



Sri Lanka Institute of Information Technology

User Research Plan for eTraffic Application

**User Experience Engineering
Lab sheet 4**

Group ID: 2021S1_REG_WE_05

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Introduction

This document describes a test plan for conducting a usability test during the development of eTraffic mobile application. The goals of usability testing include establishing a baseline of user performance, establishing, and validating user performance measures, and identifying potential design concerns to be addressed in order to improve efficiency, productivity, and end-user satisfaction.

The usability test objectives are:

- To determine design inconsistencies and usability problem areas within the user interface and content areas. Potential sources of error may include:
 - Navigation errors – failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
 - Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labelling ambiguities.
 - Control usage problems – improper toolbar or entry field usage.
- Exercise the application or website under controlled test conditions with representative users. Data will be used to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.
- Establish baseline user performance and user satisfaction levels of the user interface for future usability evaluations.

For this usability test plan, two people have been selected for the interviews. There is a senior software engineer and a Business Analyst. This is an app used to report traffic violations. Using the app, people can upload photos and videos related to traffic violations. A Software Engineer and a Business Analyst who are more tech-savvy and who travel daily to the office. They have been selected because they are highly exposed to getting trapped in traffic most of the time during office hours. And have more exposure to traffic violations in their day-to-day life. So basically, the details about what they are looking for in the app will be revealed as outcomes in this testing process.

Test Objectives

In the current version of the app, the interfaces are less attractive, and the implemented functions are too simple. Therefore, the user satisfaction levels are less for the current app. So, the main goal is to provide higher user satisfaction by developing attractive interfaces and implementing more convenient features for the users.

Mainly, when the app is installed and opened for use, the first opinion they have about the app is, the interfaces are too plain and basic features are there in the app. And also, some icons used in the app gives false impressions to users. So, most of the time, it does not fulfil the needs of the users and then the user does not like to continue using it. So that the goal of the usability testing process is to give the user the best experience through the redesign process of this app.

And also, all the user interfaces contain simple designs and less user attraction. Therefore, the goal of redesigning all the current interfaces and adding new interfaces to make the app more attractive.

The current features need improvements and most of the time they do not obtain what they need using this app. So here the goal is to develop current features as more beneficial features and to add new features to increase the user satisfaction levels.

Methodology

Three methods have been used to conduct the research. They are online surveys and online interviews. There are 2 participants in the group, who have been used for the usability testing process. First, all of them have installed the current version of eTrafic app and used it for a while. Then every participant has been instructed to answer some questions regarding that app and their feedback is taken. All the surveys have been conducted through Google Forms. The information that has been collected, has their own opinion about the features which have been already implemented, the features that they suggest having, their opinion about the interfaces, whether it takes a long time for one process etc. Also, the interviews are held using several online platforms such as participants, training, and procedures.

First of all, if participants are considered, a group of 2 members have been selected covering all the requirements which are essential for this usability test process. The main requirements were knowledge about technology and do travelling in peak traffic hours (More tech-savvy people) & experience in traffic violence and using a mobile app to inform traffic violation details to police or media (Basic tech-savvy).

The participants' responsibilities will be to attempt to complete a set of representative task scenarios presented to them in as efficient and timely a manner as possible and to provide feedback regarding the usability and acceptability of the user interface. The participants will be directed to provide honest opinions regarding the usability of the application and to participate in post-session subjective questionnaires and debriefing. There is a software engineer and a business analyst among the participants. They have been asked to go through interfaces and to give their opinion about the current designs that the app have and the features they can use through the app by now. However, these people are always busy because of their profession, so basically it is more convenient for them to use a traffic violation reporting app. Therefore, they have been asked whether this app completes all their requirements and if not what additional features there should be in this app. Who always seek better information and more valuable features. They have been given some tasks to do using the app and their feedback about that are collected.

In training, the participants have been asked to install the app and they have been instructed about how the app works and what they can obtain through it. The participants will receive an overview of the usability test procedure, equipment, and software. Due to the current situation, the test has been done online. The users have to use their mobile devices for the test since this is a mobile application.

In the procedural method, participants will take part in the usability test at home via a screen-sharing technology. An Android device, with the mobile application and supporting software, will be used in a typical office environment. The participant's interaction with the mobile application will be monitored by the facilitator through the online video session conducted through Microsoft Teams and Zoom. Notetakers and data logger(s) will monitor the sessions in their own computers, connected to the same meeting conducted by the facilitator. The participants' feedback, their suggestions and their behaviour will be videotaped. The facilitator will brief the participants on the mobile application and instruct the participant that they are evaluating the application. The facilitator will explain that exploratory behaviour outside the task flow should not occur until after task completion. At the start of each task, the facilitator will read aloud the task description and then the participant will follow the task. The facilitator will instruct the participant to 'think aloud' so that a verbal record exists of their interaction

with the application. The facilitator will observe and enter user behaviour, user comments, and system actions in the data logging application. The comments which are given by the participants, their suggestions, their behaviour, and the other information which are given by the user will be videotaped and the facilitator observes the above details.

Interviewing

Script 1

Q1. What do you think about the user-friendliness of this registration UI?

Q2. Are you satisfied with the signup process of this application?

Q3. Would you prefer having to accept terms and conditions when registering for the application?

T1. Assume you have forgotten your password. So, now can you please select forgot password option and follow the instructions.

Q4. So, how do you feel about the forgot password feature?

Q5. What is your first impression of the home interface?

Q6. Do you have any suggestions to improve the “submission list” interface?

T2. Assume that you have witnessed a traffic violation while travelling, and you have recorded it from the normal camera in your mobile phone. And now you have that video in your gallery. And assume you want to submit it through this app. For this, you can log in to the test account we made. please log out from your current account and log in using the email and password we provide for you. (email: test1@gmail.com and give password - Test123) Now as you are logged in to our test account, can you please try to upload the recorded video we have sent to you, which is now in your gallery to this app.

T3. Assume that you needed to delete a submission you have made. So, now can you please navigate to the submissions list interface and try to delete one of the submissions in the submissions list in the test account you are logged in to.

Q7. Do you think it would be better to have a delete option for your submissions that are in the “submitted” state?

T4. Assume that you need to create a new account by removing the one you already have. So, as you are already logged in to the test account we provided, there will be no issue even if you delete that account. Therefore navigate to your profile interface and try to delete this test account you are already logged in to.

Q8. Do you think it would be better to have a delete profile option?

Q9. Are you satisfied with the overall application?

Q10. Would you recommend this application to your friends?

Script 2

T1. If you are already logged in to your account, please log out from it. Now Try to sign up for a new account. When signing up use a false email address. (Any invalid email address you like, When signing up using a simple password with just a few letters. For example, “test”)

Q1. Are you satisfied with the signup process of this application?

Q2. Are you satisfied with the password validation that takes place when you sign up for this application?

T2. For this task, you can log in to a test account we made. please log out from your current account and log in using the email and password we provide for you. Enter the email as “test1@gmail.com” and the password as “Test123”. Now as you are logged in to a test account, can you just try out the change password option.

Q3. Were there any difficulties you faced when changing the password?

Q4. Would you prefer having to accept terms and conditions when registering for the application?

Q5. Are there any difficulties you have faced when uploading photos or videos to this application?

If yes, what are they?

T3. Assume that you need to create a new account by removing the one you already have. So, as you are already logged in to the test account we provided, there will be no issue even if you delete that account. Therefore navigate to your profile interface and try to delete this test account you are already logged in to.

Q5. Would you prefer having an option to delete/deactivate your profile in this application?

Q6. What do you think about the colours used for the submission list interface?

Q7. Do you think it would be better to have an option to edit your submissions that are in the “submitted” state?

T4. Assume that you needed to change a description you have added in a recently uploaded video. So, now can you please try to change a description in one of your submissions in the submissions list.

Q9. T4. Assume that you needed to change a description you have added in a recently uploaded video. So, now can you please try to change a description in one of your submissions in the submissions list.

Q9. Do you have any suggestions to improve this app?

Q10. Would you recommend this application to your friends?

Video Recording

- <https://web.microsoftstream.com/video/6075cb81-5a40-4d5c-9e03-3ce56d7ec352>

Questionnaire

- <https://forms.gle/HvEeFRoUZjaga1ea8>

Participant Profile

Name	Demography	Location, Date and Time
Saranga Wickramasinghe	Status - married Age - 35yr Sex - Male Religion - Buddhism	Kurunegala, LK Friday, August 20, 2021 14:30 pm
Ishara Ekanayaka	Status - single Age - 26yr Sex - Male Religion - Buddhism	Galle, LK Friday, August 20, 2021 16:30 pm

User Research – Tasks/Scenarios

No.	Task Instruction	Target	Probes
1.	If you are already logged in to your account, please log out from it. Now Try to sign up for a new account. When signing up use a false email address. (Any invalid email address you like, When signing up, use a simple password with just a few letters. For example, "test")	To find out whether user notices, password validation didn't take place when signing up.	The user completed the task but after successfully creating an account, he had a confused look on his face.
2.	For this task, you can log in to a test account we made. please log out from your current account and log in using the email and password we provide for you. Enter the email as "test1@gmail.com" and password as "Test123". Now as you are logged in to a test account, can you just try out the change password option.	To find out whether the user notices, that sign up taken place without verifying the email address.	The user just completed the task smoothly.
3.	Assume you have forgotten your password. So, now can you please select forgot password option and follow the instructions.	To find out that the verification code didn't receive.	Waiting long for a verification code.
4.	Assume that you have witnessed a traffic violation while travelling, and you have recorded it from the normal camera in your mobile phone. And now you have that video in your gallery. And assume you want to submit it through this app. For this, you can log in to the test account we made. please log out from your current account and log in using the email and password we provide for you.	To find out that there isn't an option to upload videos/photos from the gallery.	Struggle to upload a video that is in the gallery through this app.

	(email: test1@gmail.com and give password - Test123) Now as you are logged in to our test account, can you please try to upload the recorded video we have sent to you, which is now in your gallery to this app.		
5.	Assume that you needed to change a description you have added in a recently uploaded video. So, now can you please try to change a description in one of your submissions in the submissions list.	To find out edit option is unavailable in the submission list UI.	Struggle to change a description in an already added submission.
6.	Assume that you needed to delete a submission you have made. So, now can you please navigate to the submissions list interface and try to delete one of the submissions in the submissions list in the test account you are logged in to.	To find out the delete option is unavailable in submission list UI.	Struggle to delete an already added submission.
7.	Assume that you need to create a new account by removing the one you already have. So, as you are already logged in to the test account we provided, there will be no issue if you delete that account. Therefore navigate to your profile interface and try to delete this test account you are already logged in.	To find out the delete option is unavailable in profile UI.	Struggle to delete the profile.
8.	If you are already logged in to your account. Please log out from it. Now Try to sign up for a new account. And after successful signup, think you just want to know how your privacy details get handled by this app and search whether there are terms and conditions related to it.	To find out whether the user notices, that accepting terms and conditions didn't take place when signing up.	The user just completed the task.

Plan for Data Analysis

Interviews

Collected data: Qualitative data

Detail Analysis:

1. *Script1::* Q1. What do you think about the user-friendliness of the registration UI?
 - I think it would be better if there is a difference in the font colours and sizes, between placeholders and text inputs*Script2::* Q1. Are you satisfied with the signup process of this application?
 - Not at all. Mainly because when trying to sign up, it didn't verify the email and the phone number I provided by sending a verification mail and an SMS to the email and phone number I provided. Anyone could sign up by providing any email or phone number and then posts whatever they want under that email and phone number.
 - Registration verification code not sending to the relevant*Script2::* Q2. Are you satisfied with the password validation that takes place when you sign up for this application?
 - No, anything can be used as a password when signing up - (for example just "test" word counts as a password)

 **Analysis: registration UI needs to be more user friendly.**

2. *Script1::*Q4. Would you prefer having to accept terms and conditions when registering for the application?
 - Yes, It would be better if users can view terms and conditions when registering to the app instead of having to view it after logging into the application.*Script2::*Q4. Would you prefer having to accept terms and conditions when registering for the application?
 - Yes, it would be better if users can view terms and conditions when registering to the app instead of having to view it after logging into the application.

 **Analysis: need option to agree to terms and conditions when signup**

3. *Script1::*Q4. How do you feel about the forget password feature?
 - Not fair, It asked for our email address. But when we give our email address, we will not receive any verification code to our email address.

 **Analysis: email verification has to be done before signup**

4. *Script1::Q5*. What is your first impression of the home interface?
- At first, I thought I was required to scan my finger on the fingerprint scanner after seeing the fingerprint icon in the home interface. But later I realized it was just a button to open the camera.

 **Analysis: Home UI gives a false impression**

5. *Script1::Q8*. Would you prefer having an option to delete/deactivate your profile in this application?
- Yes, if I ever feel like deleting the account, having a feature like that would be great
- Script2::Q5*. Would you prefer to have an option to delete/deactivate your profile in this application
- Yes, if I ever feel like deleting the account, having a feature like that would be great

 **Analysis: delete/deactivate profile option is preferred**

6. *Script1::Q8*. Do you have any suggestions to improve the “submission list” interface?
- It is better if we can view submissions that are under the “submitted” state as well
- Script1::Q7*. Do you think it would be better to have a delete option for your submissions that are in the “submitted” state?
- Yes, in case I change my mind about an upload or accidentally uploaded a picture or a video it would be great to have an option to delete them.
- Script2::Q6*. What do you think about the colours used for the submission list interface?
- I think it is better to have red colour for rejected submissions instead of green colour.
 - I think it would be better if one specific colour is used for the submissions based on their states
- Script2::Q8*. Do you think it would be better to have an option to edit your submissions that are in the “submitted” state?
- Yes, if I need to change the description or something I would like to have that feature enabled

 **Analysis: submissions list UI needed to be improved**

7. *Script1::Q9*. Are you satisfied with the overall application?
- Yes, this app is good, but some features have to be improved.
- Script1::Q10*. Would you recommend this application to your friends?
- Yes
- Script2::Q10*. Would you recommend this application to your friends?
- Yes

 **Analysis: overall application satisfaction is good**

8. *Script2::Q9*. Do you have any suggestions to improve this app?

- Would be great to have an option to report violations anonymously

Script2::Q5. Are there any difficulties you have faced when uploading photos or videos to this application?

- Yes.

What are they?

- One of the biggest issues is that whenever something is happening in front of me and decide to take a picture or a video of it and then upload it, it requires me to open the application and then navigate to the camera which can be time-consuming since the application takes a few seconds to initialize as well. So, it would be better if there is an option to takes pictures or videos of the violation from the mobiles native camera and then upload them to the application later.

 **Analysis: need new features for uploading photos.**

Video Recordings

Collected data: Qualitative data

Detail Analysis:

1. *Script2::T1*. If you are already logged in to your account, please log out from it. Now Try to sign up for a new account. When signing up use a false email address. (Any invalid email address you like, When signing up use a simple password with just a few letters. For example, "test")

- User completed the task but after successfully creating an account, he had a confused look on his face

 **Analysis: Need Email validation before signup**

2. *Script2::T2*. If you are already logged in to your account, please log out from it. Now Try to sign up for a new account. When signing up use a simple password with just three letters.

- User completed the task smoothly

 **Analysis: User-Friendly Registration UI**

3. *Script1::T1*. Assume you have forgotten your password. So, now can you please select forgot password option and follow the instructions.

- Waiting long for a verification code.

 **Analysis: Have to improve the time taken to complete one process within the app**

4. *Script2::T4*. Assume that you needed to change a description you have added in a recently uploaded video. So, now can you please try to change a description in one of your submissions in the submissions list.

- Struggle to change a description in an already added submission.

 **Analysis: Edit submission feature needed to be added to the submissions list**

5. *Script1::T3* Assume that you needed to delete a submission you have made. So, now can you please navigate to the submissions list interface and try to delete one of the submissions in the submissions list in the test account you are logged in.

- Struggle to delete an already added submission.

 **Analysis: Delete submission feature needed to be added in submissions list UI**

6. *Script1::T4*. Assume that you need to create a new account by removing the one you already have. So, as you are already logged in to the test account we provided, there will be no issue even if you delete that account. Therefore navigate to your profile interface and try to delete this test account you are already logged in to.

- Struggle to delete the profile.

 **Analysis: Delete profile feature needed to be added**

7. *Script1::T2* Assume that you have witnessed a traffic violation while travelling, and you have recorded it from the normal camera in your mobile phone. And now you have that video in your gallery. And assume you want to submit it through this app. For this, you can log in to the test account we made. please log out from your current account and log in using the email and password we provide for you. (email: test1@gmail.com and give password - Test123) Now as you are logged in to our test account, can you please try to upload the recorded video we have sent to you, which is now in your gallery to this app.

- Struggle to upload a video that is in the gallery through this app.

 **Analysis: Video uploading from normal camera feature have to be added**

8. *Script2::T3*. If you are already logged in to your account. Please log out from it. Now Try to sign up for a new account. And after successful signup, think you just want to know how your privacy details get handled by this app and search whether there are terms and conditions related to it.

- User just completed the task.

 **Analysis: Need to add accept terms and conditions checkbox to signup form**

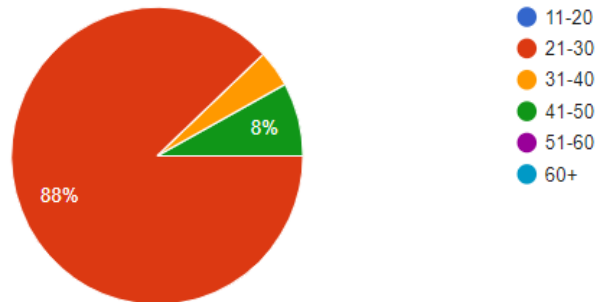
Questionnaires

Collected data: Both Qualitative and Quantitative data

Detail Analysis:

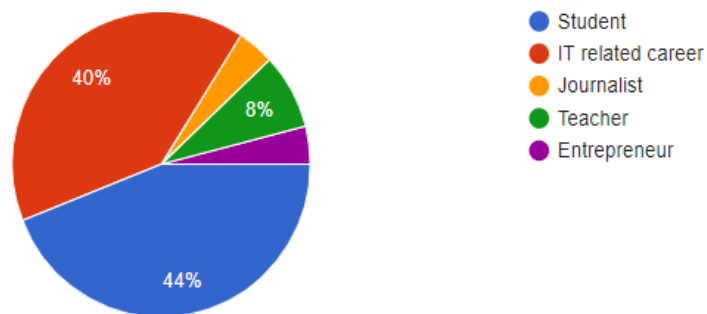
What is Your Age ?

25 responses



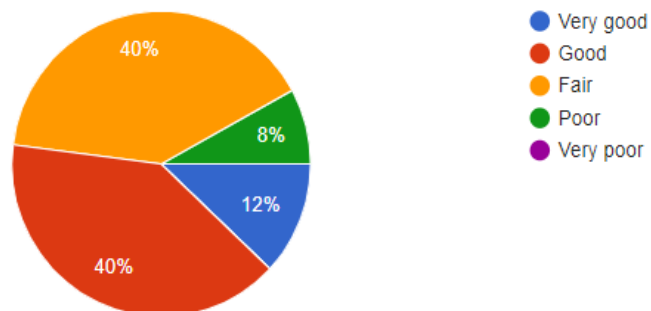
What is Your Occupation?

25 responses



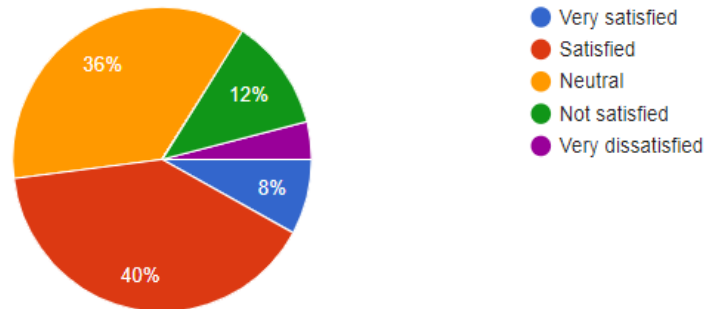
How much would you rate the user friendliness of the Registration user interface?

25 responses



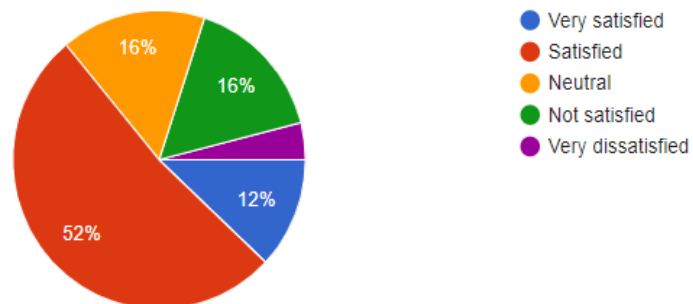
Are you satisfied with the password validation done when you signup to this application?

25 responses



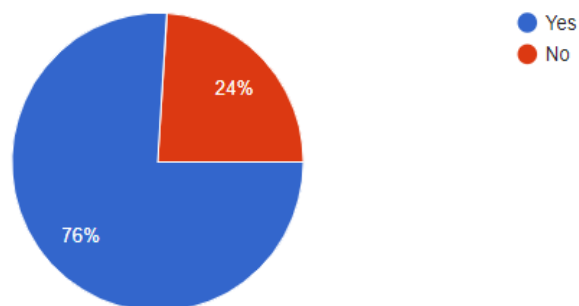
Are you satisfied with the verification process done by this application when you log in to it?

25 responses



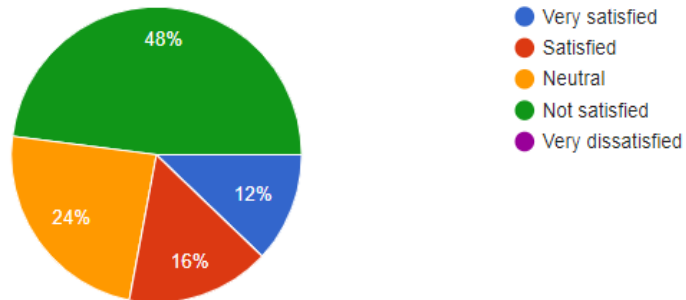
Do you prefer having to accept terms and conditions when registering to the application?

25 responses



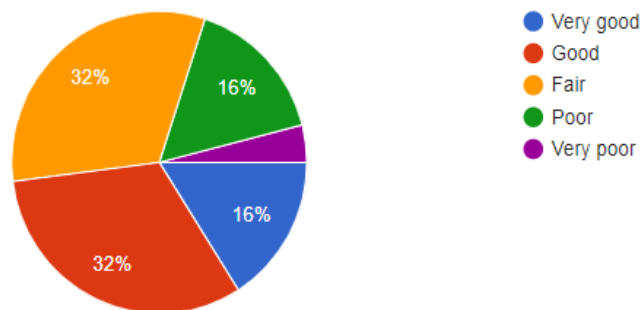
Are you satisfied with the "forgot password" feature in this application?

25 responses



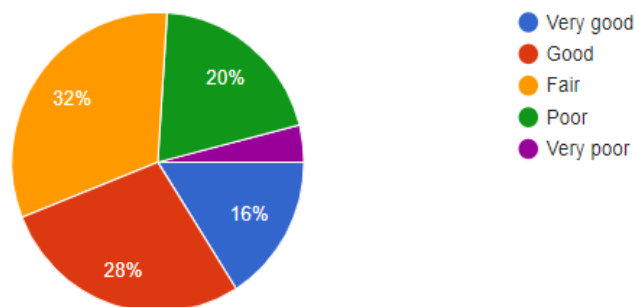
How do you feel about the "Home" interface?

25 responses



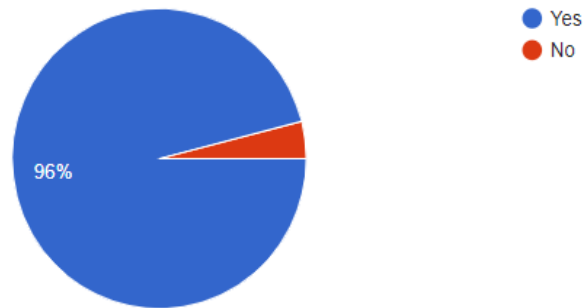
What do you feel about the color usage in the "submissions list" user interface?

25 responses



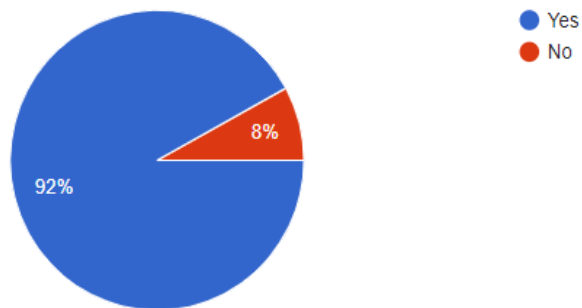
Do u think it is better to have a delete option for your submissions which are in 'submitted' state?

25 responses



Would you prefer this application having a delete/deactivate profile option?

25 responses



Would you recommend this application to others?

25 responses

