Implementation of RESHOT Method to Create a Good User Experience in an Application

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Abstract - In recent years User Experience (UX) has become something that must be implemented in making applications. Every application design practitioner has applied this discipline, but often they wonder how to simplify a user's journey flow by using applications and make it easier, faster, and simpler. This research aims to explain a method that can simplify the User Experience comprehensively. RESHOT is used (Refine the challenge, Remove, Shrink, Hide, Organize, Time). This method will make applications pay more attention to aspects that can increase user satisfaction. As a result, this study contributes to an explanation of simplifying the flow of uploading donor data files using the RESHOT method in the X blood donor data collection application. The results of streamlining the flow of uploading donor data files have been tested on five respondents and have a 100% user success rate in completing tasks with an average processing time of 14.5 seconds. In testing, there is a misclick rate of 10.7%. This is because the user wants to explore the designed application. And this is also a limitation of this study, namely not making the overall application design interaction.

Keywords: user experience, user interface, human-centered interaction, RESHOT method, usability.

I. INTRODUCTION

The requirement to create a good user experience (UX) must match what the user needs and not make it difficult for the user [1]. UX is also related to the user's emotions, which is the main component influencing UX in an application [2]. This concept also aligns with Human and Computer Interaction or Human-Centered Interaction (HCI), which is centered on user needs, solves a problem correctly, and is easy to use [3].

Tulis and Albert, in their book [4], explain how to measure UX by paying attention to the feelings of users' opinions and perceptions that arise when interacting with the application. Because those who can assess an application as having a good UX and being able to solve user problems are the users of the application, not the judgment given by those who created the application [5]-[6].

In designing UX, a collaboration between practitioners, researchers, and users are needed to get a relevant result [7]. So that in making user flows, the layout of components on a page must be adequately considered [8]. In addition to collaboration, defining the goals of users using the applications that are made must be determined comprehensively. Because UX goals will largely determine how an application design practitioner designs and implements it into a design, as explained in [9].

Even so, there are still application products made not according to the rules the researcher has explained. Applications that should make users comfortable and helped by the application but make users frustrated because it is difficult to use the application. This assessment can be seen from application feedback provided by users in application publishers such as Google Play [10].

This is, of course, very contrary to the purpose of the UX discipline being created. It is explained in the book [11] that apart from impacting application users, bad UX also significantly impacts the business or company concerned with the application.

Marcus Fairs explained in his article [12], that lack of design input in healthcare is putting both patients and doctors at risk. The article explains that hospitals need a designer for all aspects, both digital design and hospital environment design. Dr. Sam Smith, a clinical physician at Massachusetts General Hospital in Boston, said he urgently needed designers to help organize environments and products to help keep the proper focus on the patient and reduce distraction.

Research conducted by [13], One of the consequences of the lack of design of control systems in rail transportation is the occurrence of train transportation accidents. In this research, 4 cases of train accidents were presented whose root causes were in the Human Machine Interface (HMI) function and lack of system design.

Research conducted by [14], from a survey undertaken with 4,384 respondents, the most contributing causes of users canceling purchases on e-commerce are related to design, such as users being

required to log in and sites not providing information that users can trust and long or highly complex purchasing processes. The three things that have been mentioned earlier are the things that contribute the most because users cancel their purchases. For details, see Fig. 1.

From this, we can conclude that a lack of design will harm users or companies. So that in designing a structure of design, both digital and non-digital, consideration of the needs of the user and the company must be combined.

One of the design method that is currently very popular is Design Thinking. This method focuses on finding the root of the problems users face and finding the best solutions to these problems [15]. However, the weakness of this method is that it does not focus on making the user flow [16]. So even though the design practitioner has found the root of the problem and has provided a good solution, the application may appear new problem because no method pays attention to things that should and should not need to be done during the application design process.

Therefore, this research will discuss methods that can be used as a guide for application design practitioners in planning, creating, and evaluating applications that have been made. The method that will be discussed is RESHOT. The RESHOT method is adopted by Borrys Hasian a design veteran from the book Laws of Simplicity [17].

II. METHOD

RESHOT stands for Refine the challenge, Remove, Shrink, Hide, Organize, Time, as described in Fig. 2. The RESHOT method is a method for simplifying UX comprehensively based on the problems faced by users [18].

A. Refine the Challenge

The first stage in this method is Refine the Challenge. At this stage, the researcher defines the problems faced by application users, and the case study in this study is the X blood donor data collection application.

This study conducted qualitative interviews with five users to get the problems users face. Taking these five users is a recommendation by [19] that with five users, you will get 85% of problem data related to application visuals or those related to application flow. This is the proper method to identify the problem.

B. Remove

The next stage is Remove. At this stage, the researcher will analyze the features or components that can be removed, but without hindering the user if these features or components are removed so that the features or components in the application are only what users need.

C. Shrink

Next, the researcher carried out the Shrink stage by shrinking or adjusting the components on an application page. Components that will be changed are colors, typography, and other visual components.

D. Hide

After obtaining the appropriate features or components, the researcher then makes component adjustments by embedding components that are inappropriate or not needed by the user. It is like the design of the Swiss Army knife, which has many tools but can be hidden in one place. So that if the user uses specific tools, all that remains is to issue the tools that the user wants to use [20].

E. Organise

Next, the researcher organizes, which is the stage for grouping, naming, and combining existing features or content. An example can be seen in Fig. 3 for a list of features and components that have not been organized. Results are the main part of scientific articles, containing final results without data analysis process and hypothesis testing results. Results can be presented with tables or graphs to clarify the results verbally. And Fig. 4 shows the features and components that have been organized.

F. Time

The last stage researchers do is Time, which measures the estimated time needed for a flow that the user will work on, which the researcher will later adjust so that the time required to complete a task can be faster or feels faster.

Estimation measurements in this study focused on the uploading feature of donor evidence. The estimated time needed to upload a donor proof file is 4 seconds with the condition that the file size is 1 megabyte (MB), with an upload speed of 2 megabits per second (Mbps).

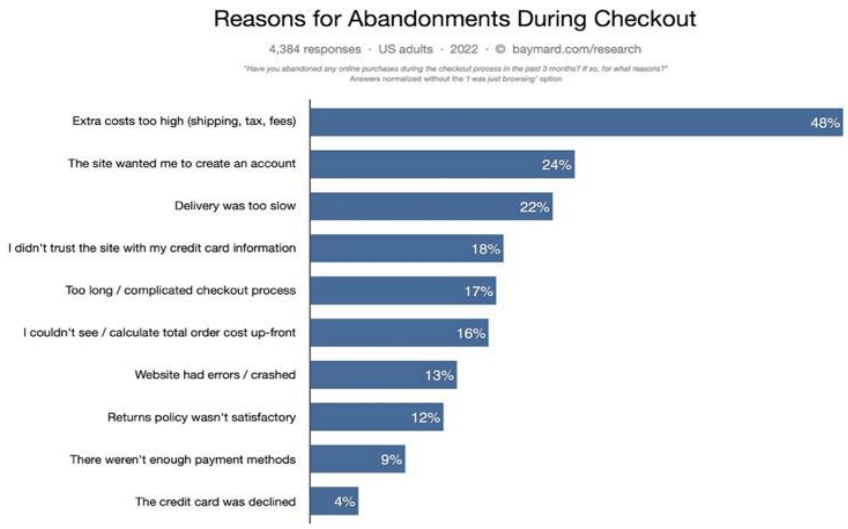

Fig. 1 The reason the users canceled their order

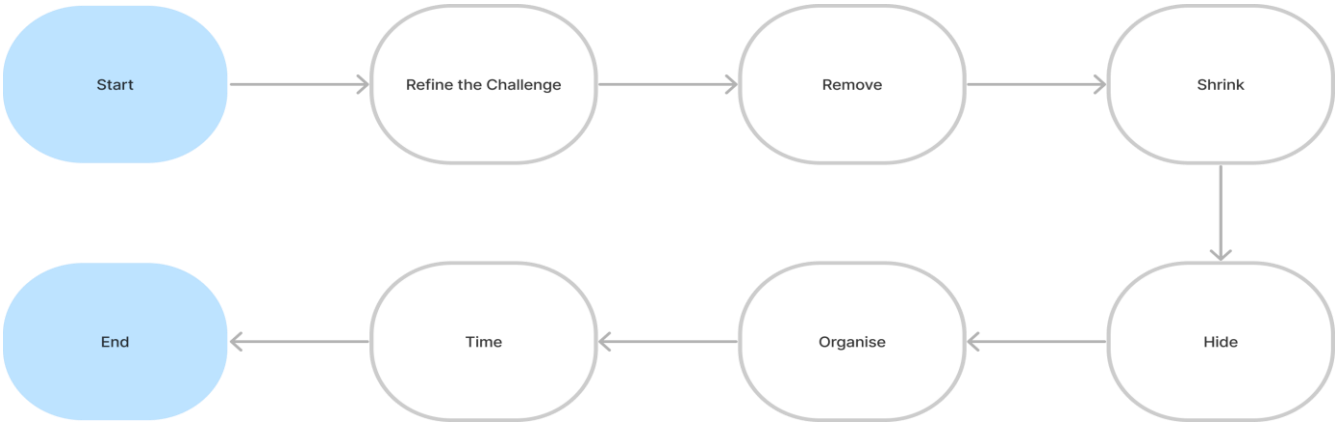

Fig. 2 RESHOT method diagram flow

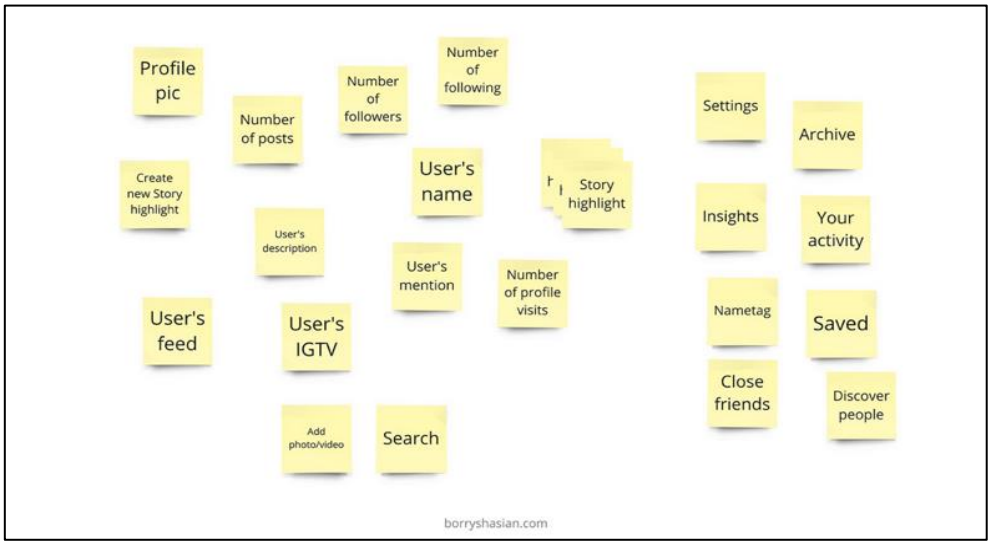

Fig. 3 Unregulated features and content, Source [18]

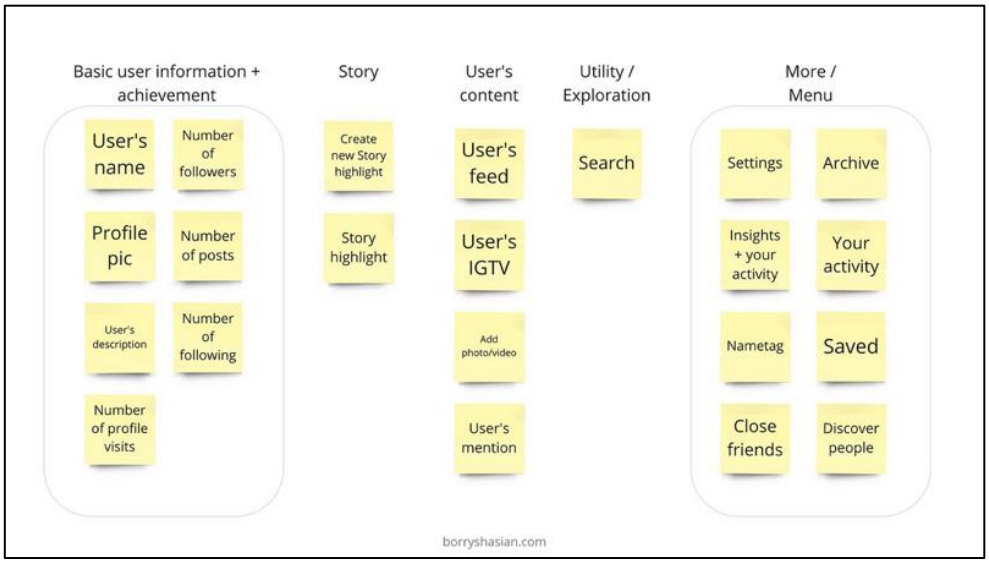

Fig. 4 Pre-arranged features znd content, source [18]

G. Implementation of the RESHOT Method

In implementing the RESHOT method into a design, the Refine the Challenge stage is the foundation for creating a design that solves the problems experienced by users. So that at this stage, it must be based on valid data and the user's problems and needs.

The other stages, namely: Remove, Shrink, Hide, Organize, and Time are flexible stages, namely the stages where the application is carried out into a design creation if needed. Because in a design, there may be an application flow that does not allow the Hide stage to be carried out, so the Hide stage does not need to be carried out.

RESHOT method cannot be implemented into a complete system because this method focuses on improving the user's flow in completing a task or using a feature. In implementing the RESHOT method into an entire system, the first step that must be done is to break it down into several features and then implement this method to each of these features. For example, this research focuses on improving user flow in uploading data donors.

III. RESULT AND DISCUSSION

User flow uploading donor data to the blood data collection presented in Fig. 5. It is illustrated in Fig. 5 that the user flow in uploading donor data in the X blood donor data collection application is as follows: (1) The user opens the blood donor data collection application. Then the user will be directed to the Homepage page, (2) On the homepage page, the user clicks on the Profile menu on the navigation menu on the homepage, (3) On the Profile page, the user clicks Data Donor, (4) Then click Upload Donor Data, (5) User uploads files, (6) The user confirms the file on the Confirmation Page, (7) Donor data upload is successful. The total of user steps to upload donor data to success takes seven steps

The first step to simplifying these seven steps is refining the challenge. To get to the problems faced by users, the researcher conducted quantitative interviews with five users, with the criteria of informants described in Table I.

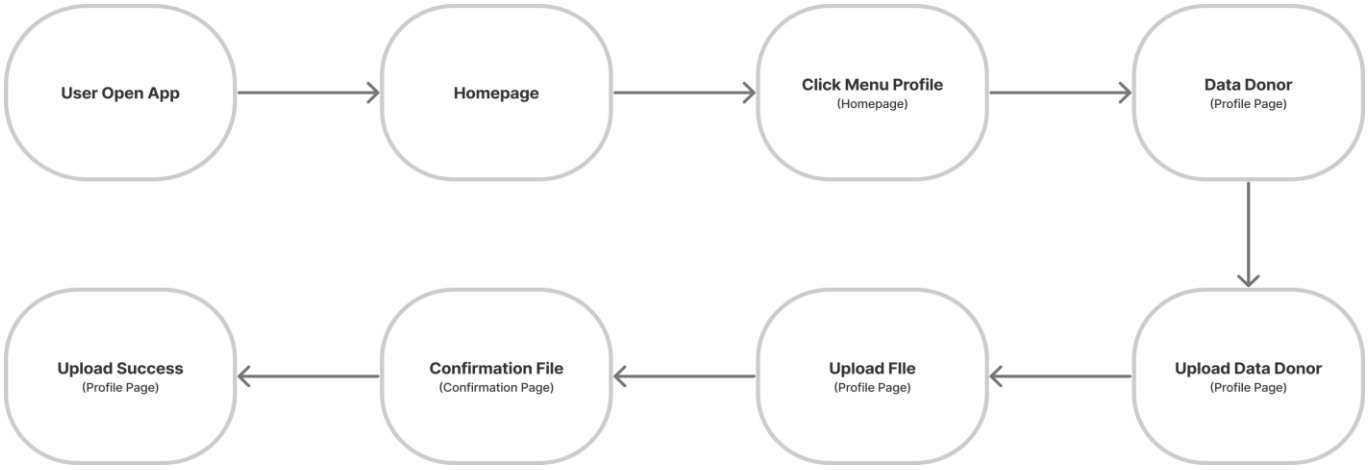

Fig. 5 User flow uploading donor data to the blood donor data collection application X

TABLE I
SOURCE CRITERIA

Users	Attribute		
	Age	Tech Savvy	Donor Frequency
1	22	Medium	2 months
2	25	High	2 months
3	25	High	2 / 3 months
4	27	High	2 months
5	30	Medium	4 months

In Table I, the Tech Savvy Attribute is a parameter of a person's proficiency in using technology [21]. Based on quantitative interviews conducted with five users, the application of X blood donors with an age range of 20 to 30 years, the conclusions are: (1) Users go through many steps to the donor data upload feature, (2) When using the X blood donor data collection application, the user needs time to find the donor data upload feature, (3) If there is unreadable or incorrect data, the user can only re-upload, such as uploading new data, (4) Correcting donor data is often done more than once by uploading files.

The conclusion from points 2 and 3, the root cause of this incident is the absence of a separator between the new donor data and the donor data that the user wants to revise in the application. So this causes the X blood donor data collection application admin to have difficulty distinguishing users who update donor data or want to revise their donor data. From the conclusions obtained, the researcher found the core flow that users need, which can be seen in Fig. 6.

In Fig. 6, it is known that the essence of the flow of the user wanting to upload a donor data file is that the user opens the application, then selects the upload feature, and the user carries out the process of uploading the donor data file. From the conclusions of the problems and the core flow obtained in the previous stage, the first step in solving user needs is to adjust the existing application flow by removing unnecessary components and pages.

In Fig. 7, the chart that is colored red is a step or page in the application that can be removed and combined into the chart. This is because the donor data file upload feature is the application's main feature. So that users can find these features, users don't have to go through lengthy steps. The results of the user flow after the Remove stage can be seen in Fig. 8.

Based on the problems explained at the Refine the Challenge stage, in the step Shrink & Hide, the researchers added a feature for uploading new donor data and revising donor data separately.

Fig. 6 The core flow of the donor data upload process

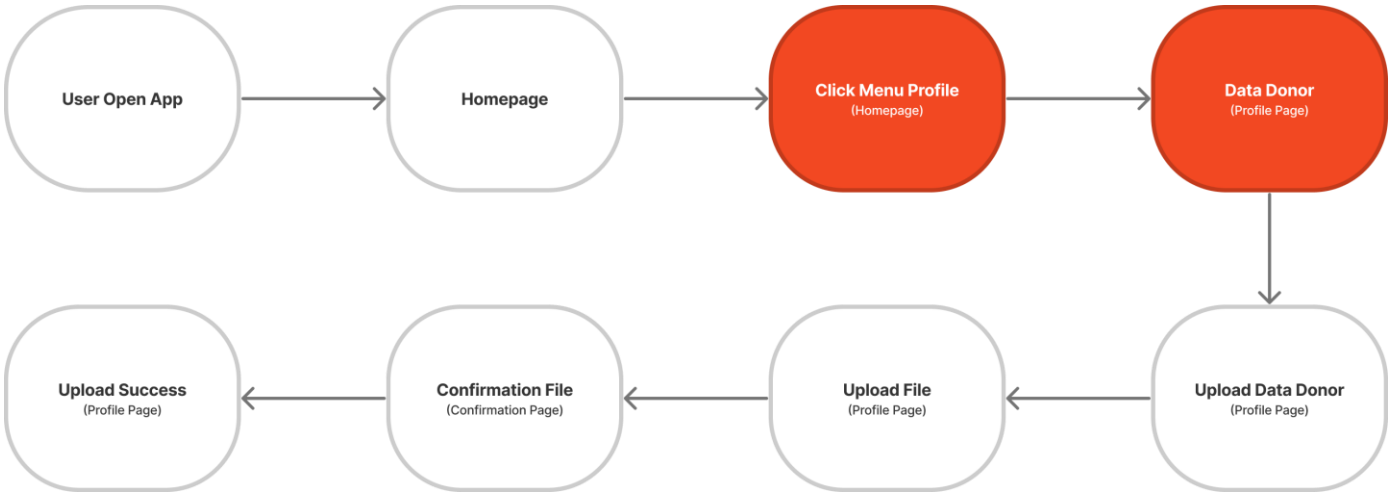

Fig. 7 Two user flow charts upload deleted donor data

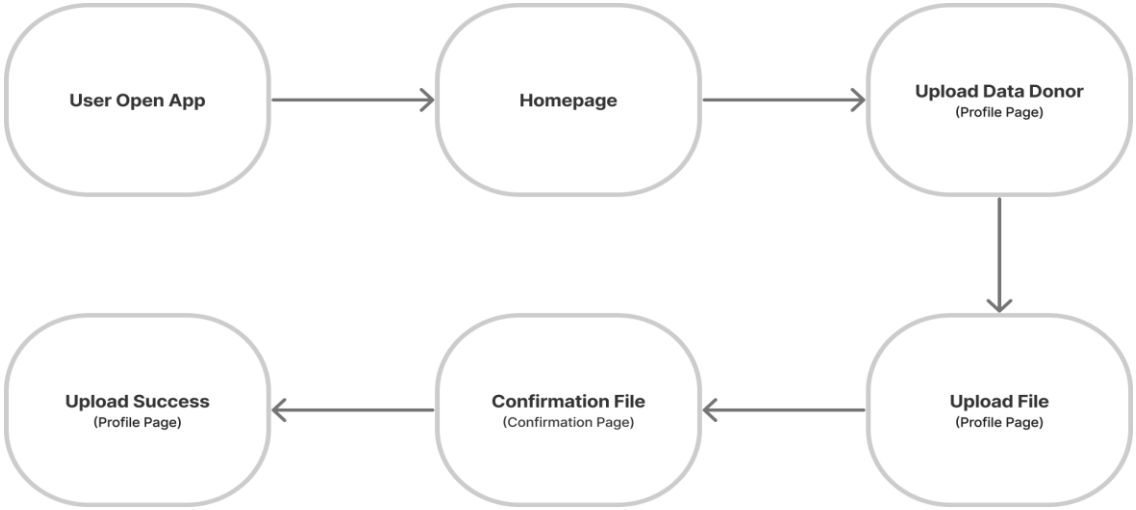

Fig. 8 User flow of uploading donor data after the Remove stage

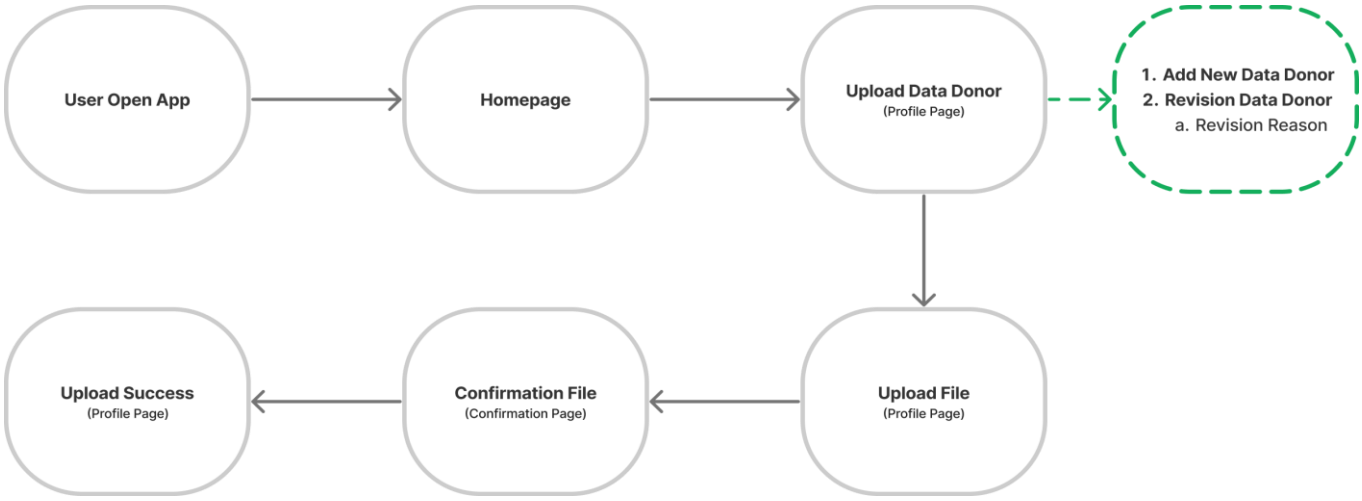

Fig. 9 Added donor data upload destination feature

In Fig. 9, the chart with the green dashed outline is the component that will be embedded into the Donor Data Upload stage. At this stage, the user can determine the purpose of uploading donor data, whether to add new data or revise donor data. If the user chooses a purpose for revision, there will be an additional component, Field Revision Reason. This is to help the X blood donor data collection application admin classify the user's goals for uploading donor data and identifying incorrect data quickly.

Next, the researcher will carry out the Organize stage. In Fig. 10, the red chart page captions are grouped and combined into the Upload Data Donor Bottom Sheet component, which appears when the user clicks on the Upload Data Donor feature on the Homepage. Confirmation of file data is also carried out in the Bottom Sheet by Swap interactions with the Bottom Sheet Upload Donor Data if the user has submitted it. This is so that the user can immediately find the donor data upload feature when the user wants to upload the file. For an overview of the results of grouping and merging donor data, user flowcharts can be seen in Fig. 11. From Fig. 11, a simplified user flow is already created. In the last step in the RESHOT method, There is an upload processing time between the Confirmation File and Upload Success charts. See Fig. 12.

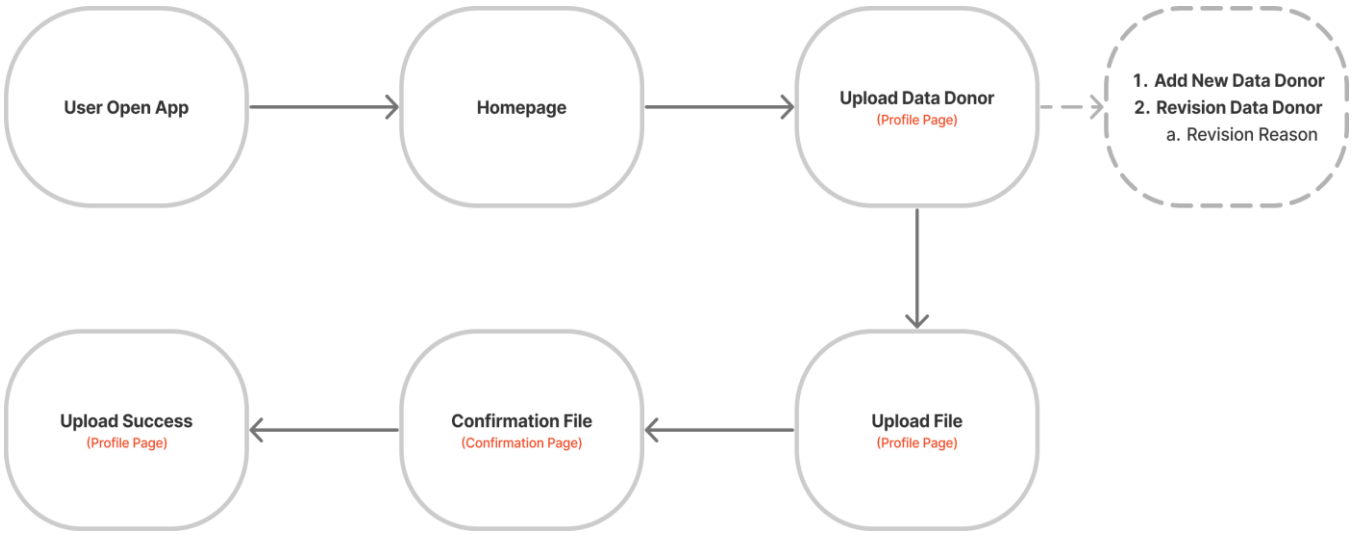

Fig. 10 Grouping and merging donor data user flow chart

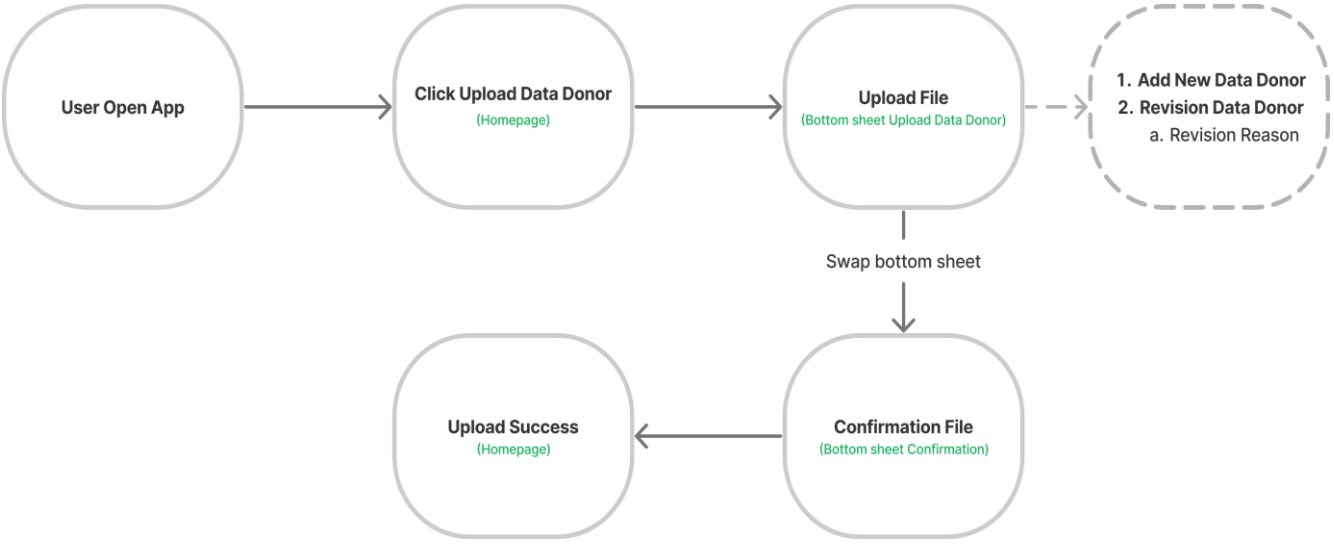

Fig. 11 The results of grouping and merging donor data user flows

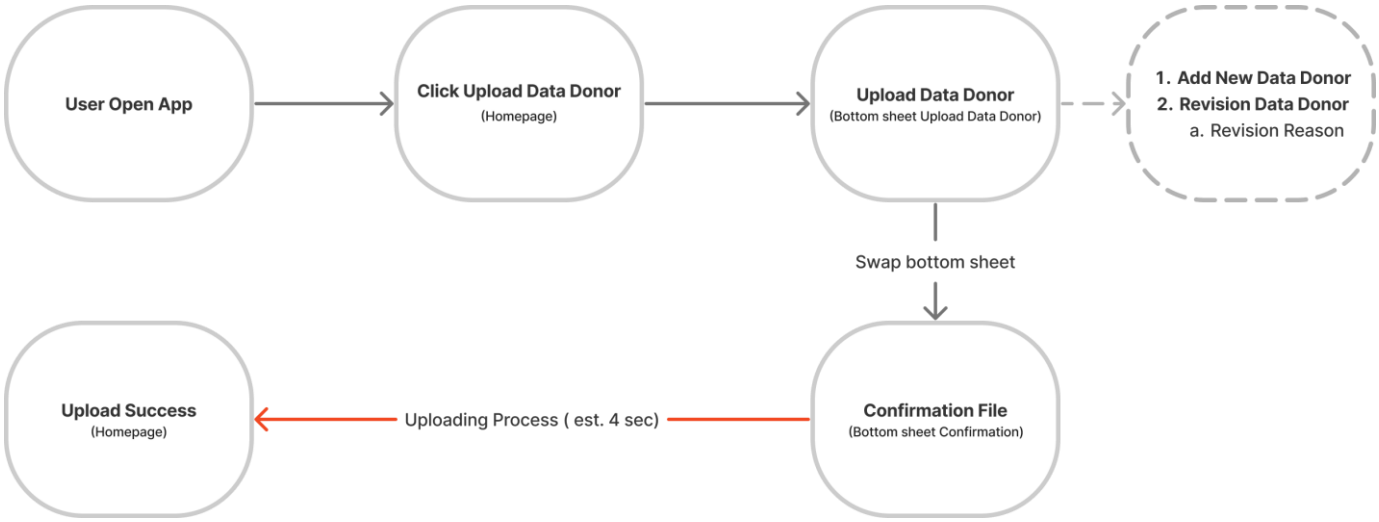

Fig. 12 User flow upload of donor data with estimated upload processing time

The red chart connecting arrow in Fig. 12 is the estimated time for uploading a donor data file. The estimated time for uploading a donor data file is 4 seconds, which the researcher has explained the estimated time in Part II.

So that the file upload process feels fast, when the donor data file upload process takes place, the researcher embeds an upload animation that will continue until the donor data file upload process is complete. An Animated illustration of uploading donor data files when the upload process is in progress can be seen in Fig. 13.

After the UX simplification process was carried out using the RESHOT method for the flow of uploading donor data in the donor X application, the final results can be seen in Fig. 14.

Fig. 13 Animated illustration of the process of uploading donor data

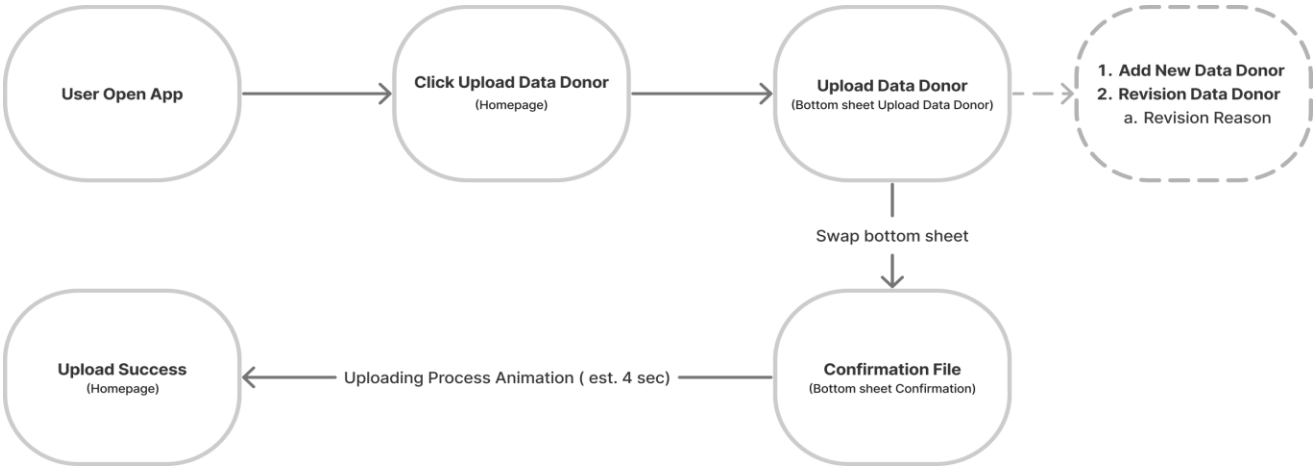

Fig. 14 Final result User flow upload donor data file

From Fig. 14, the final result user flow for uploading the donor data file becomes: (1) The user opens the application, (2) On the homepage, the user clicks on the Upload Donor Data feature, (3) On the Bottom Sheet Upload Donor Data, the user uploads the donor data file and determines the purpose of uploading the donor data file, (4) The user confirms the file in the Bottom sheet Confirmation, (5) The donor data upload is successful.

Based on the final results that have been made, the researcher then creates a simple design that will later be usability tested using Maze. The design that has been made based on the final result flow can be seen in Fig. 15. To get the final conclusion, the researcher conducted Usability Testing involving five respondents.

Based on Fig. 16, users who successfully upload donor data files are 100% with an average processing time of 14.5 seconds. The misclick rate is 10.7% because the user wants to explore beyond the given task, such as wanting to see details on donor data photos. See Fig. 17 for the misclick location.

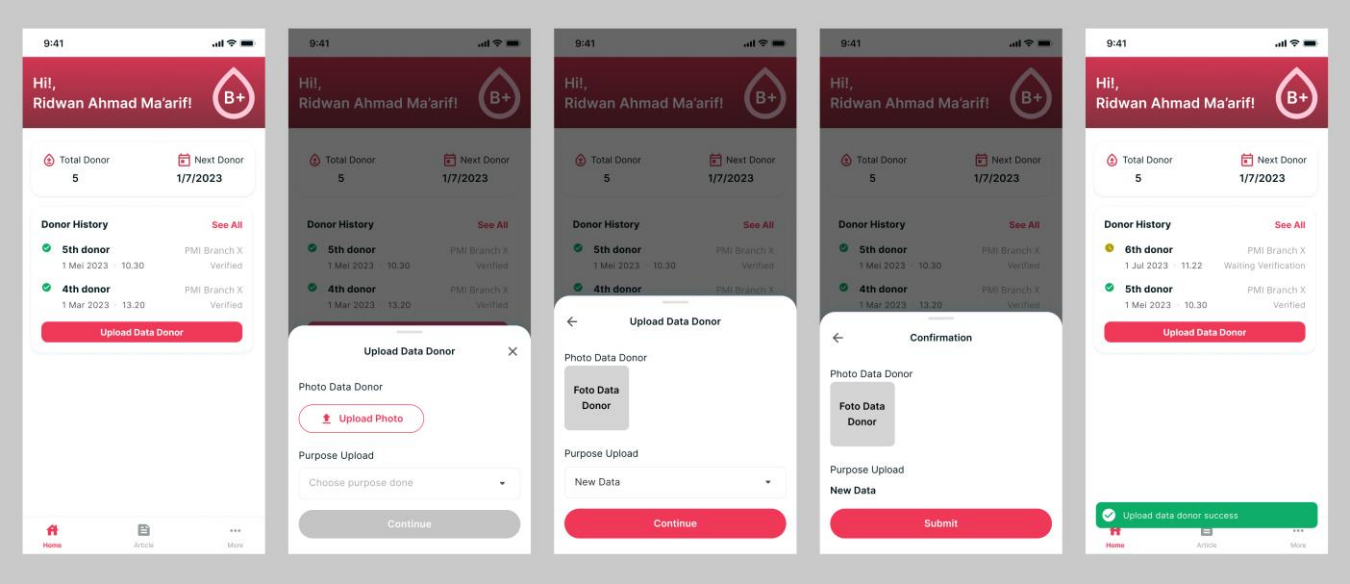

Fig. 15 Design application based on user flow uploading donor data files in the final result

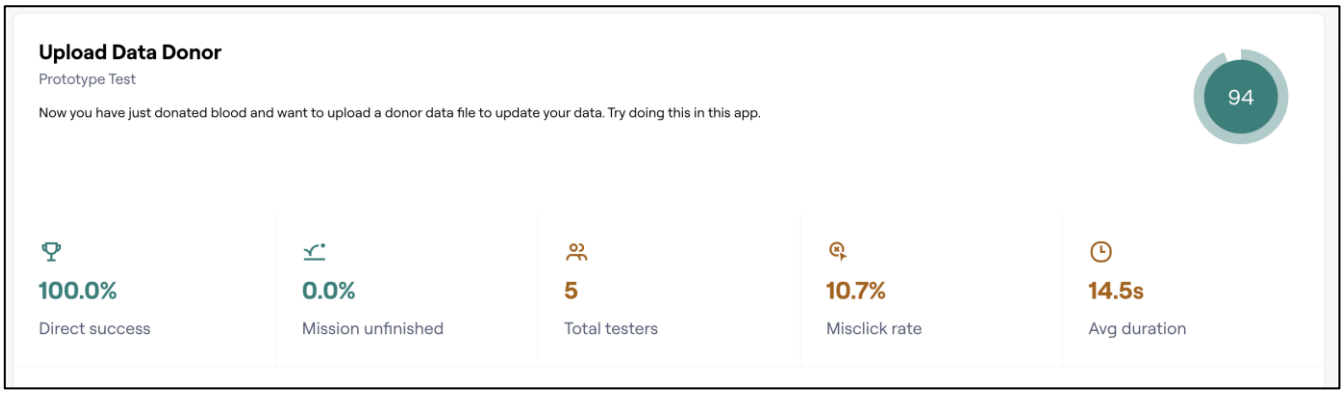

Fig. 16 Usability Testing results from the final product design

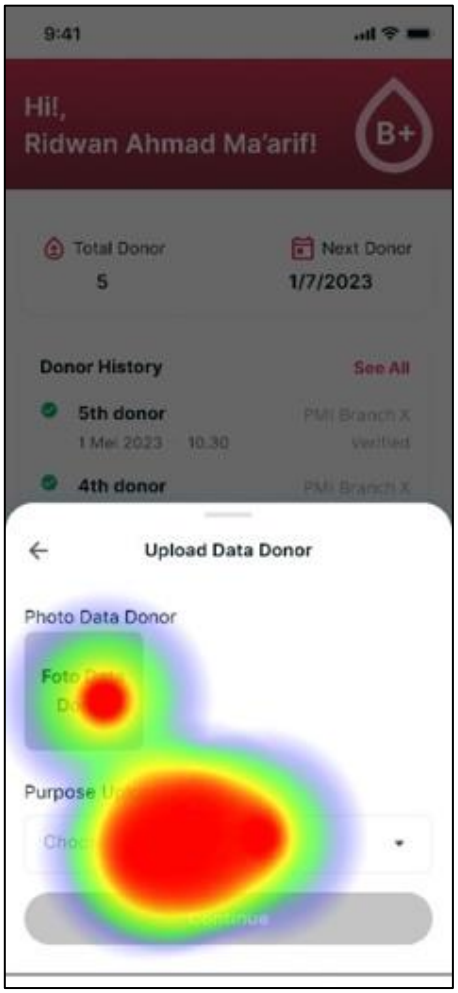

Fig. 17 Misclick location point

IV. CONCLUSION

The RESHOT method is a method that design practitioners should use to simplify UX in the applications they are working on. Because this method will eliminate, combine, and rearrange features or components based on the problems the user needs. So that it will create applications that present features and components that become user needs. This method can also find helpful solutions for companies, as discussed in this study. The final result of simplifying UX using the RESHOT method has made the flow of the application for uploading donor data files in the blood donor data collection application X simpler, namely by making the process possible from the homepage, which is based on the primary goal of the user, namely opening the application to upload donor data files. , either to add new data or to revise existing data. The results of design testing, based on the final results of the donor data file upload flow, have a 100% user success rate in completing tasks with an average processing time of 14.5 seconds. In testing, there is a misclick rate of 10.7%. This is because the user wants to explore the designed application. And this is also a limitation of this study, namely, not making the overall application design interaction. Researchers hope that the RESHOT method can eliminate design practitioners who make applications that are not based on the problems and needs of the application's users.

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