

TAM Analysis

PU1 I can accomplish asking for emergency help more quickly using RescueMe

Results Avg – 2.428 out of 4 which means disagree.

PU2 I can accomplish asking for emergency help more easily using RescueMe

Results Avg – 2.285 out of 4 which means disagree.

PU3 RescueMe enhances my effectiveness in utilizing self-rescuing

Results Avg – 2.785 out of 4 which means disagree.

PU4 RescueMe enhances my effectiveness in utilizing disaster prevention

Results Avg – 2.571 out of 4 which means disagree.

PU5 RescueMe enables me to make better choices on sending emergency help requests

Results Avg – 2.214 out of 4 which means disagree.

PU6 Overall, I find this app useful

Results Avg – 2.642 out of 4 which means disagree.

PEOU1 Learning to use RescueMe is easy for me

Results Avg – 2.928 out of 4 which means disagree.

PEOU2 It is easy to use RescueMe to accomplish both self-rescuing and providing help to others who needed

Results Avg – 3.214 out of 4 which means agree.

PEOU3 Overall, I believe RescueMe is easy to use

Results Avg – 2.571 out of 4 which means disagree.

We can find easily that most of the dimensions achieve a grade less than 3 which means to disagree. The app that we designed can hardly meet the basic goals and we need to figure out the reasons.

For PU1, PU2, PU3 and PU5 -

These two dimensions are all about asking for emergency help features. From the grade, we can find that users don't like this feature. They find this feature is not easy and quick to interact with. As one of our main features, we can prove that our analysis on sending emergency requests' failure reasons from cognitive walkthrough is correct.

Failure reasons -

1. Asking an emergency request is not as easy as what everyone knows in their daily life like making phone calls.
2. Interactions are not clear to everyone on what they should do.
3. Users prefer the normal way in daily life which is considered the most efficient way.

For PU3 and PU4 –

These two dimensions are about checking broadcasting news nearby for disasters' prevention. Users all consider it's not easy to meet goals for the features. That's the same situation as the one shown from the cognitive walkthrough.

Failure reasons –

1. Icons have no explanations or they are considered as the ones which are not the most suitable for the meaning.
2. Broadcasting news is not listed clearly. Without an introduction, users have no idea how to interact with this page.

For PU6 –

This dimension is related to this prototype's whole process. The grade shows the results disagree on the whole process which also means our current prototype cannot meet basic goals and users' requirements. From the cognitive walkthrough, the problems are confirmed to exist with some failure reasons.

Failure reasons -

1. The current prototype cannot meet users' requirements on both features and goals which only provided a complex and useless way for emergency requests. It's even not as useful as making a phone call when they are in danger.
2. Some pages are missing which make a logical misunderstanding and confusion.

For PEOU1, PEOU3 –

This dimension is related to the prototype's accessibility and usability. Most participants consider this app is not easy to use or learn how to use. According to our cognitive walkthrough, users have no idea how to interact with some features even for the main/ key features like sending emergency help, lacking essential guidelines such as tutorials on interactions.

For PEOU2 –

This dimension is related to a part of our goals which is based on broadcasting news features and locating features. According to our cognitive walkthrough, a conflict exists which means users can get what these features work for but don't know how to interact with them just like what's mentioned above, the failure reasons maybe because

1. Icons have no explanations or they are considered as the ones which are not the most suitable for the meaning.
2. Broadcasting news is not listed clearly. Without an introduction, users have no idea how to interact with this page.

For the three questions about Attitude towards Technology (ATT), it can be concluded that the final average score is between 2-3. We can see from this that, in general, users do not particularly agree with our application.

For ATT1 "In my opinion, it is desirable to use RescueMe In danger or during a disaster", the score is relatively high at 2.53 points. By browsing to each user's ratings, detailed analysis can be observed that in 15 users, only one gives the 4 points (strongly agree), eight users are given 3 points (agree), the rest of the users are all thinking that using RescueMe in danger or disaster is not desirable, in which two users think very undesirable (1 point). Although more than half of the users think it is acceptable, it also shows that there are problems in the overall functional design of our application, which is not reasonable and perfect. As a result, users will not use our product often or not.

For ATT2 "I think it is good for me to use RescueMe if I am in danger", the score is 2.4. The breakdown scores showed that six users thought using RescueMe was good if they were in danger. Two of them strongly agree (4 points). The remaining nine users disagreed, and two of them gave a score of 1 (strongly disagreed). In response to this question, more than half of the users do not think it is bad to use our application when they are in danger. This score is not ideal, indicating that there is a problem with the focus of the function of our application, and the functions presented cannot meet the needs of users.

For ATT3 "Overall, My Attitude Towards RescueMe is Superior", the score decreased to 2.27 points. According to the detailed ratings of the users, more than half (nine users) still gave negative reviews to The Application and expressed a negative attitude towards RescueMe. Three of them expressed a very negative attitude (1 point). The remaining 6 users have a positive attitude, and 1 user is very positive (4 points). This indicates that we have not grasped the pain points of users and have not understood the needs of users, so we need to further investigate and design the functions of our users and application.

As the score of this part is not ideal, we conducted a further simple inquiry for the users who scored, and some users who disagreed with it said that they were more inclined to directly call for help when they met a disaster. Using an application to call for help is a very cumbersome and time-consuming process. This suggests that further research and planning is needed to ensure that the positioning and functional design of the software meets the needs of users.

For the three questions concerning Intention to use (ITO), we can find that the average score is between 2.4 and 2.5. This shows that for the application itself, the user's intention is not obvious.

For ITO1 "I will use RescueMe in the future if necessary", the average score was 2.4. According to the RescueMe score, eight users will not use RescueMe in the future, with three saying they will not use RescueMe (1 point). The remaining seven said they would use RescueMe if needed in the future. As can be seen from the detailed score, more than half of the users said they would not use it in the future.

For ITO2, "I will strongly recommend other people in Disasters -prone areas to use RescueMe in the future", the average score was 2.47. Seven of them said they would not recommend it, and three of them said they would never recommend it (1 point). Of the remaining 8 users who said they would recommend, two of them indicated they would recommend (4 points). More than half of users said they would recommend it to people in disaster-prone areas, but of those, only 25% said they would recommend it, while about 42% of those who would not recommend it said they would never recommend it. It's not an ideal score overall. The current functions and design of RescueMe are not able to help people in disaster areas.

For ITO3 "I will regard RescueMe as the first choice for people to use when they are in danger", the final average score was 2.47. Eight of those users said RescueMe was not their first choice in a disaster, and a half (4 users) said it was not. The remaining 7 users said the application could be their first choice, and a half (4 users) said it was. The polarization of scores in this part is quite serious, indicating that RescueMe's current help to users in need is not comprehensive, and there may be difficulties in using or functions that are not easy to understand.

After the user finished this part of the rating, we also conducted a simple query to the user. Some disapproving users expressed that some pages and functions in the application are not easy to understand and feel easy to use. A real disaster can be a burden to call for help. For application, we may need to make further planning to ensure that its functions are simple and the layout of the page is simple, which can help people in need.

In order to better understand the detailed ideas of users, we also choose the walkthrough method in addition to TAM Evaluation, to ensure a clearer and detailed understanding of users' ideas and feedback, so that we can analyze the feedback and iterate to improve our application. The purpose is to solve the current user feedback problems.

Cognitive Walkthrough Analysis

Task 1 – Use the id to create an account then log in.

Success stories

- A user is doing and completing the signup and sign-in process successfully.

Failure stories

- A user cannot finish the account-creating and login process because of some reason.

Cognitive

- Users know they need to fill in the forms for signup and sign in.

Users know they need to click the buttons to the next page or submit.

- If it turns to another page, users know it works well.

Problems

- Users didn't know how to create an account.
- Users didn't know how to use their ID.

Failure reasons

- The signup page is missing and the user cannot find it.
- There are various IDs from different countries, only one type of ID can be identified, making users unable to login with their ID from their own countries.

Potential solutions

- Add one more signup page with selecting regions for different IDs to identify their identity.

Task 2 – Go to the homepage and check broadcasting disasters' news in your locations.

Question 1 - What do you think about browsing broadcast disasters news based on locations on the homepage? Any improvements could be made? Any confusion?

Success stories

- Users click on the navigation bar with the correct icon to the right page and check the news on this page.

Failure stories

- Users try to figure out which one is the correct page but go to the wrong page.
- Users try to access the broadcasting news, however, they are confused about what exactly it is.

Cognitive

- Users know they need to click related icons to aim pages.
- Users know they could get some information through browsing the page.

Problems

- Users didn't know which icons can be clicked for them to go to the homepage and

they tried all different icons one by one.

- Users feel confused about broadcasting news and buttons.

Failure reasons

- Icons have no explanations or they are considered as the ones which are not the most suitable for the meaning.
- Broadcasting news is not listed clearly. Without an introduction, users have no idea how to interact with this page.

Potential solutions

- Add page names with the icons to make it clear. Like "Icon1"
Home
- Make the broadcasting page much easier. Only listed a few information.
- Add onboarding pages for a guide to help users know how to interact with buttons and introduce their features and goals.

Task 3 - Send emergency help requests if you are in danger in a fire accident.

Question 2 – What do you think about the current way to send emergency help requests if you are in danger? Do you have a better idea of improving that?

Success stories

- Users send help requests with the correct disaster's types. For example, John is in a fire accident, he sends an emergency request with fire accident's types.

Failure stories

- Users send help requests with the wrong disaster's types. For example, John is in a fire accident, he sends an emergency request with a flood type.
- Users cannot tell how to submit and send an emergency request. For example, John feels confused about how to interact with buttons.
- Users cannot receive responses to their emergency requests immediately. For example, John is waiting for a response but he doesn't know how to find it. It's not like a phone call. He can get a response at once with the phone call.

Cognitive

- Users know sending emergency requests can be done with some easy ways like making phone calls or sending signals.
- Users know responses for emergency requests can be checked at once.

Problems

- Users don't know how to send emergency requests.
- Users don't know if they have received a response or not.
- Users don't know if it is necessary to ask for help in such a complex way, compared with making phone calls.

Failure reasons

- Asking an emergency request is not as easy as what everyone knows in their daily life like making phone calls.
- Interactions are not clear to everyone on what they should do.
- Users prefer the normal way in daily life which is considered the most efficient way.

Potential solutions

- Adding onboarding pages to introduce how to interact with sending emergency help pages is like a guideline.
- Add an additional page that will appear once users send emergency help requests for checking response.
- Find out another way to ask for emergency help which should be much easier and more efficient than the current one in our daily life.

Question 4 - What do you think about the whole prototyping process?

Success stories

- Users completed the whole process without any doubts in quite a short time.

Failure stories

- Users find the whole process is hard to follow with a lot of confusion and complete it in a long time or they cannot complete the whole process.

Cognitive

- Users know a prototype for disasters' rescuing should be easy to use.
- Users know how to ask for help with the current way in daily life.

Problems

- Users feel that is not convenient and useful to use for asking for help in an emergency. Most of them take quite a long time to complete the process. And they all consider that they don't need to use this app if they can make a phone call.

Failure reasons

- The current prototype cannot meet users' requirements on both features and goals which only provided a complex and useless way for emergency requests. It's even not as useful as making a phone call when they are in danger.
- Some pages are missing which make a logical misunderstanding and confusion.

Potential solutions

- Making the process much easier and simple but useful, which also should be done for sending emergency requests.
- Adding more detailed and essential pages to make it consistent with a suitable response.

Task 4

- Users click on the icon in the upper right corner but are not sure if they can connect to the information page. The menu bar at the bottom does not directly find the corresponding page. The meaning of the After menu is unclear
- MyRescue, you can view my posted messages and replies.
- No. It should be the logo on the right-top side, but can not be sure cause there is no following page.
- All in all, can not find it. (The reply page is assumed to be an after page) It is only after reading the information that it is a reply page. He cannot tell the differences between emergency and less emergent features.
- He updated his personal information successfully without hesitation and seems pleased to interact with this feature.

Conclusion: To complete this task, the user needs to do (). Most testers can not really be sure they find the right page or not. They thought there was no button in the menu bar to the page straightly.

Task5

- Still, click on the icon in the upper right corner because some software information and user Settings are together. The menu bar at the bottom is unmarked.
- I can't find it. The menu is not obvious. The user stopped at the MyRescue interface.
- No. It should be the villain in the upper right corner, but I'm not sure because it's not written.
- No personal information page (assuming you can click on the upper right corner)
- Clement updated his address and number successfully without hesitation.

Conclusion: To complete this task, users needed to click the right-up button. Some users are not sure about that because when they click it, the page is still "My rescue".

Question3

- Features are comprehensive, but each feature requires a more detailed usage process page.
- Add a one-button alarm or help function, which can be categorized by the disaster.
- Show when the call for help arrives.
- Create account page
- Personal information page

- What if there is no signal?
- I think we need a check detail page for the emergency request. Because I cannot tell the helping progress and what's going on. If I am in danger, I may be worried about that.
- I guess you can add a few more pages on less emergent or make users add less emergent content by themselves as they needed.

Conclusion: Users thought we need detail pages for every main page, the existing pages are too few to accurately describe the main functions, such as the personal detail page and create account page. They also suggested that the application can add a one-button alarm or help function. The check detail page was also suggested to add it on.

Question5

Some users may not have enough time to complete the whole process to ask for help if they are in danger. What do you think about this? (Some users may feel lack enough time when they are trying to ask for help in a disaster Ask users for feedback on their opinions and feelings.)

- As I said, if I choose my situation like I have a fire, I choose a fire, do I have to choose who to send it to? I might be more inclined to call the fire department if I need to.
- I think so. The whole process takes a little bit of time, like describing it. Perhaps it could be organized into two functions, one for detailed description when the situation is not particularly critical. But when the situation is very urgent, a faster function button may be required.
- If you encounter an emergency, you don't have time to use this software (target audience)
- I think this is very likely to happen, and the process of seeking help is too complicated (seek help can be placed on the homepage instead of the request on the homepage)
- Voice recognition text automatically sends distress messages may be better than typing
- The layout is quite straightforward and clear for the app's purpose and goals.
- The whole prototype's process is easy to follow except for emergency and less emergent modes' selection.

Conclusion: The user thought the existing distress process in the app is too complicated. They believe that it takes a while from the occurrence of a disaster to the issuance of distress signals, and sometimes it is not convenient to make distress calls (fire alarms, etc.).

Question6

- I think the only problem is that the bottom menu needs to be adjusted.
- Larger fonts and multilingual fonts may be required. Do not have too many restrictions, such as the elderly may be difficult to use.
- Single colour (not black and white, yellow is recommended)
- Too unsightly. The icon below, the text (menu bar) does not correspond to the actual content of the page. The icon is weird.
- The locating is quite useful. I can check broadcasting news around me without too much-unrelated news.
- The locating feature works well for the prototype's purpose, but I think it can be more flexible with some customize settings.

Conclusion: The menu bar needs to change the most. They thought the existing fonts are too small and very unfriendly to some elderly people. They also feel that the existing menu bar is very unclear, and the main content of the page it represents cannot be understood at all by looking at the text. The user also suggested that the colour of the page can be coloured a bit.

Question7

- Of course, it does, because otherwise, no one would know where I am. Map pages may need to be designed with features such as instructions, which can be difficult to read without careful study. But IF I need help, I probably can't take the time to figure out how to use it.
- Yes, I can find my location. Or the real-time location of the rescuer can be added to relieve the psychological pressure of asking for help.
- It's definitely useful. Getting the location directly can save people. Improvement: It's pretty good now.
- It's ok.

Conclusion: Users thought the location function was really useful. It can tell others where the user was.