
User Research Plan

2021S1_JUNE_WD_2

Group Members: -

	Registration Number	Name
01	IT19966922	H.R.Yasith Wimukthi
02	IT19164236	Arunoda D.P.H
03	IT19970578	Dharmadasa K.R.W.S
04	IT19960432	Alahakoon A.G.S.P

Introduction

This project is about redesigning of an existing mobile application called “Farm Management Pro” which is a farm management application. This is an essential application for farmers to manage all the activities related to the farm. Main functionalities of this application are farm task management, machinery service management, fertilizer management, animal management, crop history management, medical services management, grass growth management, time management and safety management.

We are testing about the user experience and the usability of this application by conducting user research with people who like to share their experience by using this application. We are conducting this user research to identify the shortcomings of the interfaces, usability issues of the farm management application and to get the user suggestions to improve the application.

The goal of this research is to modify the existing application by reducing the limitations and the usability issues that identified from the user’s feedback. After analyzing data gathered from the interview, video recording and the questionnaire will analyze to come to the conclusion.

The result of this user research will be used to decrease the weaknesses of the user’s experience and do the modifications regarding the user suggestions to provide a better user experience from this application.

Test Objectives

- To mitigate the vulnerabilities of the user interfaces by enhancing the clarity of the user experience.
- To find the weaknesses of the usability.
- To get the suggestions from users
- To enhance the functional correctness
- To provide user to best user experience
- To identify the UI elements that clients cannot understand
- To identify the improvements to be done to enhance the usability of the app
- To identify the issues in the existing features of the app.
- To identify the security vulnerabilities and loopholes in the app.
- To identify the responsiveness of the application by using different devices.
- To identify performance of the application.
- To identify the performance according to the resource’s levels.
- To identify the security performance of this application.
- To understand the importance of the application for the users who manage the farming tasks.

Methodology

Interviewing

- Two users who used this mobile application are interviewed via Microsoft Teams. The user opinions were gathered according to their experience after using the mobile application.

Video recording

- Video recordings of the interviews were recorded via Microsoft Teams, and we have uploaded it to the Microsoft Stream.

Questionnaire

- Google form was created including questions about user experience of all the functions of four group members and shared among the users who already used this mobile application. User opinions were collected using that google form.

Participant Profiles

Name	Demography	Location, Date and Time
Tharindu Harshana	He is a farm manager of a well-maintained farm. He is 35 years old. He is managing animals, animal events, feeding of animals and all the veterinary services in the farm. So, he wants an appropriate mobile application to fulfill his tasks.	Location - Galle Date – 19 th August 2021 Time – 11:00 am
Tharukshi Wickramasinghe	She is a farm manager of a famous farm in Sri Lanka. She is 30 years old. She is managing fertilizers, machine services, sprays and all the farm tasks in that	Location - Badulla Date – 20 th August 2021 Time – 01:00 pm

	farm. So, she needs an ideal mobile application to manipulate her tasks.	
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User Research – Tasks/Scenarios

No.	Task Instruction	Target	Probes
01.	Adding a new animal to the application	Check, if the user can easily find that section and insert a new animal.	Can't find the My Animal section where user can add new animal.
	Ask to refer the given instruction in the My Farm dashboard to navigate the interface	Check, if user can find the hint available in the My Farm dashboard.	Instruction is not noticeable since it is in the below.
	Ask to find the record inserted before.	Find whether the recorded information is visible.	User can't find the information easily.
	Adding a new animal event to the application	Check, if the user can easily find that section and insert a new animal event.	Can't find the My Animal section where user can add new animal.
	Ask to find the Animal record inserted before.	Find whether the recorded information is visible.	User can't access the information easily.
	Ask to find the place to add purchased food details.	Check whether if the user can easily find the place.	User can't find the place easily without the help.
	Ask to update the Feed History records.	Check if the user can easily interact with update function.	Can't update the details because there is a hidden required field below the save button.
	Ask to find the place where to add purchased medicine.	To check if the user can understand the labels available in the side navigation bar.	Could not find the correct navigation because the labels are less understandable.

02.	Ask to navigate the interface to add a new farm task.	To check if the user can easily find the navigation to the interface.	Can't find the correct navigation tab easily.
	Ask to refer the given instruction in the My Farm dashboard to navigate the interface	Check, if user can find the hint available in the My Farm dashboard.	Can't access the instruction easily because it is in the below.
	Ask to find the new farm record inserted before.	Find whether the recorded information is visible.	User can't find the information easily.
	Ask to find the place to insert a new purchased fertilizer.	See whether user is able to find the navigation easily.	User has to pass two interfaces to insert a new purchased fertilizer.
	Ask to find the new purchased fertilizer record inserted before.	See whether the recorded information is consists with the provided information and can easily find.	User needs to go one step back to see the records. Display additional details which are not inserted by the user.
	Ask to find the place to add new machinery details.	Check if the user can easily find the place to add new machinery details.	User can find the place.
	Ask to find the place to add machine service details.	Check whether user can submit the inserted details.	User can't submit details because save button is not visible.
	Ask to update the machine service details recorded before.	Check whether the user can easily update the details.	Machine service details are not available to update the details due to unavailability of the insert.

	Ask to insert a new purchased spray detail.	Check if the user can successfully insert the details.	User can successfully insert.
	Ask to find the place where user can insert new purchased spray details.	Check if the user can easily navigate to the interface.	Difficult to find the place.
	Ask to delete spray details added before.	check if the user comfortable with the delete function.	Details delete suddenly without any confirmation message.

Plan for Data analysis

1. Interviewing

Information was gathered from the interview using the script which we planned to ask questions in the interview. We decided to write the script in the initial stage. As the subsequent stage, all the data is noted down in the wake of perusing the record. The gathered information is in qualitative data type. Then, we intend to clarify the transcript, by highlighting and naming significant words. Then, we intend to conceptualize the information and section the information dependent on their qualities. At last, we intend to examine the sections and construct perceptions on the interview.

2. Video Recording

We at first intend to interpret the video recording to dissect the gathered information. This video contains all the assigned tasks performed by the two interviewees. The two users expressed their honest opinions after performing the tasks for the usability test for the Farm Management pro app. Pain points/blockings of the two users were identified after transliterating data from the interview recording. The main type of information gathered here is qualitative data. Subsequently, recognizing the blockings, we are intending to conceptualize information/categorized data, and afterward, we fragmented the information and examine these sections by deeply analyzing the study and deciding the justification of the issues and the solutions.

3. Questionnaire

The questionnaire was based on both open-ended questions and close-ended questions. It was created using goggle form and share among the community via social media platforms mainly using WhatsApp. The Open-ended questions were collected to gather qualitative data and close-ended questions to gather quantitative data from the questionnaire. It is provided with the questions to rate some features of the mobile application which is also known as close-ended questions to obtain quantitative data. Conducting a questionnaire using google form automatically generated pie charts and bar charts helped to visualize the data. After all, we will analyze the data and make decisions about the user experience for the overall functions available in the mobile application.

Interviews

Mr. Tharindu: -

Question – we can add new animal in this app. Can you find the place to insert a new animal?

Answer – No I can't find the place.

Question – Couldn't you find the hint given in the home dashboard?

Answer – No, I can't.

Question – So now can you refer the instruction given in the dashboard to enter a new animal?

Answer – No I can't. It is difficult to find out.

Question –Do you think this label is suitable to navigate insert function? Any suggestion?

Answer – No. It is not suitable to add a new animal. The icon is also not suitable. Both are inappropriate.

Question –Do you think that recorded information is sufficient to manage your work?

Answer – Yes. That is enough.

Question –Now you go to the home page and see the record which you have already inserted?

Answer – Yes, I can see the record.

Question – Do you think that user interface is good enough to have a better user experience?

Answer – No this UI is not well organized. Buttons should have suitable colors in my opinion.

Question – Can you insert a new animal event?

Answer – Difficult find. I think I should go the side navigation bar. I think It's Animal Events.

Question – Do you think this label is suitable to navigate insert new animal event? Any suggestion?

Answer – No, It's not suitable. Change the label and the button colors.

Question – What kind of idea do you have after navigating to this page?

Answer – Button colors are not suitable, and UI is not well organized.

Question – Can you make suggestion to improve this interface?

Answer – Use suitable colors for the buttons and icons appropriately.

Question – Can you find the record which you have already inserted?

Answer – Can't

Question – Can you find the place to add purchased food details for animal?

Answer – Can't find, can you help

Question – Do you think that recorded information is sufficient to keep as log?

Answer – Yes. So many fields were there but that's enough

Question – Do you find any difficulties in the form when inserting details? (If yes) can you describe fault?

Answer – yes. There is an additional field under the save button. Save button and the reset buttons are doing same function.

Question – Can you easily update record in feed history?

Answer – It's not easy. I had to go more than one step.

Question – Can you insert a new record for purchased medicine?

Answer – Okay. Can you help me

Question – Is it difficult to find the place?

Answer – Yes. It is very difficult.

Question – Can you clearly understand that error message when you are going to save inserted record?

Answer – Yes, I can but I don't know why it is showing. It's not appropriate.

Question – Do you think that error message provides better user experience related to the function?

Answer – No. It doesn't give any proper idea.

Question – Can you delete the record which you have inserted previously?

Answer – Yes can.

Question – Do you have any suggestion to improve this deleting process from your point of view?

Answer – Need to have confirmation message before deleting the record.

Common questions

Question – What do you think the mobile application should improve on?

Answer – Home dashboard should be well organized and improved by adding icons, images and important instructions should be on top of the page.

Question – What is your experience using the mobile application?

Answer – It is very difficult because there is no any proper icons, images and instructions.

Question – How is the navigation of the mobile application?

Answer – It is also very difficult. When I click on the back button, it takes me out of the app. It's very bad.

Question – With the existing features, does the mobile application help you to achieve your goals? I meant what is your interesting feature of this app?

Answer – Interesting feature is Animal event. It is better but it takes a long process.

Ms. Tharukshi: -

Question - Do you have any experiences using farm management mobile application?

Answer – Yes. I have some experience.

Question – Can you easily find and navigate to the interface that can insert a new farm task?

Answer – I can't find it. Please help me to find that.

Question – Can you see the hint in the home dashboard and refer it?

Answer – yes, I can.

Question – Do these fields enough to insert all the necessary details about a farm task?

Answer – yes. It's enough.

Question – Is the interface that can insert farm tasks is compatible with you?

Answer – No It's not compatible. Because there is a button labeled as 'save and s'. I don't know what is the actual meaning of this label but I guess it is the save button. When I press that button, I am still in the same interface. I don't know whether my record saved to the database.

Question – Can you see the record which you have already inserted?

Answer – It's not in here but I found it.

Question – Do you think that user interface is good enough to have a better user experience?

Answer – I think it's not good enough to have a better user experience.

Question – Can you insert a new purchased fertilizer?

Answer – okay.

Question – Do you think this label is suitable to insert a new purchased fertilizer? Any suggestion?

Answer – Label is suitable.

Question – Do you have any problem with the label of this button?

Answer – but the label is too long. Buttons are here and there. So, I think that is the problem.

Question – Can you make suggestion to improve this interface?

Answer – I think the buttons should be at the bottom of the page

Question – Can you find the record you inserted before?

Answer – Yes, I think that I found it. but there is an addition information which I cannot insert from previous form, the cost, and the date.

Question – What is your opinion after performing this task?

Answer – I think cost and the date also very important information, but the insert form doesn't have fields for them. It is better to have fields for the insert task.

Question – Can you find the place to add your machinery details?

Answer – Yeah, I can find.

Question – Have you already inserted some details?

Answer – Yeah, I already inserted.

Question – What is your idea about the label?

Answer – The same thing. I think. The Labels names are too long. So, I can't directly identify which button I should use for my task.

Question – Do you think that previously recorded information about machines that matching for your requirements?

Answer – Yeah, I think.

Question – Can you add your machine service details of the last inserted machine?

Answer – I cannot insert details because I cannot see any save button.

Question – Do you find any difficulties in the form when inserting details? (If yes) can you describe fault?

Answer - Difficulty is there is no any save button and user interface is not very attractive. So that's my opinion

Question - Can you easily update the record you inserted before about service details?

Answer - I cannot enter service details so how can I edit.

Question - What is your opinion about this function?

Answer - I think I gave the answer for that the interface is not very user friendly and also the usability of the interface is very low.

Question – Can you insert a new purchased spray?

Answer – Okay.

Question – Is it difficult to find the place?

Answer – No, I use the toolbar as previous

Question – How is your experience about inserting new purchased spray details using our interface?

Answer – It's little bit confusing because in the same interface there are three buttons that used to insert records regarding three different functions. So, it is little bit confused

Question – Can you clearly understand that error message when you are going to save inserted record?

Answer – No, I cannot understand.

Question – Do you think that error message provides better user experience related to the function?

Answer – Actually, I cannot understand the error message so I cannot say it gives a better experience or not.

Question – Can you delete the record which you have inserted previously?

Answer – There is no any icon or button. How can I delete it.

Question – Do you have any suggestion to improve this deleting process from your point of view?

Answer – I think it's better to have confirmation message when we are going to delete. Otherwise, we deleting which is very important.

Common questions

Question – What do you think the mobile application should improve on?

Answer – The navigation of the mobile application should be improved because I think I cannot go to the home page when I come to a one function or a one component. I can't go to the home page.

Question – What is your experience using the mobile application?

Answer – It's bad.

Question – How is the navigation of the mobile application?

Answer – It is also very difficult. When I click on the back button, it takes me out of the app. It's very bad.

Question – With the existing features, does the mobile application help you to achieve your all goals?

Answer – To find out if the features available currently helps them with achieving their goals. This way, we are able to know if we have a missing puzzle.

Video recordings

<https://web.microsoftstream.com/video/2e7a9eff-e5fb-45b1-bf56-ca1bc841ffb1>

Questionnaire

Link : <https://forms.gle/aFHCKrXKGAt74Jbw7>

Questions Responses 36

36 responses



Accepting responses



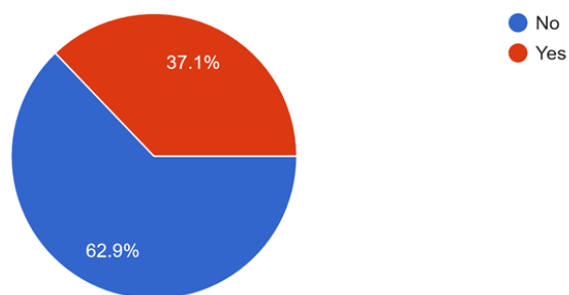
Summary

Question

Individual

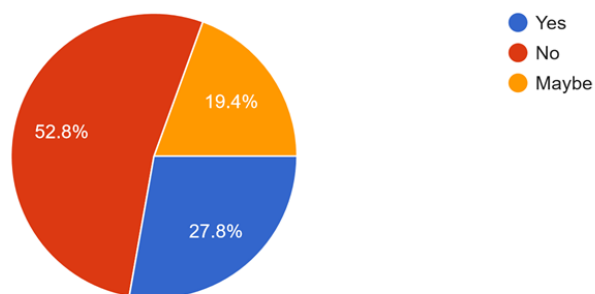
Have you ever use this app before?

35 responses



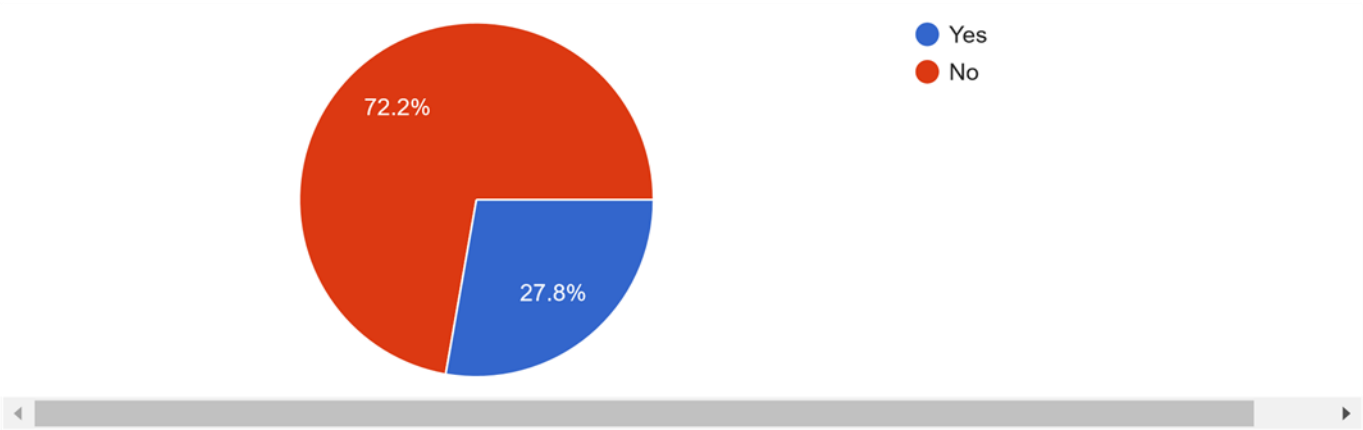
Are you familiar with mobile application and mobile technology well. Please give your genuine idea

36 responses



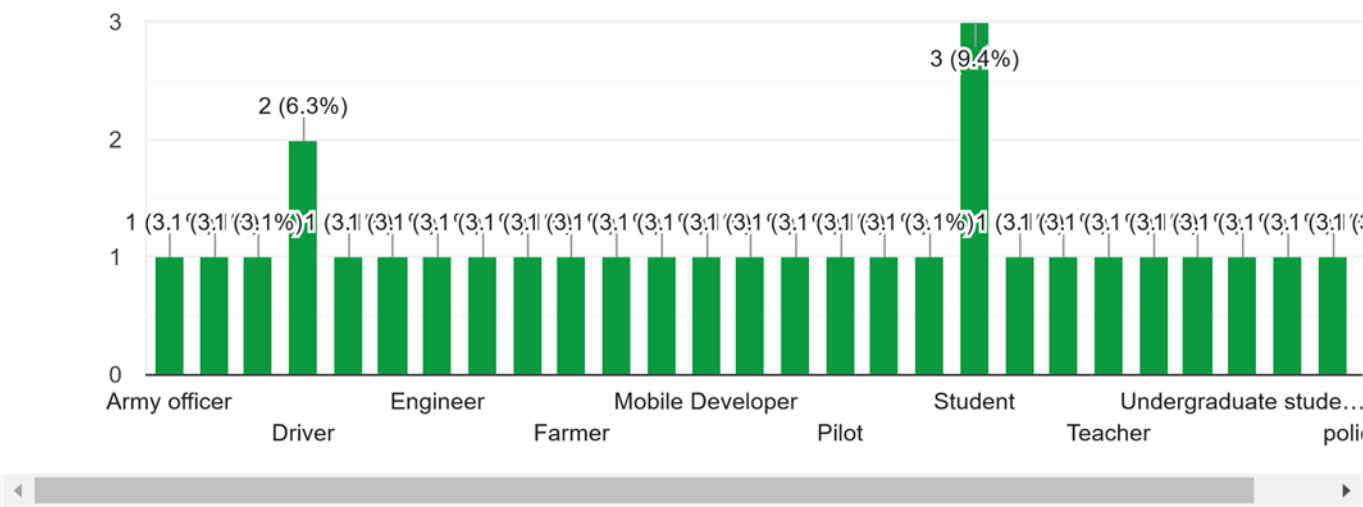
Are you familiar with mobile UI/UX design?

36 responses



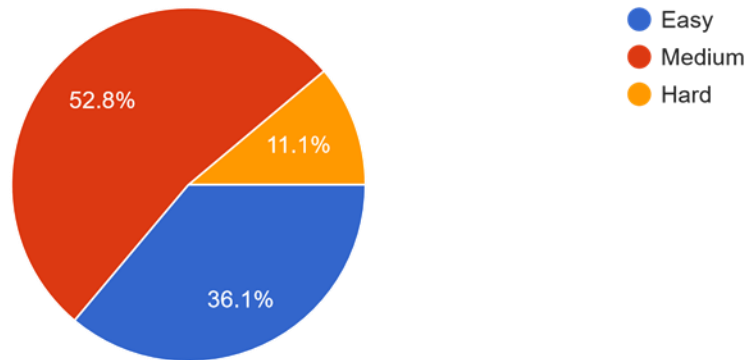
What is your job role?

32 responses

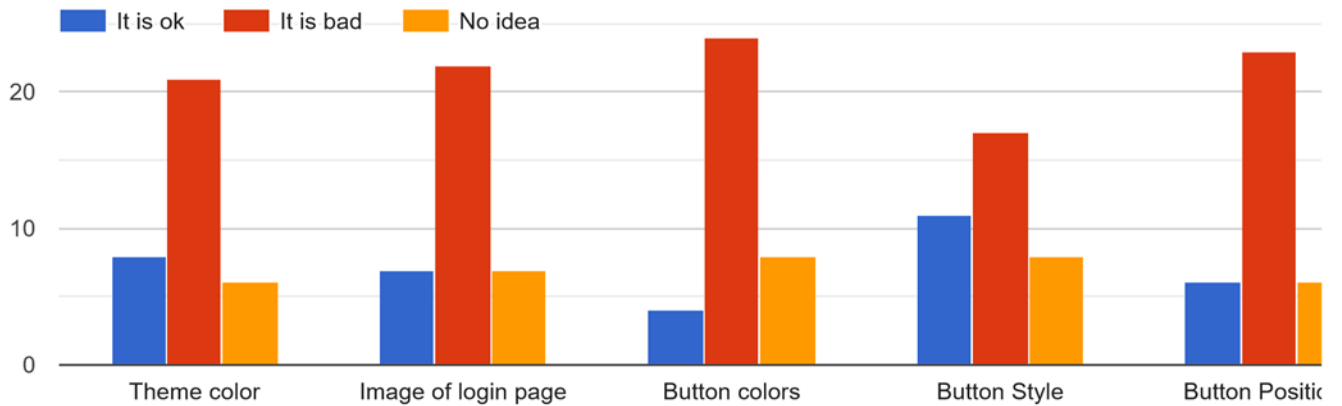


How easily you can recognize required details in login page?

36 responses



Give your opinion about appearance of login page



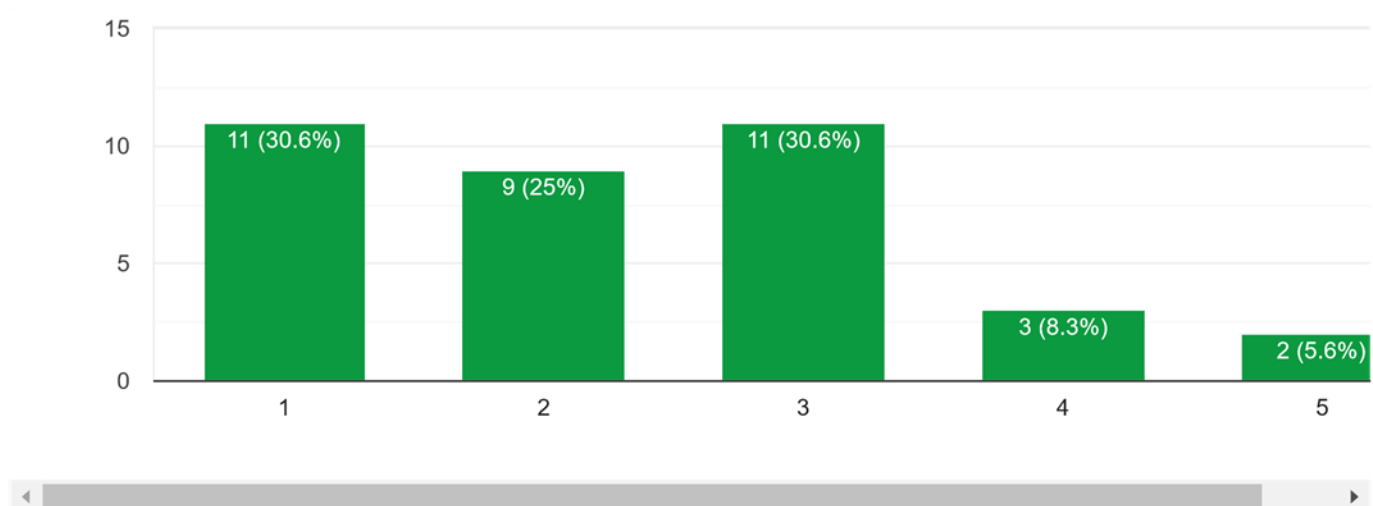
If you like to give an idea about login page image, colors, buttons please give

21 responses

Bad
Good
Not bad
Buttons should be bottom of the page
It should be improved.
Please rearrange it
Some labels can not understand
Not matching
Must redesign

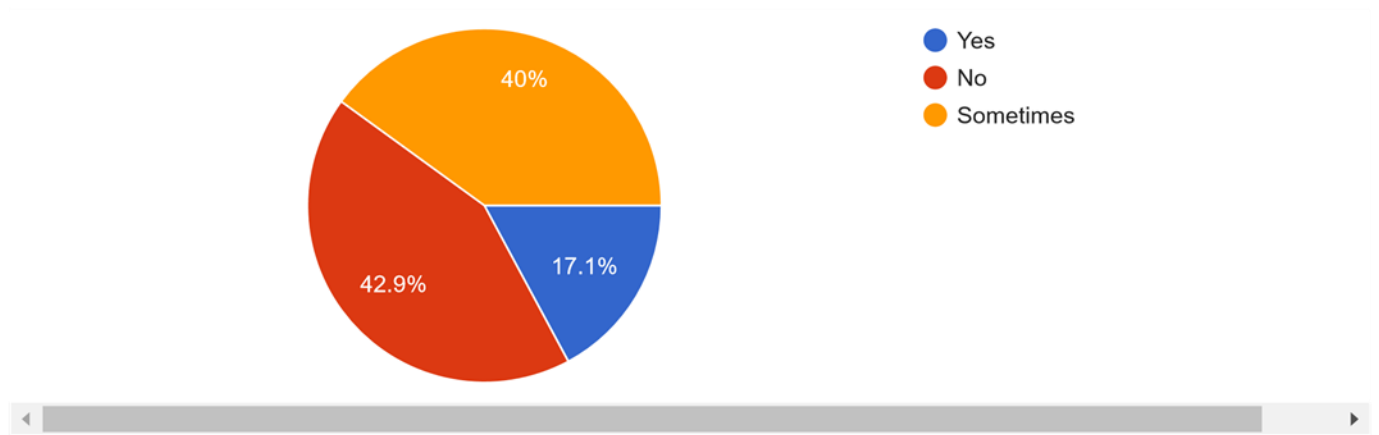
What about your experience about login page?

36 responses



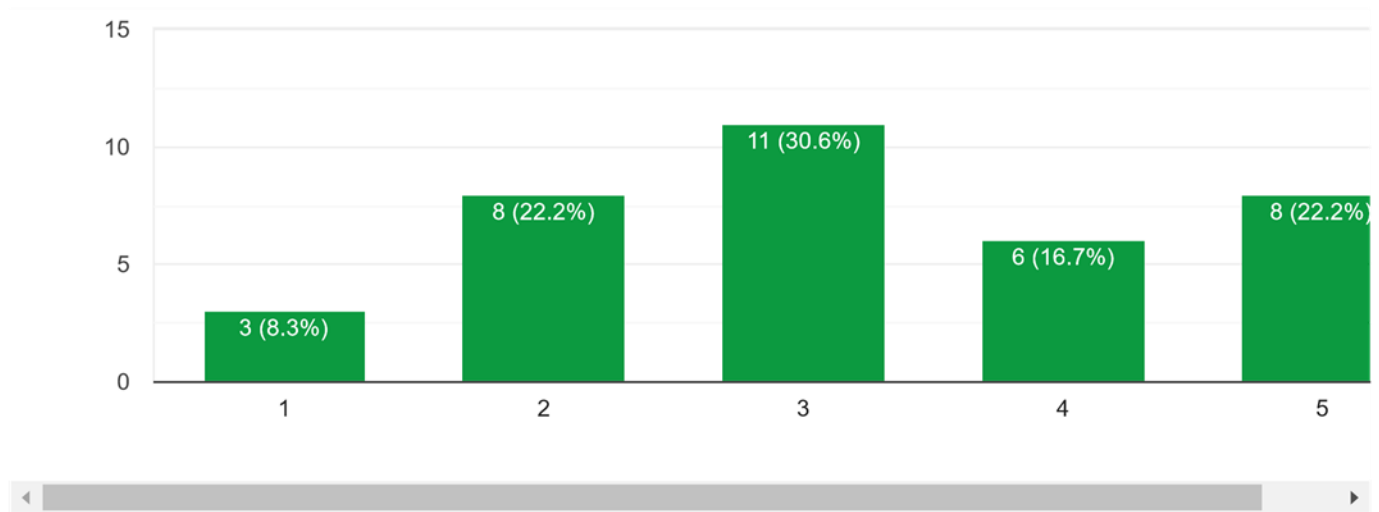
Can you easily find out the different functionalities of the dashboard?

35 responses

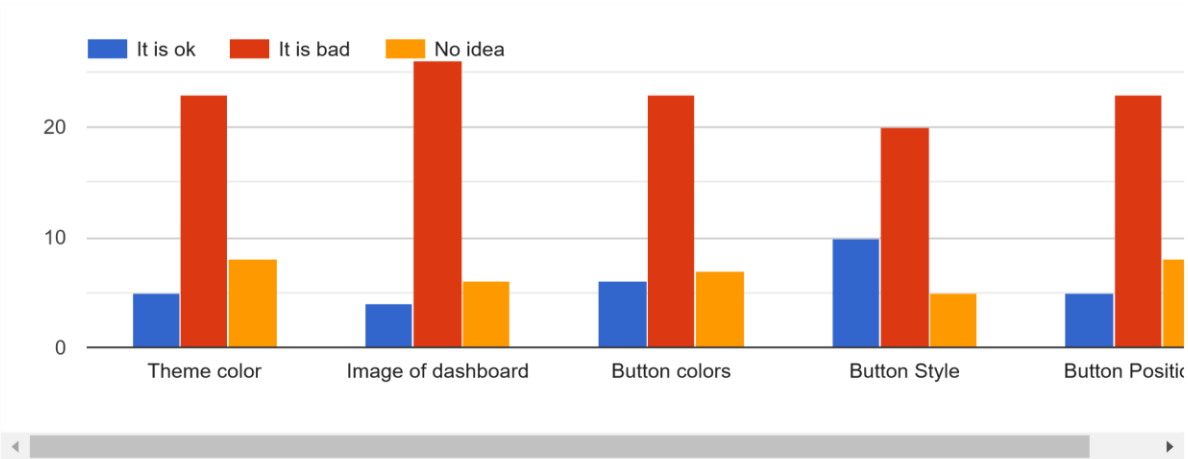


How easy to recognize and memories those function by reading their labels?

36 responses



Give your opinion about appearance of dash board

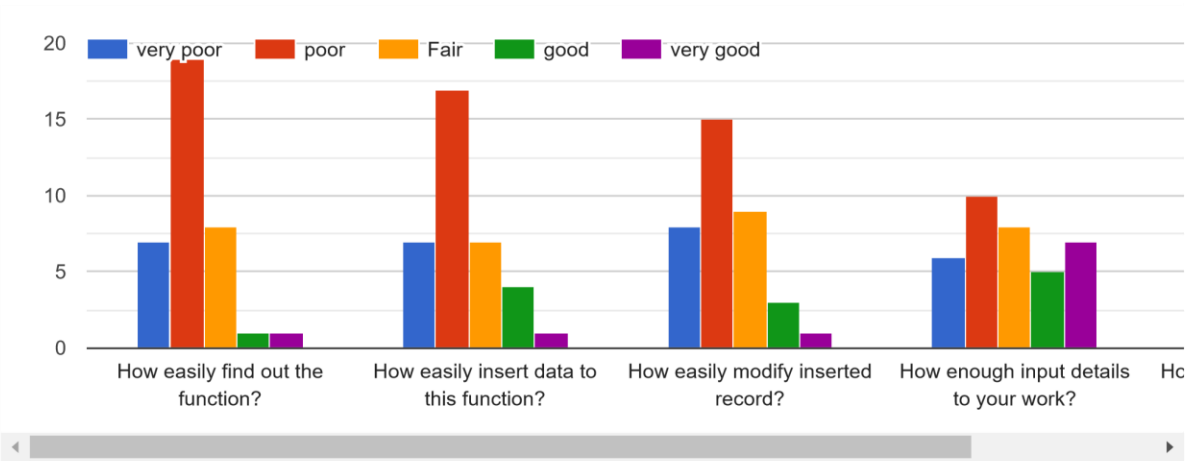


What should improve ?

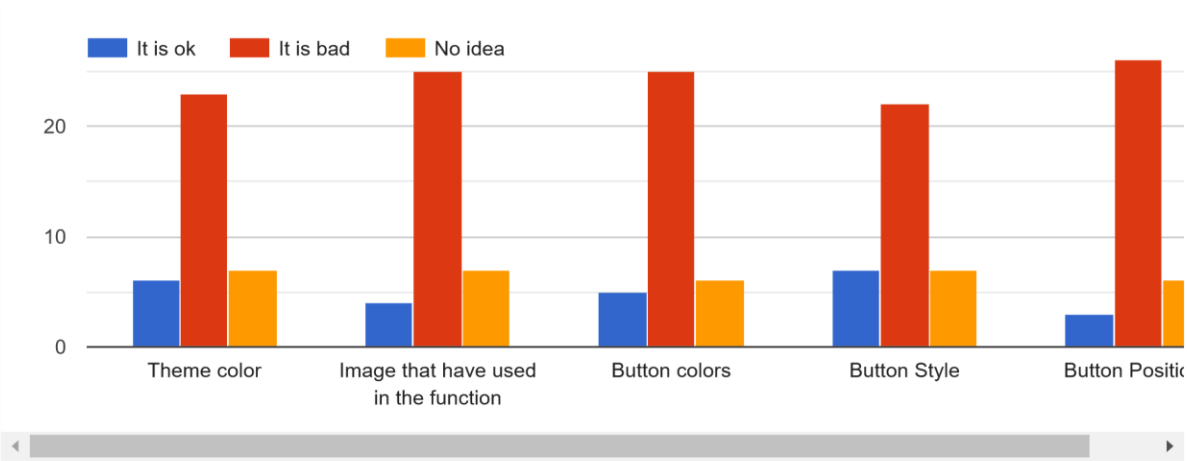
21 responses

- No any
- Should have good design
- All interfaces should be improved
- All the ui elements
- interfaces should be improved
- Dashboard can not find
- UI
- All the app
- Buttons and images

My animal function



Give your opinion about appearance of My animal function



What should improve ?

19 responses

Buttons

Buttons and images

Ui

Should be understandable the interface

All interfaces should be improved

All the ui elements

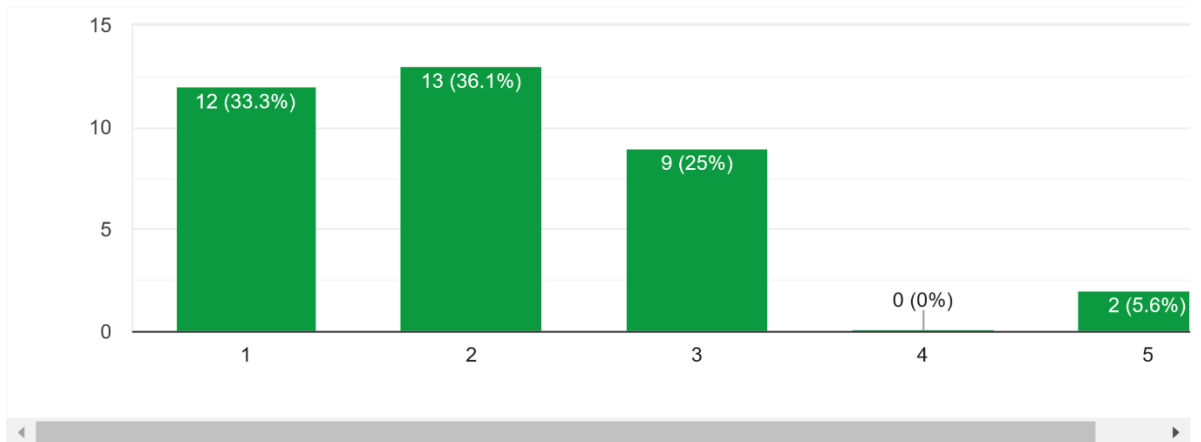
colors are bad

colors are not appropriate

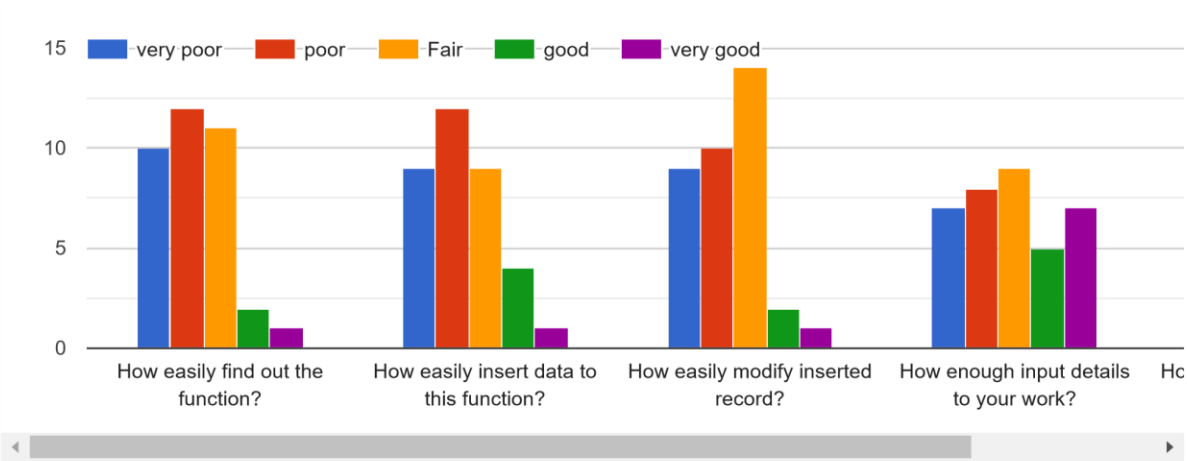
UI

Rate the overall idea about My Animal

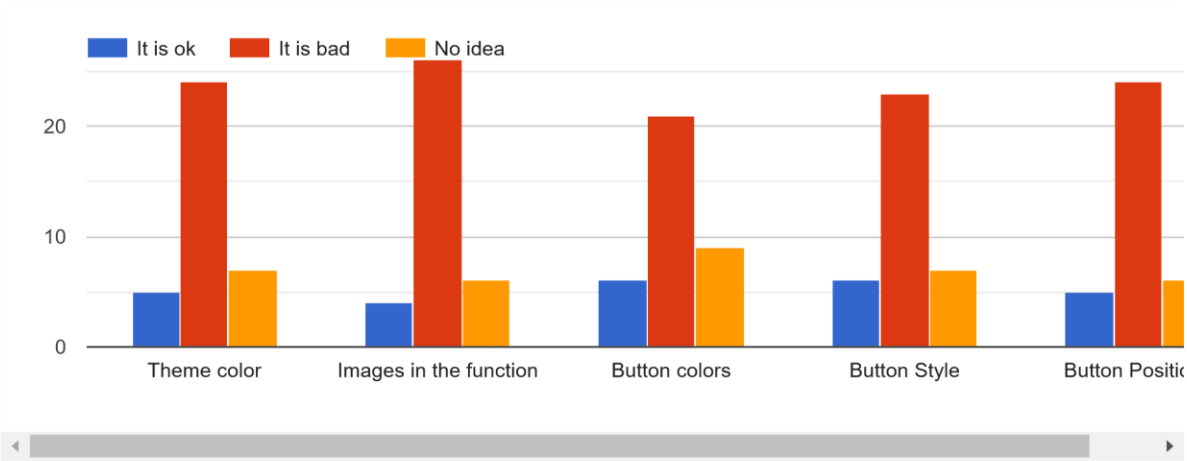
36 responses



Animal Event function



Give your opinion about appearance of Animal Event function



What should improve ?

19 responses

UI

Images

Navigation cannot understand for insertion

All interfaces should be improved

Ui elements

data insertion si difficult

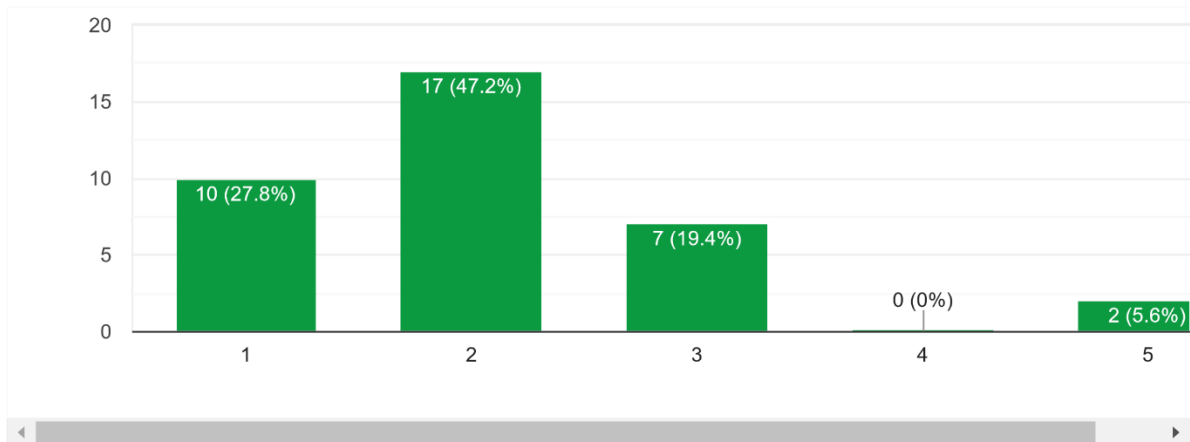
Inserted events can not be found

Labels

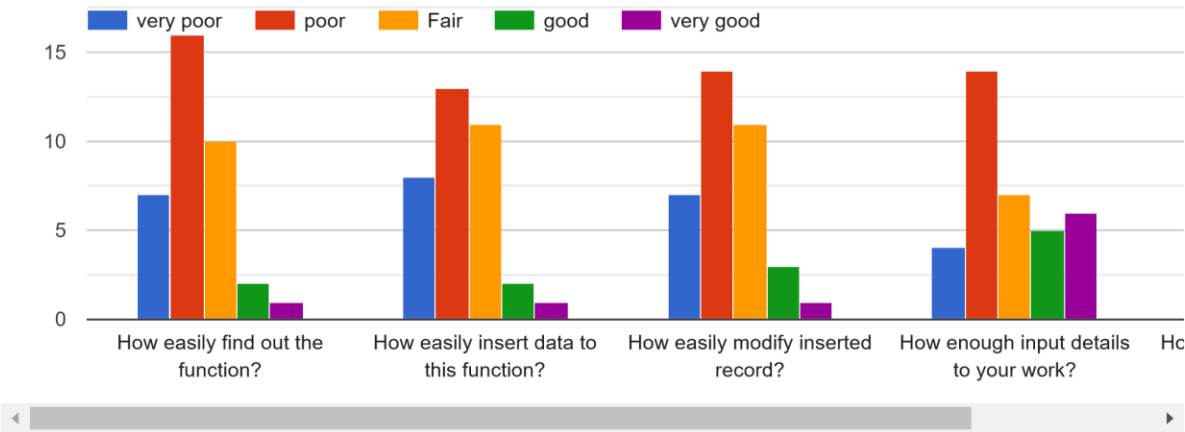
User interface should be well organized

Rate the overall idea about Animal Event

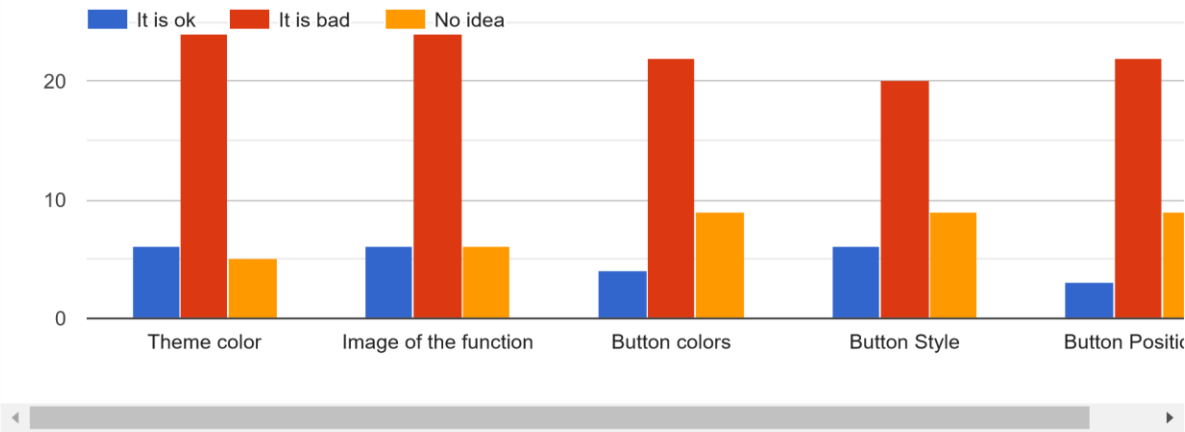
36 responses



My Farm Tasks



Give your opinion about appearance of My Farm Tasks



What should improve ?

19 responses

UI elements

Delete should have confirmation

All interfaces should be improved

Ui elements

labels are not understandable

Buttons do not work

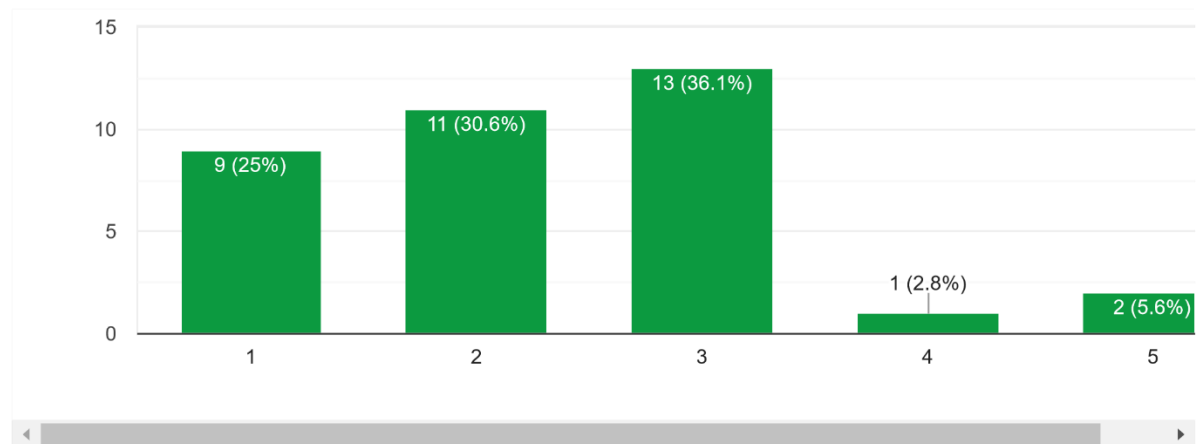
UI

Colour

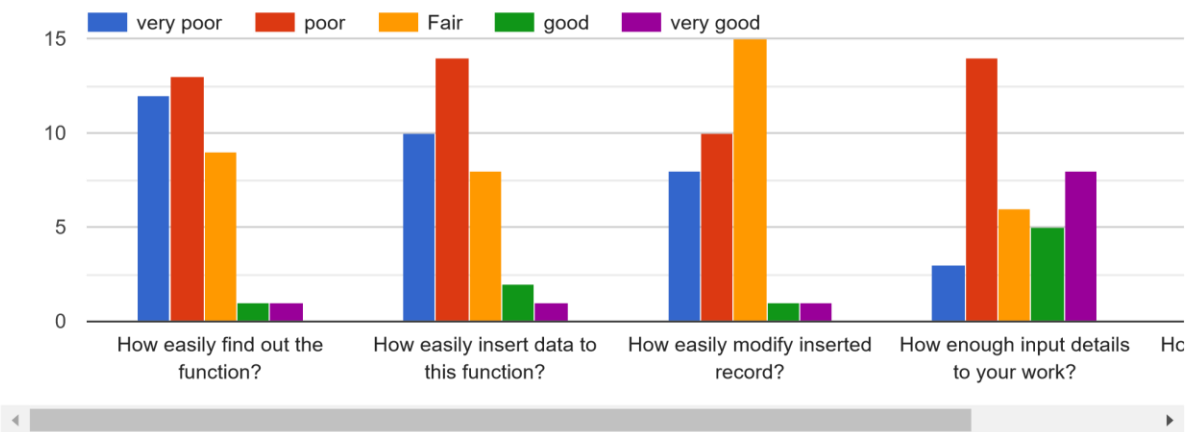
Should have confirmation message to before delete

Rate the overall idea about My Farm Task

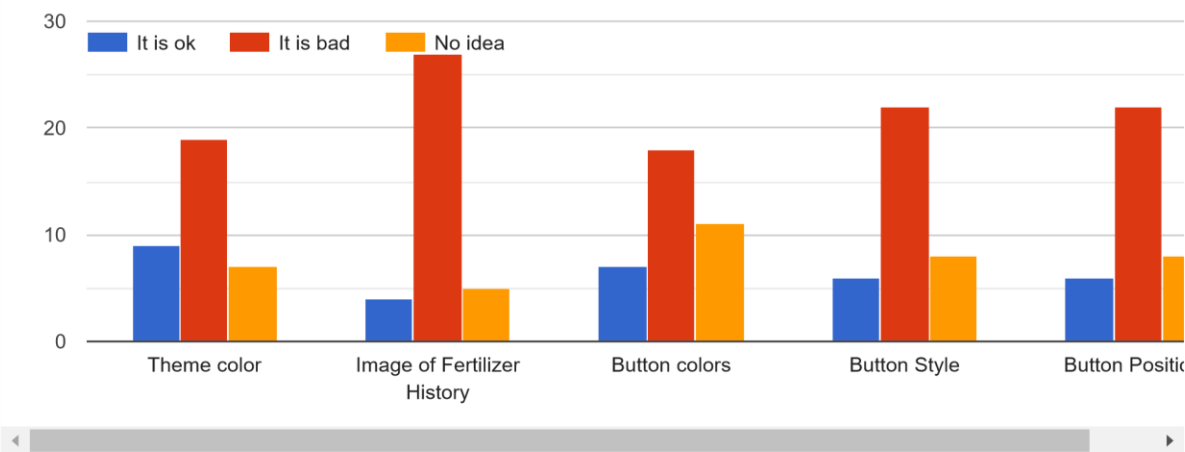
36 responses



Fertilizer History function



Give your opinion about appearance of Fertilizer History



What should improve ?

18 responses

Images

Error message cannot understand

All interfaces should be improved

Ui elements

colors are not appropriate

UI

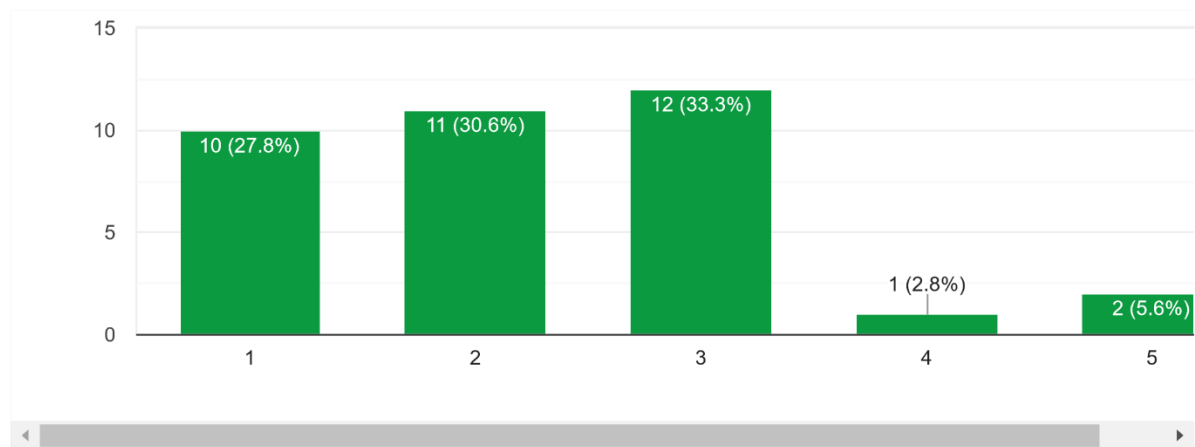
Labels

Button sizes should be in appropriate size.

Buttons

Rate the overall idea about Fertilizer History

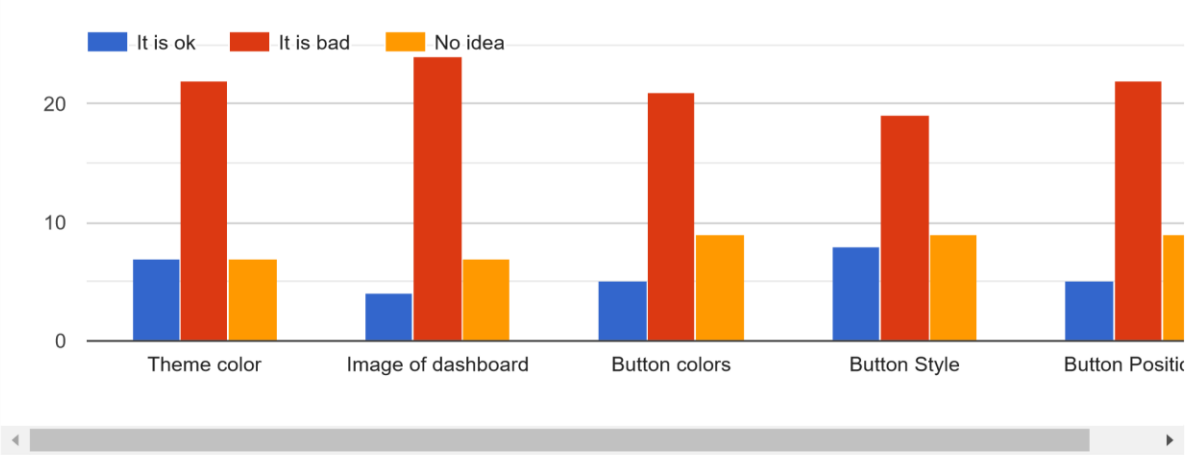
36 responses



Medical cabinet function



Give your opinion about appearance of Medical cabinet



What should improve ?

18 responses

UI

Ui

Labels not user friendly

All interfaces should be improved

Ui elements

data insertion is difficult

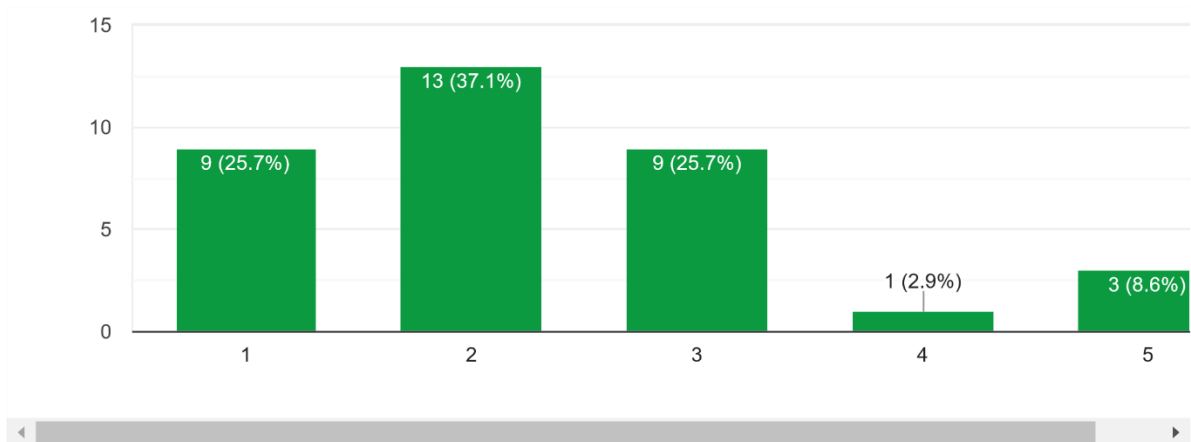
Some ui elements

Improve the color theme of the interface

Buttons and images

Rate the overall idea about Medical cabinet

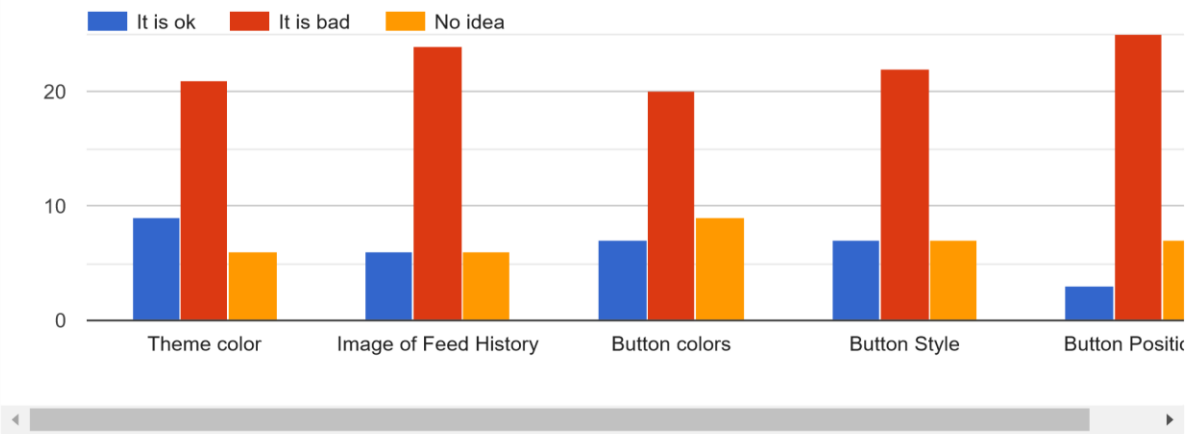
35 responses



Feed History function



Give your opinion about appearance of Feed History



What should improve ?

16 responses

ui

UI

All interfaces should be improved

Ui elements

Improve the position of the button placement.

Buttons and images

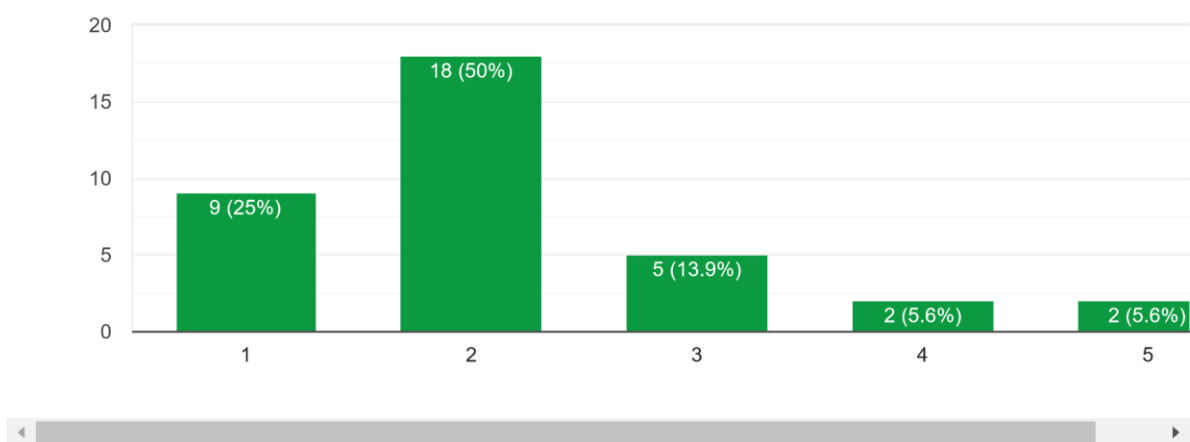
theme

Security

All the things

Rate the overall idea about Feed History

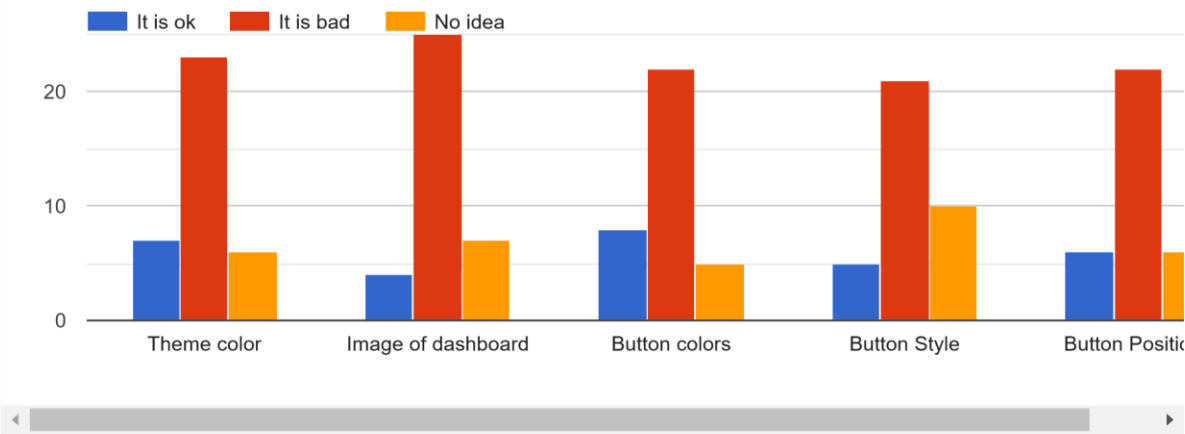
36 responses



My Machinery function



Give your opinion about appearance of My Machinery



What should improve ?

16 responses

Buttons

UI

All interfaces should be improved

UI elements

buttons are not good

Improve the images in the dashboard

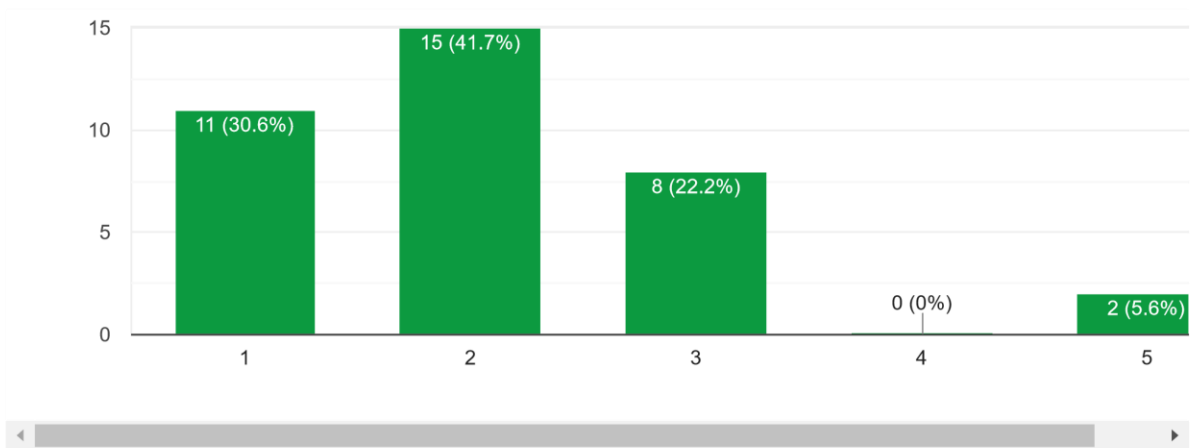
buttons

Buttons and images

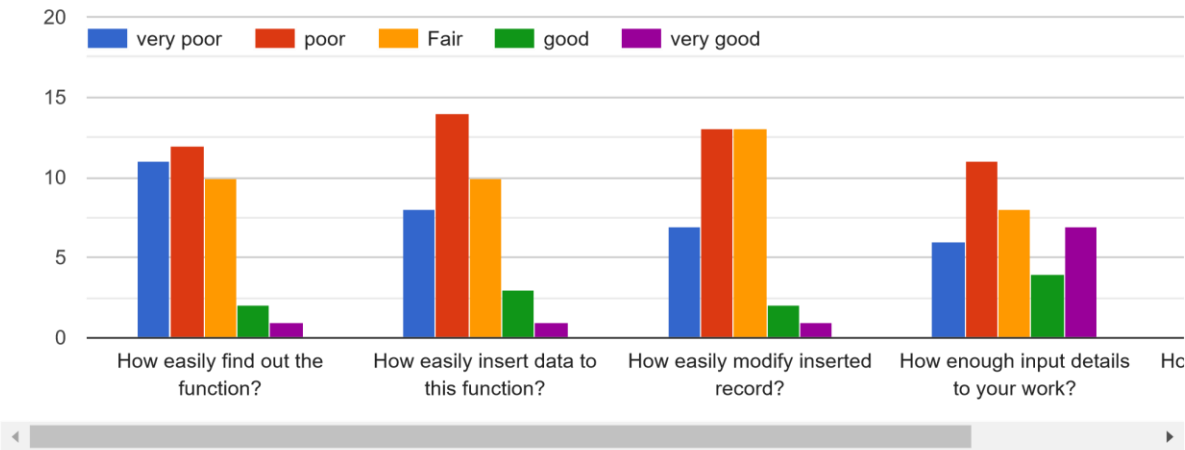
Security

Rate the overall idea about My Machinery

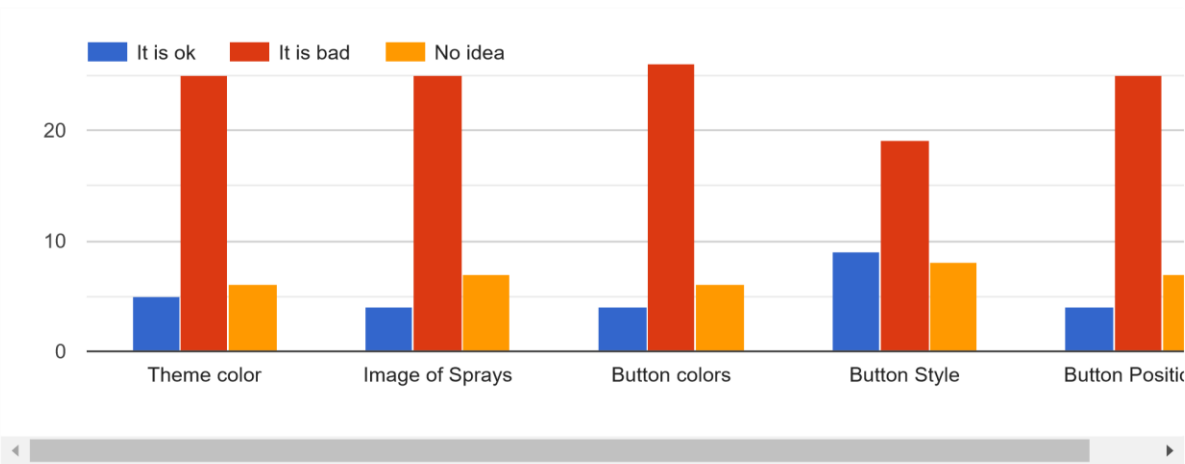
36 responses



Sprays function



Give your opinion about appearance of Sprays



What should improve ?

17 responses

UI

Images

All interfaces should be improved

Ui elements

An error occurred

All the UI elements

Button colors should be diferrant.

Ui

Error messages

Rate the overall idea about Sprays

36 responses

