Prototype and User testing

Group 20

<p style="text-align:center;color:red;">Shubham Jindal (150101071)</p>

<p style="text-align:center;color:red;">Samrat Yadav (150101056)</p>

<p style="text-align:center;color:red;">Sarthak Tripathi (150101057)</p>

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Cognitive walk through

Preparation phase

1. Prototype Definition and Descriptions
   - Prototype includes the functionality for

     - ➢ Search for the artefact and get back to Home Screen
     - ➢ See recent searches and get back to Home Screen
     - ➢ Show FAQs and get back to Home Screen
     - ➢ Delete artefact's information and get back to Home Screen
     - ➢ Show developers information
     - ➢ Share information of artefact

2. List of selected tasks
   - Search for the artefact
   - See recent searches made
   - See frequently asked Questions and get help
   - Delete already stored artefact's information
   - Share information of artefact with friends

   1. Overall Goal : Search for the artefact

      1.1 Sub goal 1: Click Open Camera button (from Home screen)
      1.2 Sub goal 2: Wait for image detection by device
      1.3 Sub goal 3: Wait for system to retrieve information of the artefact from data base
      1.4 Sub goal 4: See the artefact information
      1.5 Sub goal 5: Go to Home Screen

   2. Overall Goal: See recent searches made

      2.1 Sub goal 1: Click Recent Searches button (from Home screen)
      2.2 Sub goal 2: Select the artefact that you want to see from the list
      2.3 Sub goal 3: Read the data
      2.4 Sub goal 4: Go Back
      2.5 Sub goal 5: Go to Home Screen

   3. Overall Goal: See frequently asked Questions and get help

      3.1 Sub goal 1: Click Frequently Asked Questions button (from Home screen)
      3.2 Sub goal 2: Read the frequently asked Questions
      3.3 Sub goal 3: Go to Home Screen

   4. Overall Goal: Delete already stored artefact's information

      4.1 Sub goal 1: Click Recent Searches button (from Home screen)
      4.2 Sub goal 2: Select artefact to delete
      4.3 Sub goal 3: Delete the artefact
      4.4 Sub goal 3: Go to Home Screen

5. <u>Overall Goal: See developer's information</u>

5.1 Sub goal 1: Click on About Us button (from Home screen)
5.2 Sub goal 2: Read Developer's information
5.3 Sub goal 3: Go to Home Screen

6. <u>Overall Goal: Share artefact's information</u>
6.1 Sub goal 1: Click Recent Searches button (from Home screen)
6.2 Sub goal 2: Select artefact to share its information
6.3 Sub goal 3: Select mode of sharing artefact's information (Facebook or twitter)
6.4 Sub goal 4: Enter username and password
6.5 Sub goal 5: Sign in
6.6 Sub goal 6: Go back to Home Screen

3. Team member's Profile
   - Profile 1: 2 Team members with some experience of using android
     - Team member 1: Adult
     - Team member 2: Teen
   - Profile 2: 2 Team members with no experience
     - Team member 3: Adult
     - Team member 4: Teen
   - Profile 3: 2 Team members who are very much experienced and used similar apps earlier
     - Team member 5: Adult
     - Team member 6: Teen

Evaluation Phase

Observations during walk through

Making a recording of observations from Profile 1: Team member 1 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Yes	Yes	Yes	Yes	Excellent
See recent searches made	Yes	Yes	Partly	Yes	Yes	Very Good
See frequently asked Questions and get help	Yes	Yes	Yes	Yes	Yes	Excellent
Delete already stored artefact's information	Yes	Yes	Yes	Partly	Partly	Good
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Yes	Yes	Partly	Partly	Good

Making a recording of observations from Profile 1: Team member 2 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Yes	Yes	Yes	Yes	Excellent
See recent searches made	Yes	Yes	Yes	Partly	Yes	Very Good
See frequently asked Questions and get help	Yes	Yes	Yes	Yes	Yes	Excellent
Delete already stored artefact's information	Yes	Yes	Partly	Yes	Partly	Good
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Yes	Partly	Yes	Partly	Good

Making a recording of observations from Profile 2: Team member 3 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Yes	Partly	Partly	Partly	With some help he was able to complete the task
See recent searches made	Yes	Yes	Partly	Partly	Partly	With some help he was able to complete the task
See frequently asked Questions and get help	Yes	Yes	Yes	Yes	Yes	Excellent
Delete already stored artefact's information	Yes	Yes	Partly	Yes	Partly	After some discussion he was able to complete the task completely
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Yes	No	Partly	No	Team member not able to complete the task

Making a recording of observations from Profile 2: Team member 4 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Partly	Partly	Partly	Partly	With some help he was able to complete the task
See recent searches made	Yes	Yes	Partly	Partly	Partly	With some help he was able to complete the task
See frequently asked Questions and get help	Yes	Yes	Yes	Partly	Yes	Good
Delete already stored artefact's information	Yes	Yes	Partly	Yes	Partly	After some discussion he was able to complete the task completely
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Partly	No	Partly	No	Team member not able to complete the task

Making a recording of observations from Profile 3: Team member 5 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Yes	Yes	Yes	Yes	Very Good
See recent searches made	Yes	Yes	Yes	Partly	Yes	Good
See frequently asked Questions and get help	Yes	Yes	Yes	Yes	Yes	Excellent
Delete already stored artefact's information	Yes	Yes	Partly	Yes	Yes	Good
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Yes	Yes	Yes	Yes	Excellent

Making a recording of observations from Profile 3: Team member 6 in a Recording sheet

Description of Steps	Did the user try to achieve the end goal or did he give up At the start itself?	Did the user notice that the correct action choices are available? Y/Partly/N	Did the user confidently know that the choices being made by him/her is the right one? Y/Partly/N	Did the user understand the feedback after every action? Yes/Partly/No	Did the user complete the Task with satisfaction? Yes/Partly/No	Comments/ Alternate suggestions/ discussion points.
Search for the artefact	Yes	Yes	Yes	Yes	Yes	Excellent
See recent searches made	Yes	Yes	Yes	Partly	Yes	Very Good
See frequently asked Questions and get help	Yes	Yes	Yes	Yes	Yes	Excellent
Delete already stored artefact's information	Yes	Partly	Yes	Yes	Partly	Good
See developer's information	Yes	Yes	Yes	Yes	Yes	Excellent
Share artefact's information	Yes	Yes	Yes	Yes	Yes	Excellent

Analysis & Inference (Evaluators rating sheet)

Action in Sequence	System mismatch question	Potential Problem & Design solution	% Mismatch to ideal situation (qualitative estimation)
Searching for the artefact	Is it clear to the user that app is detecting the information	Yes, No changes required	8.00 %
	Can the user resume control for the next action	Little improvement in UI is required	
	Are the systems response visible & interpretable	Some feedbacks are required in the app	
	Is the end of the system action clear	Yes, No changes required	
See recent searches made	Is it clear to the user that app is showing information	Little improvement in UI is required	5.85 %
	Can the user resume control for the next action	Yes, No changes required	
	Are the systems response visible & interpretable	Some feedbacks are required in the app	
	Is the end of the system action clear	Yes, No changes required	
See frequently asked Questions and get help	Is it clear to the user that app is showing FAQs	Yes, No changes required	0.00 %
	Can the user resume control for the next action	Yes, No changes required	
	Are the systems response visible & interpretable	Yes, No changes required	
	Is the end of the system action clear	Yes, No changes required	
Delete already stored artefact's information	Is it clear to the user that app is deleting information	Little improvement in quality of feedback is required and some UI changes to be made	5.25 %
	Can the user resume control for the next action	Yes, No changes required	

	Are the systems response visible & interpretable	Some feedbacks are required in the app	
	Is the end of the system action clear	Yes, No changes required	
See developer's information	Is it clear to the user that app is showing developer's option correctly	Yes, No changes required	0.00 %
	Can the user resume control for the next action	Yes, No changes required	
	Are the systems response visible & interpretable	Yes, No changes required	
	Is the end of the system action clear	Yes, No changes required	
Share artefact's information	Is it clear to the user that app is working correctly for sharing artefact's information	Yes, No changes required	3.90 %
	Can the user resume control for the next action	Yes, No changes required	
	Are the systems response visible & interpretable	Some feedbacks are required in the app	
	Is the end of the system action clear	Yes, No changes required	

Percentage values are calculated after analyzing and combining the feedbacks of all the six different team members and then comparing those with our system, which represents the ideal system (our app).

Empirical Study

Research Questions

Testable Question

1. Time taken by the system to complete the sequence of steps for completing 60% of a task in half hour and corresponding time taken by the user for the same task on other similar systems?

Variables

1. Independent variable:
   - D = Design of the system
   Dependent variables:
   - T_{D1} = Time for completion of the 60% of the task in half hour by my system's design.
   - T_{D2} = Time for completion of the 60% of the task in half hour by other similar system's design.

Tasks	Time for my system's design (T_{D1}) in seconds	Time for other system's design (T_{D2}) in seconds
Task 1(Search for artefact)	7.31	14.65
Task 2(See recent searches)	6.19	11.63
Task 3(See FAQs)	3.03	8.24
Task 4(Delete artefact's info)	8.01	13.64
Task 5(Developer's info)	2.02	6.43
Task 6(Share artefact info)	10.42	16.93
Mean	6.1633	11.9200
Standard deviation	3.1569	3.9819
Standard Error of Mean	1.2888	1.6256
Number of values	6	6
The mean of group 1 minus group 2 = -5.7567 95% confidence interval of this difference: From -10.3790 to -1.1344		
P value = 0.0196		
By conventional criteria, this difference is considered to be statistically significant		