Luck of the Pot

Video recording: https://youtu.be/7aysRA2ytY4

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1. Introduction

Potluck events are widely prevalent in numerous societies, serving as a popular way to commemorate various occasions, including holidays, religious gatherings, and welcome parties. After examining the challenges in potluck events, we recognize the need for a mobile application to serve as a platform, simplifying the organization of such events. In this project, we designed a prototype of a mobile app, called "Luck of the Pot", that aids individuals in organizing potluck events. Attendees of the potluck event will have the capability to fulfill various tasks related to dish specifications and engage in communication using the application. Our main focus was to reflect the important features of the "Luck of the Pot".

We attempted to follow the HCI design process to construct the prototype. We performed user research via interviews and surveys to support our idea. We performed these through different milestones and connected the gathered information to design the prototype. We iteratively evaluated our prototype through usability testing to construct the final version of the "Luck of the Pot" in Figma. Since we worked in different phases (milestones) to accomplish the prototyping, we investigated the connection between these segments. Our user research presented the development gaps in this domain and motivated us towards the design. We performed storyboarding several scenarios of the app to brainstorm on the design which helped us find difficulties beforehand. The most challenging part of the prototyping was the iterative evaluation, which successively improved our work and opened the avenue for future design.

2. Design Rationale

Our application involves two primary stakeholders: organizers and participants. As it is typical for conventional potluck events, the number of organizers is fewer than that of participants. Both stakeholders play crucial roles in the success of a potluck event. To gather insights, we utilized interviews for the smaller group of organizers (with 3 participants), given their limited number. Conversely, for the larger population of participants or attendees, we opted for surveys (with 11 participants having an experience in participating potlucks) and asked them 19 questions (including MCQs, Likert rating, and open-ended questions) to capture a broad range of perspectives. After that, we gathered our project requirements and developed the version 1 prototype of our app. Then we conducted an initial usability test with 4 other participants on our version one and developed prototype version 2 incorporating the recommended changes. At last, we test our second iteration of the prototype again with them and we document our results and findings.

3. Overview of the study

We were looking for mobile app users who are somewhat experienced with potluck events. We were able to recruit 4 participants who are CU Boulder students in different levels. Considering the fact that potluck events occur in different countries, we attempted to maintain cultural diversity in our group of participants. 3 of our participants were international students and originated from different countries.

We executed our study according to the plan in the following table. We made sure that there are no common participants in different versions of the same task. The full version of usability script is available in the Appendix [Usability Scripts]. We recorded timing information for one of our simpler (Task-1) and complicated (Task-4) cases. We assigned more than one participant for both versions of the aforementioned tasks. We made the "think aloud" activity optional.

Tasks	*Version - 1*		*Version - 2*	
	Participants	*Figma Link*	*Participants*	*Figma Link*
Task - 1	P1, P2	Task1 Version1 Link	P3, P4	Task1 Version2 Link
Task - 2	P1	Task2 Version1 Link	P2	Task2 Version2 Link
Task - 3	P3	Task3 Version1 Link	P1	Task3 Version2 Link
Task - 4	P3, P4	Task4 Version1 Link	P1, P2	Task4 Version2 Link

4. Results and implications

Participant Feedback Summary

All the responses from the participants for each task and their corresponding versions are included in the Appendix [Feedback from Participants]. We attempted to consider as many comments as possible using our own judgments. In this section, we summarize these feedbacks and highlight the key comments (following table). We also include timing information in the table as well. For multiple participants in a single version, we averaged the timing data.

Tasks	Summary of the comments	Timing V1	Timing V2
T-1	Users found it easy to navigate. However, we got an important suggestion of adding end-time which we later projected on our version-2.	26 sec	29.21 sec
T-2	For this task, the user was concerned about the visual representation of the data. Participants demanded bold fonts to make information more visible. Rather than having "No. Go back" as an option in deleting dialogue box, "No, keep it" sounds better and relevant. We incorporated this solution in our next version.	15.32 sec	14.86 sec
T-3	We received interesting comments while studying Task-3. Some	19.20 sec	22.68 sec

	comments were involved with Design Elements, i.e., background foreground balancing. Users faced problems in cases where we used traditional icons and symbols. But the overall workflow was smooth according to the participants for both versions.		
T-4	This task is more complicated from our perspective. Users suggested adding small details to help the user. The participants recommended bringing some common design items in the app.	27.54 sec	26.69 sec

Observational Notes

During the study we observed that the user faced difficulty at first in understanding how Figma works. Users had to adjust themselves in mapping the mouse clicking into tapping in Figma. This made task 1 comparatively longer than expected. But over the period of time, the user gets adjusted with the overall procedure and the project. Though we expected longer time for accomplishing task 4, it did not take longer for users to finish the task.

We also observed that, for some parts of the prototype, participants find difficulties to understand because of the font. But overall, as we tried to follow consistency and standards, we saw the user interaction is quite satisfactory.

Findings

After analyzing the comments and suggestions we gathered some interesting findings. We mapped them with *"10 Usability Heuristics for User Interface Design"* and corresponding tasks to make the comparison more concrete.

- There is a tradeoff between *Recognition rather than recall* and *Flexibility and efficiency of use*. When we added an icon as "add participants" in our app's invitation section, participants actually got confused and found it difficult to navigate. We need to be careful while choosing icons. [Task - 3]
- Error prevention is the most important concern for a user. While deleting an event, the user becomes more careful than other tasks, like adding food, dessert, etc. And they ask for proper error prevention messages here. [Task - 2]
- Users expect consistency and standards a lot. We got the proof from different comments of participants, e.g., using thumbnails as it appears in Gmail or Outlook, having a "most recent" component in the dashboards, not keeping text boxes and dropdown boxes empty, etc. [Task - 4]
- We could not find any statistically significant difference between versions in timing. [see our Statistical Analysis in Appendix]

Appendix

A. Usability Scripts

Usability Study: Luck of the Pot

Objective: To assess the usability of Luck of the Pot mobile app and identify areas for improvement in user experience[1].

Participants: Target users who have experience on using mobile apps with varying experiences on organizing potluck.

Method:
- Introduction (5 minutes):
  - Welcome participants and provide a brief overview of the study.
  - Ensure participants understand that the goal is to evaluate the app, not their performance.
  - A short demo of Figma and how to use it.
- Pre-test Questionnaire (10 minutes):
  - Collect demographic information and assess participants' current usage of using event organizing apps.
- Tasks and Scenarios (variable time):
  - Scenario - 1:
    - Ashik is a member of Bangladeshi Student Association (BSA) at CU Boulder and recently he took the responsibility to organize an event. It will be a party from BSA to welcome newly joined Bangladeshi students at CU Boulder. The event would work in the form of potluck. Since Ashik is the initiator of this event, he wants to create a digital platform so that he can interact with the participants and other organizers. He started using an app called "Luck of the Pot" and created an account to use it further.
      - Task: Create an event in the prototype with the following details:
        Event name "BSA Welcome".
        Date and time: Jan 11, 2024, 11:45 AM
        Location: 1475 Folsom Street
        Food preference: Non veg with Halal meat option
  - Scenario - 2:
    - Ashik successfully created an event called "BSA Welcome" in the Luck of the Pot app. Now he wants to share the event with his community. His plan is to copy a link to this event and text it to one of his friends first. He copied the link and sent it to his friend. Surprisingly, he found that the event cannot be held because of several issues. Therefore, Ashik needs to delete the event unfortunately.

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[1] This script remained the same for different versions of the applications.

- Task: Copy a link to the event "BSA Welcome" in the prototype. Then go back and delete the event.
  - ○ Scenario - 3:
    - ■ Ashik created an event called "BSA Welcome" in the Luck of the Pot app. The event already has few participants via the app and he assigned different items to different participants already. But he is looking to invite two other friends. Hence Ashik added two friends with their corresponding emails. He also checked the current list of participants.
      - Task: Go to the "BSA Event" in the prototype. Add two participants with their email addresses (tohapia@gmail.com and riabuj@hotmail.com). Then check the current status of the participation and explore who is attending, who is not and who did not respond yet.
  - ○ Scenario - 4:
    - ■ Ashik created an event called "BSA Welcome" in the Luck of the Pot app. The event already has few participants via the app and he assigned different items to different participants already. Now he wants to assign a dessert to a user with ID "pakhi@gmail.com". He is looking for 2 trays of pudding made with regular milk and sugar.
      - Task: Go to the "BSA Event" in the prototype and check the current list of participants. From the list of attending persons, go to pakhi@gmail.com ID and observe this participant's already assigned food items. Now add a dessert with the following details.
        Name of the desert: Pudding
        Amount: 2 trays
        Sugar type: sugar
        With lactose
      Add this item and check the dashboard to see if the desert is added.

- Recordings
  - ○ Timing information is recorded for each task.

- Post-task Questionnaire:
  - ○ Gather feedback on each task using open-ended responses.
  - ○ Rate the ease of use of the app for each task.
  - ○ Identify any specific features or steps that caused confusion.

- Overall Impressions (5 minutes):
  - ○ Ask participants about their overall impression of the app.
  - ○ Inquire about any additional features they would like to see.

- Closing and Thank You (5 minutes):
  - ○ Thank participants for their time and insights.
  - ○ Provide an opportunity for participants to ask questions or share additional comments.

B. Feedback from Participants

Task - 1

<u>Scenario</u>
Ashik is a member of Bangladeshi Student Association (BSA) at CU Boulder and recently he took the responsibility to organize an event. It will be a party from BSA to welcome newly joined Bangladeshi students at CU Boulder. The event would work in the form of potluck. Since Ashik is the initiator of this event, he wants to create a digital platform so that he can interact with the participants and other organizers. He started using an app called "Luck of the Pot" and created an account to use it further.

<u>Task</u>
Create an event in the prototype with the following details:
- Event name "BSA Welcome".
- Date and time: Jan 11, 2024, 11:45 AM
- Location: 1475 Folsom Street
- Food preference: Non veg with Halal meat option

<u>Feedback:</u> The following table contains feedback and suggestions from the participants.

	Version - 1	**Version - 2**
Figma Links	Task1 Version1 Link	Task1 Version2 Link
Comments	Comments from P1 - Text entry should be easy. Entering text then tapping on the next section should work. Not the "enter" keypad all the time. **[fixed]**	Comments from P3 - Google Maps can be added - If we select something from dietary restriction, it becomes green. But for meat restrictions, it becomes blue. This discrepancy may cause confusion.
	Comments from P2 - End time should be added. **[fixed]** - I liked the GUI. Overall it's easy to use. **[+ve comment]**	Comments from P4 - Boxes in the Dietary type and meat type: box colors can be gray to indicate that nothing has been selected yet.

Task - 2

<u>Scenario</u>
Ashik successfully created an event called "BSA Welcome" in the Luck of the Pot app. Now he wants to share the event with his community. His plan is to copy a link to this event and text it to one of his friends first. He copied the link and sent it to his friend. Surprisingly, he

found that the event cannot be held because of several issues. Therefore, Ashik needs to delete the event unfortunately.

Task:
Copy a link to the event "BSA Welcome" in the prototype. Then go back and delete the event.

Feedback: The following table contains feedback and suggestions from the participants.

	Version - 1	Version - 2
Figma Links	Task2 Version1 Link	Task2 Version2 Link
Comments	Comments from P1 - Back button is not working **[fixed]** - "Created by you" is not quite visible. Should be bold and bigger font. **[fixed, but only font is increased]** - Rather than having "No. Go back" as an option in deleting, "No, keep it" sounds better and relevant. **[fixed]** - Fonts in the deleting options should be bigger. **[fixed]**	Comments from P2 - Sometimes users might want to go back to the dashboard and then delete the event. So there should be delete button on the event icons in dashboard/ homepage - It would be great to have a notification icon in the homepage. - The copy link option looks very good. It follows the conventional way. It was intuitive **[+ve comment]**

Task - 3

Scenario - 3
Ashik created an event called "BSA Welcome" in the Luck of the Pot app. The event already has few participants via the app and he assigned different items to different participants already. But he is looking to invite two other friends. Hence Ashik added two friends with their corresponding emails. He also checked the current list of participants.

Task:
Go to the "BSA Event" in the prototype. Add two participants with their email addresses (tohapia@gmail.com and riabuj@hotmail.com). Then check the current status of the participation and explore who is attending, who is not and who did not respond yet.

Feedback: The following table contains feedback and suggestions from the participants.

	Version - 1	Version - 2
Figma link	Task3 Version1 Link	Task3 Version2 Link
Comments	Comment from P3 - The icon for confirming the invitation	Comment from P4 - Invitation part can be improved.

	is not clear. You can use any text or tick mark. **[fixed, text is used, not tick]** - In the participant list, some colors are very high contrast. For example black background of "no food assigned" is not pleasant in my eyes. **[fixed]** - It is good to see that there is a feature for adding multiple invitees. **[+ve comment]** - I liked the way we could see all the participants in different categories. **[+ve comment]**	Instead of having text "confirm", a tick mark can be used or sending icons can be used. - Also, if you use text for "confirm", then 'x' mark should be replaced by text as well

Task - 4

Scenario - 4

Ashik created an event called "BSA Welcome" in the Luck of the Pot app. The event already has few participants via the app and he assigned different items to different participants already. Now he wants to assign a dessert to a user with ID "pakhi@gmail.com". He is looking for 1 tray of pudding made with regular milk and sugar.

Task

Go to the "BSA Event" in the prototype and check the current list of participants. From the list of attending persons, go to pakhi@gmail.com ID and observe this participant's already assigned food items. Now add a dessert with the following details -
- Name of the desert: Pudding
- Amount: 1 trays
- Sugar type: sugar
- With lactose

Add this item and check on the ID's dashboard to see the desert is added.

Feedback: The following table contains feedback and suggestions from the participants.

	Version - 1	**Version - 2**
Figma link	[Task4 Version1 Link](#)	[Task4 Version2 Link](#)
Comments	Comments from P3 - In the homepage of the user, for food item tabs, you can add tags "halal", "veg", etc. **[fixed]** - There can be instructions in the fields. I.e., in the unselected dropdown boxes, there can be an indication of "- select - " or something	Comments from P1 - I do not think the option for nicknames should appear at the top. It is not an important thing to me - Lactose option can be shown as toggling button - The halal, non-veg tags are not necessary in the food item blocks.

like that. **[fixed]** - I really liked the way the menus popped up for different types of items. **[+ve comment]** - The tick mark below becomes green right after providing the first value in the field. But there are still some mandatory fields left blank. I believe this tick should remain green until all the (*) fields are filled. **[fixed]** - After selecting "dessert", in the new page, there is no indication that this is a page where dessert is being added. **[fixed]**	
Comments from P4 - Overall it was a good experience and the interface was user-friendly. **[+ve comment]** - For the user ID dashboard, an icon for the ID can be used. Like a thumbnail for a user photo. For this particular case, it can be a circle with "P" in it. Similar to present day's email thumbnails. **[fixed]** - Amount has two boxes, this is confusing. It can be well designed. - In the (+,-) box, there can be an initial value of 0. **[fixed]** - I think having an option for giving nicknames is unnecessary. **[Not considered]** - The food items in the dashboard can be categorized in the order of addition. Most recent can come first. **[fixed, most recent one is shown separately]**	Comments from P1 - Different food items can have different colored backgrounds in the tabs. - The user interface is very well guided. I did not get lost. It was designed carefully. **[+ve comment]**

C. Statistical Analysis (t-test)

For task 1, and task 4, we conducted the t-test calculation. We chose these 2 tasks, as these two tasks are relatively complex than the other ones, and contain more complex components and understanding of the participants. In task 1, participants P1 and P2 navigated through the version 1 of task 1 and we recorded the timing information. And then for the version 2 of the same task, we conduct the navigation with participants P3 and P4 and record the timing information accordingly. We avoided conducting experiments for version 2 with the same group of participants to avoid the bias, as they will already be familiar with navigating the tasks in the first iteration. Next, we follow the same protocol with a rotating group of participants (P3, P4 taking part first, and P1, P2 taking part next) for the two versions of task 4. Analyzing these data and performing the t-test, we get the following results:

T-test for Task 1

Task - 1 Version 1		Task - 1 Version 2	
P1	26.32 sec	P3	30.38 sec
P2	25.68 sec	P4	28.05 sec

For this group of data, we get the two-tailed P value equals 0.1180.
By conventional criteria, this difference is considered to be not statistically significant.
It makes sense as two distributions are almost similar, and don't have significant large differences.

T-test for Task 4

Task 4 Version 1		Task 4 Version 2	
P3	25.82 sec	P1	28.43 sec
P4	29.27 sec	P2	24.96 sec

For this group of data, we get The two-tailed P value equals 0.7614
By conventional criteria, this difference is considered to be not statistically significant.