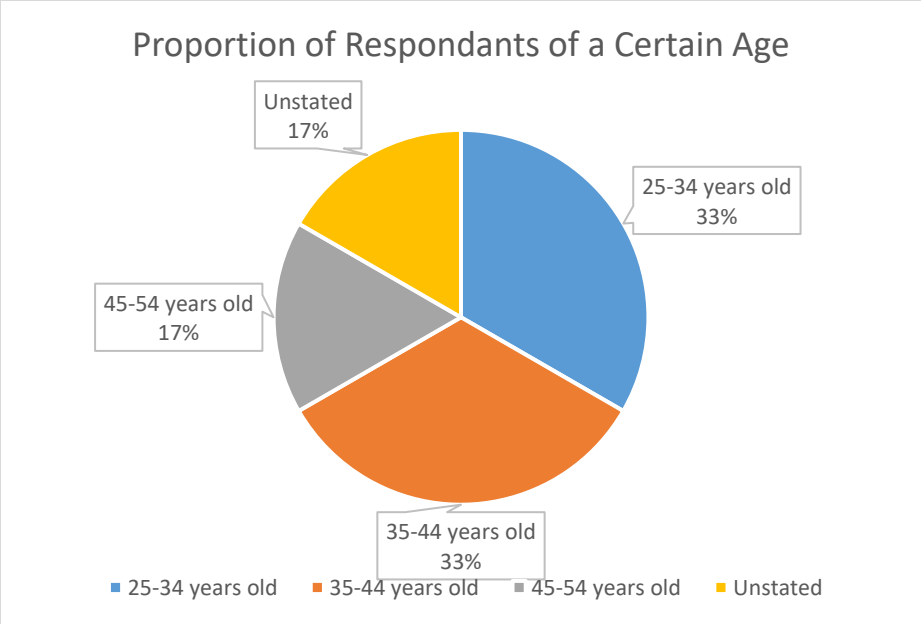


What is your gender?

Only Four respondents indicated their gender, all of which were male.

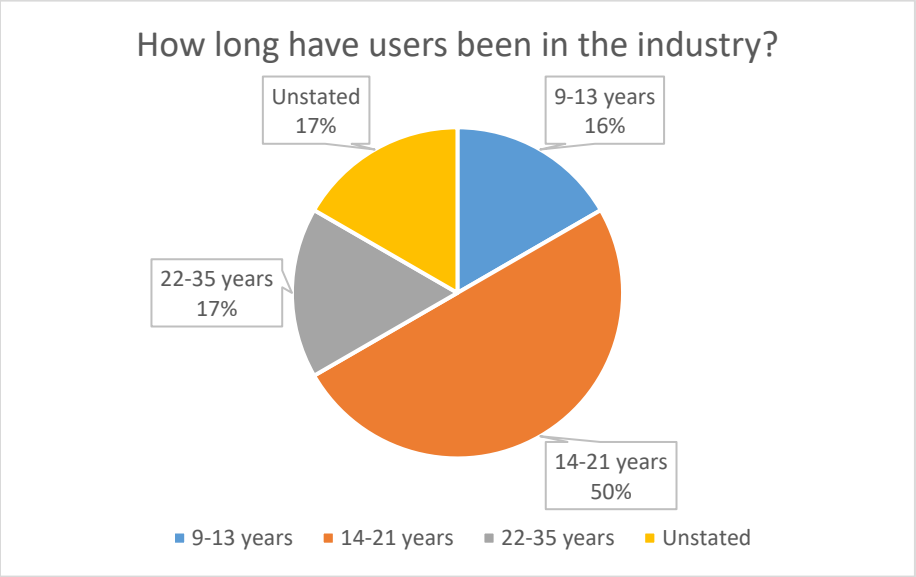
What is your age?

33% of respondents were 35-44 years old. 33% 25-34 years old. 17% 45-54 years old. 17% of respondents did not respond to this question.



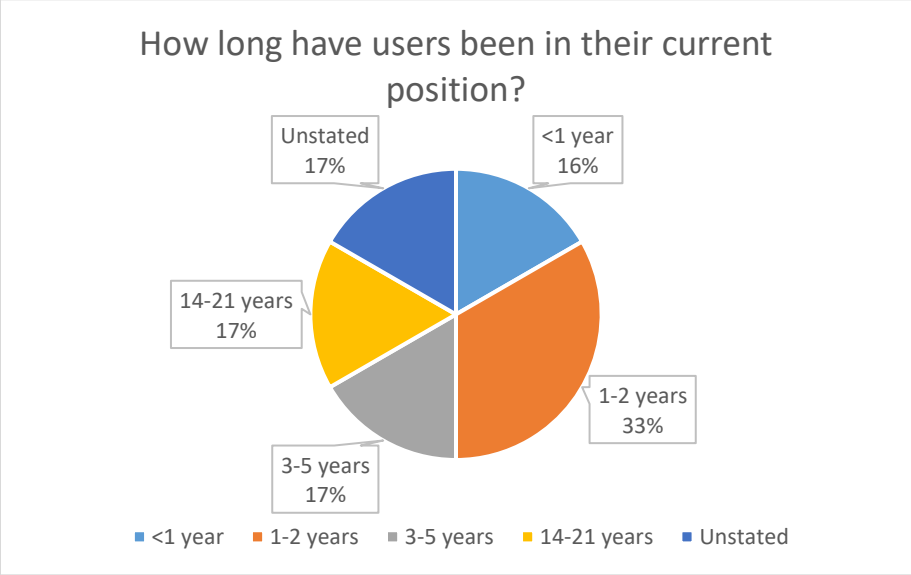
How long have you been in your industry?

50% of respondents have been in the industry for 14-21 years. 17% 22-35 years. 16% 9-13 year2. 17% of respondents did not respond to this question.



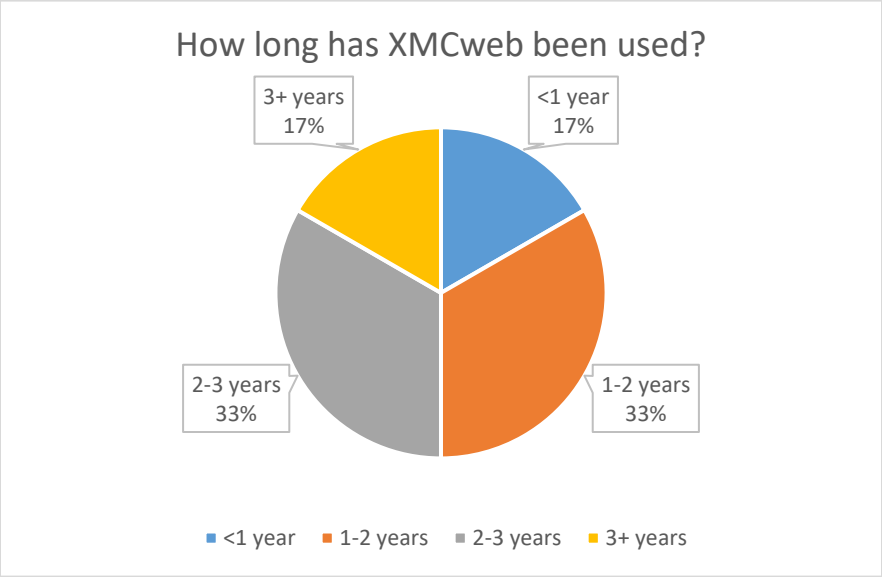
How long have you been in your current position?

33% of respondents have been in the industry for 1-2 years. 17% 3-5 years. 17% 14-21 years. 16% <1 year. 17% of respondents did not respond to this question.



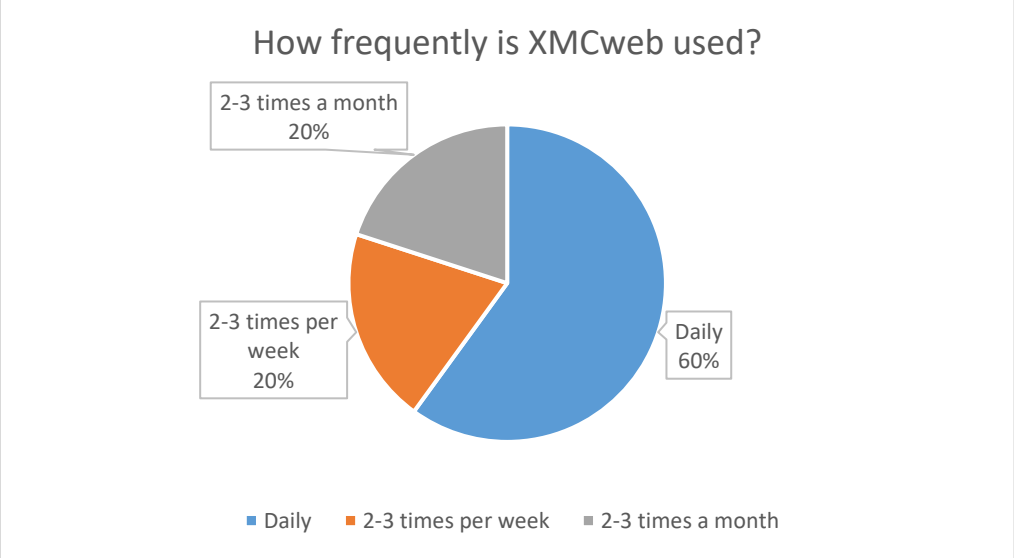
How long have you been using XMCweb?

33% of respondents have used XMCweb for 1-2 years. 33% for 203 years/ 17% for <1 year. 17% did not respond



How frequently do you use XMCweb?

60% of respondents use XMCweb daily. 20% 2-3 times per week. 20% 2-3 times per month.



Discussion

For understanding the results presented, it is important to note the very small sample size presented with the data. Normally, a much larger size would be used to produce reliable results. However, in this case, I believe some patterns are clear enough from the results we were able to collect. The focused group of people being surveyed, people who use XMCweb actively, are likely to have produced actionable data or areas of exploration in design.

I believe the primary value found in the data are which features of XMCweb to prioritize in a mobile port. I am satisfied with the data I was able to collect, as I believe the data points to some clear conclusions. Additionally, there are many flaws of the current XMCweb application which have been outlined with hard data. Fixing these flaws is likely to improve user experience a great deal.

Implications for design

Mobile Application

The primary focus of the research is for the design of a mobile XMCweb application. The data I gathered indicates that there are a few features that should be prioritized in being transferred from the desktop application to a mobile application. The Alerts and Live Status features received the highest ratings for transfer onto mobile devices. The Pacer feature was generally considered unnecessary, and thus should not be a priority on the mobile application. Additionally, users indicated a greater need for labeling of various features, which would be a beneficial addition to the mobile app.

Desktop Application

As I have researched the desktop implementation of the XMC System, the data I have collected would be of great in fixing problems in the desktop XMC application. The data I have obtained have led me to a few points where quality of life improvements could be implemented. Specifically, these results indicate that Retaining time settings when toggling between Trend/Time/Record in Reports should be a strong priority. Followed by making disconnection messages less visible, and allowing Alerts to produce popup notifications to your phone. It should be noted that the popup alerts also received a Very Undesirable rating, indicating it should be a togglable feature. These changes were singled out as the most desirable improvements, and I believe they indicate the desktop application's current shortcomings. Additionally, the data indicates users would like more explicit labeling of XMCweb features.