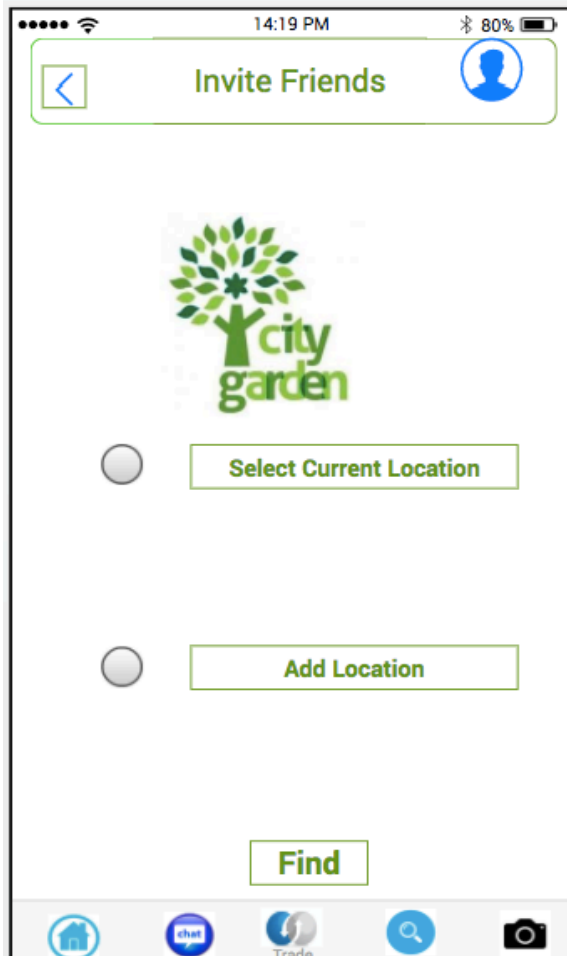


Title: “City Garden”, a Mobile App that Promote Urban Agriculture Practice



Name: Md Al Arman Khan
SID: 18897816



Design Statement

THE MAIN GOAL OF THIS RESEARCH IS TO DESIGN A MOBILE APPLICATION THAT ENCOURAGES PEOPLE FOR **GARDENING AND ENSURE FOOD SECURITY AND ENHANCES SUSTAINABLE** FOOD PRODUCTION WHILE LIVING IN AN URBAN AREA.



Implementation Details

Justification of Choice of the Tool

- #1 – Easy to learn the tool, no coding skill require.
- #2 – Similar with other design software
- #3 – Can be exported to HTML format.
- #4 – Can be used in offline.
- #5 – Provide free storage facility.
- #6 – Data master allow to simulate back end process, Dynamic panel allow to simulate like real prototype.



Implementation Details

Tools and Features Used to Make the Prototype

Feature #1 – UI elements for iOS.

Tool: like Bars, Menu, Bar

Feature #2 – Reuse the screen

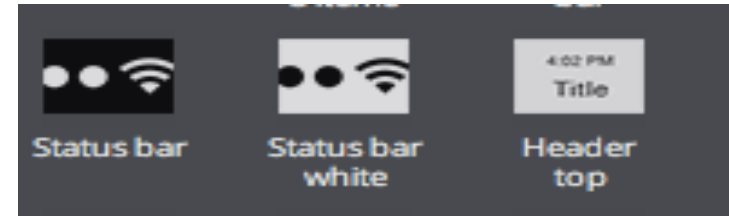
Master tool

Feature #3 – Adaptive and Responsive Design

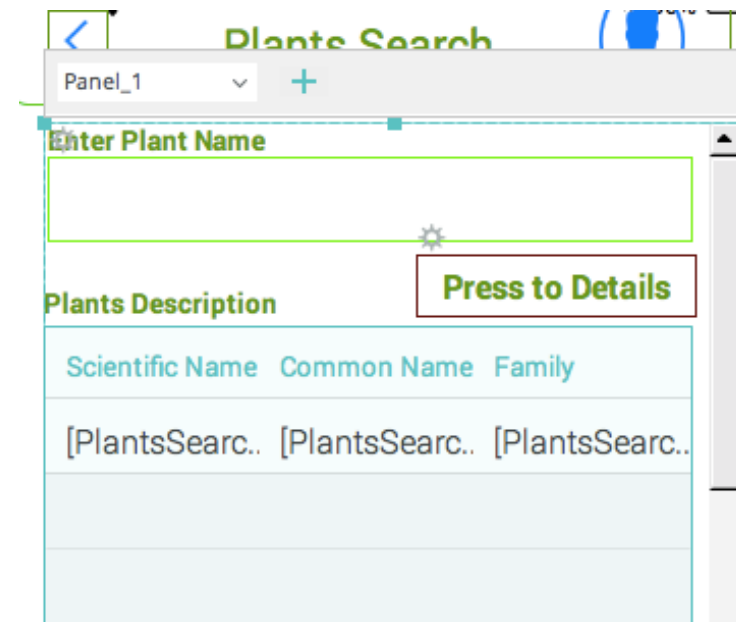
Tool: Dynamic Panel

Feature #4 – Managing action

Tool: Set condition.



Bars, Menu, Bar



Dynamic Panel

Implementation Details

Tools and Features Used to Make Prototype

Feature #5 – Interactive images

Tool: Import image

Feature #6 – Review wireframes anytime, anywhere. Tool: Add comments

Feature #7 – Test with real data

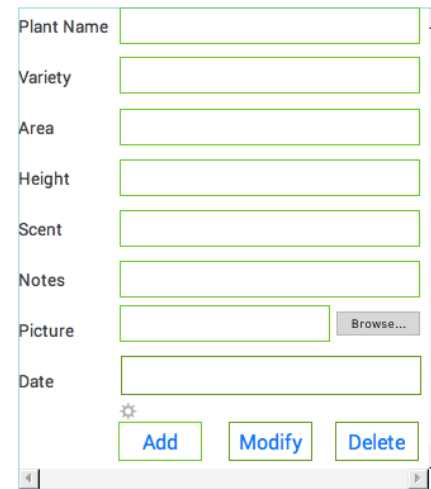
Tool: Data Master

Feature #8 – Reduce cognitive load

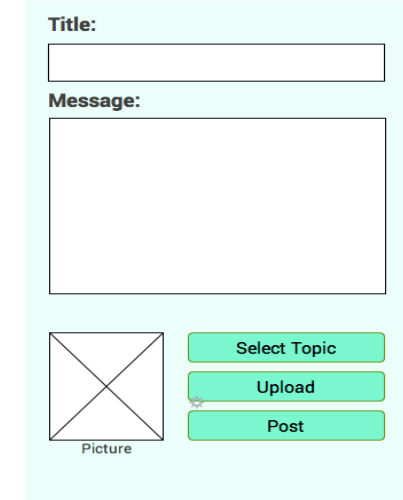
Tool: Filter

Feature #8 – HTML document

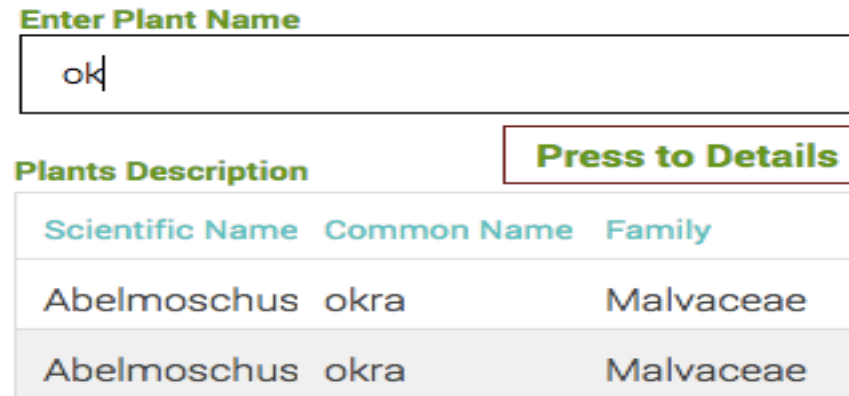
Tool: Export to HTML

A form titled 'Data Master' with fields for Plant Name, Variety, Area, Height, Scent, Notes, Picture (with a Browse... button), and Date. At the bottom are Add, Modify, and Delete buttons.

Data Master

A form titled 'Import Image' with fields for Title and Message. Below the Message field is a placeholder for a picture (a box with an X) and three buttons: Select Topic, Upload, and Post.

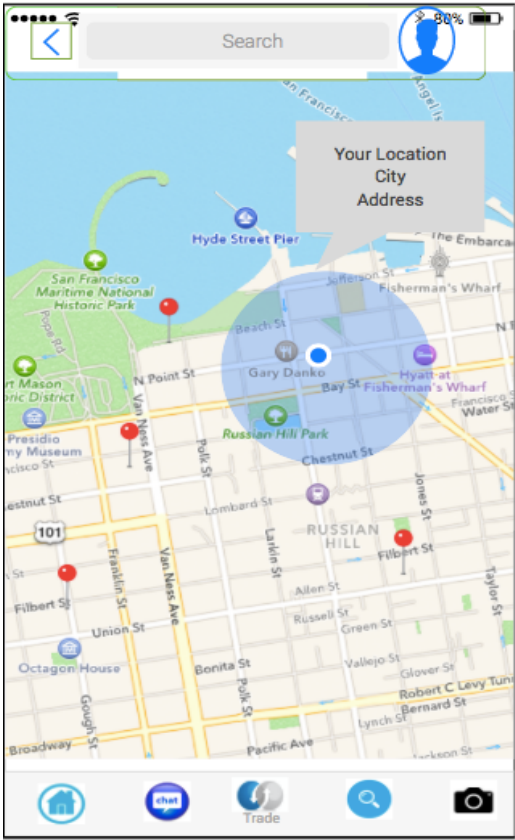
Import Image

A form titled 'Filter tool' with a text input field labeled 'Enter Plant Name' containing 'ok'. Below it is a table titled 'Plants Description' with a 'Press to Details' button. The table has columns for Scientific Name, Common Name, and Family.

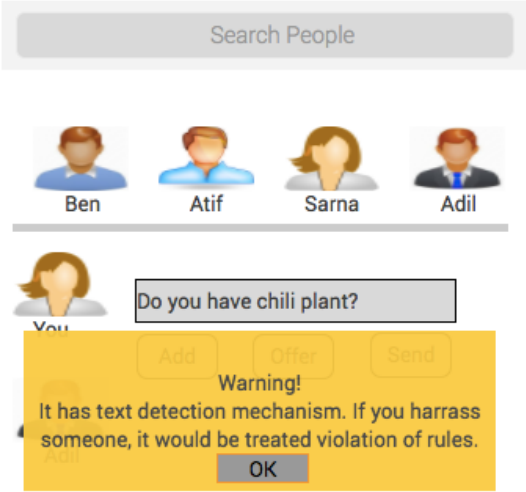
| Scientific Name | Common Name | Family |
|-----------------|-------------|-----------|
| Abelmoschus | okra | Malvaceae |
| Abelmoschus | okra | Malvaceae |

Filter tool

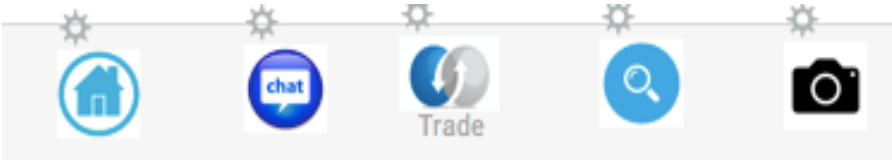
Design Rationale



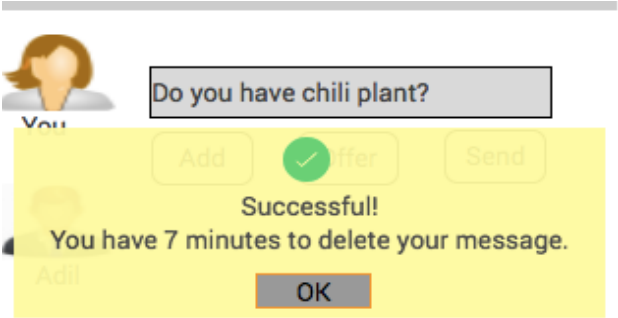
Consistent Lay Out



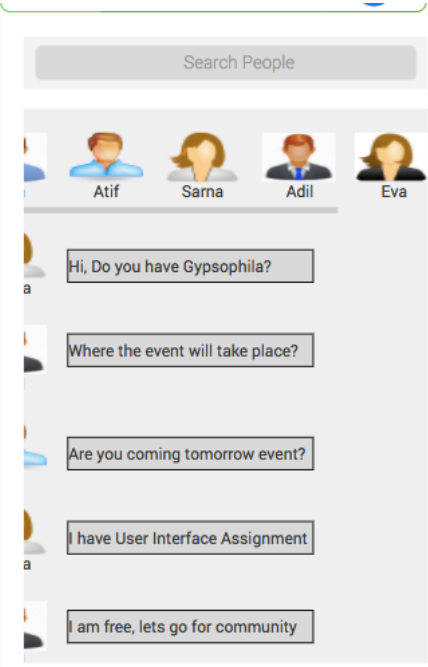
Aesthetic Integrity



Availability



Forgiveness & Feedback



Direct Manipulation

Enter Plant Name

ok

Plants Description

Press to Details

| Scientific Name | Common Name | Family |
|-----------------|-------------|-----------|
| Abelmoschus | okra | Malvaceae |
| Abelmoschus | okra | Malvaceae |

Reduce Cognitive Memory

Evaluation Method

Importance of Evaluation Methods:

- Taking user **feedback** and understanding **user demand**.
- Qualitative measurement hence **subjective satisfaction**.
- Trial and error leads to efficiency of **usability**.

(Affairs 2018; Dr. O Mubin [University of Western Sydney] 2018, 301045 lecture, 12 May).

Compare User Testing

Community Garden App was being evaluated in several round through **questionnaire and Focus group discussion**. Similar method used in City Garden App (Community Garden App 2018).

Evaluation Method

Technique: Questionnaire

Procedure:

- Upload wireframe of prototyping to the website.
- Make questionnaire and upload it via some free online questionnaire tool like SurveyMonkey
- Ask user to use app and fill up questionnaire (Community Garden App 2018)

Material: Computer, pen, paper.

Setup: Participants will click web link, they will be able to simulate prototype and fill up questionnaire.

Measurements: Ease of use, Levels of user feedback, Type of interface, Overall Performance Accuracy (Dr. O Mubin [University of Western Sydney] 2018, 301045 lecture, 12 May).

Participants: 5

Mobile App User Survey

Topic: "City Garden", a Mobile App that Promote Urban Agriculture Practice.

Please rate your satisfaction with the system.

- Click the link to simulate app.
- Try to respond to all the items.
- For items that are not applicable, use: **NA**
- Make sure these fields are filled in: **Name: Email Address: Age:**
- It will take approximately 15 minutes.

http: _____

Name: Sex: Age: Email:

Screen:

Q1: Are you able to read character properly

Information:

Q2: Are you able to find and navigate information.

Overall Rating on:

- Can you able to perform trading task properly?

| | | | | |
|----------------|-------|---------|----------|-------------------|
| 1 | 2 | 3 | 4 | 5 |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

Source: Based on (Chin 2018; Community Garden App 2018)

Evaluation Method

Technique: FGD (Focus Group Discussion).

Procedure:

- Select different types of participants from urban area.
- Send them date, time and location
- List questions that require to solve during FGD
- Assign people as facilitator, note taker and so on
- In the meeting day give some time to participate to use the application
- Start discussion
- Facilitator will lead participants and take the notes.
- Thank Participants.

(Community Garden App 2018)

Material: Computer, projector, pen, paper.

Setup: Participants seat in a round table, instructor will demonstrate the tasks.

Measurements: Qualitative measures of participant's comfort with system.

Measures of cognitive complexity (Affairs 2018).

Participants: 5

Limitations and Conclusion

Limitations

- Did not test prototype from real user.
- Could not able to use all functionalities due to time limitations.
- Evaluation based on research and journal, not field research.
- Some imaginary functionalities used but did not incorporate with other authorities.

Conclusion

The high fidelity prototype will be evaluated from user.

New multidimensional features will be added that enhance the usability.

References

- Nielsen Norman Group. (2018). *Why You Only Need to Test with 5 Users*. [online] Available at: <https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/> [Accessed 29 May 2018].
- Affairs, A. (2018). *Focus Groups / Usability.gov*. [online] Usability.gov. Available at: <https://www.usability.gov/how-to-and-tools/methods/focus-groups.html> [Accessed 29 May 2018].
- Community Garden App. (2018). *Usability testing*. [online] Available at: <https://melodycraventhesis.com/usability-testing/> [Accessed 29 May 2018].

Thank You