Development and Evaluation of a Crowdsourcing App for Age-Friendly Communities :

Age-CAP

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AGEWELL

Agenda

- Introduction
- Methods
- Results
- Discussion
- Future Directions
- Implications for OS&OT
- Conclusion

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- Dr. Barry Trentham
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Age-CAP

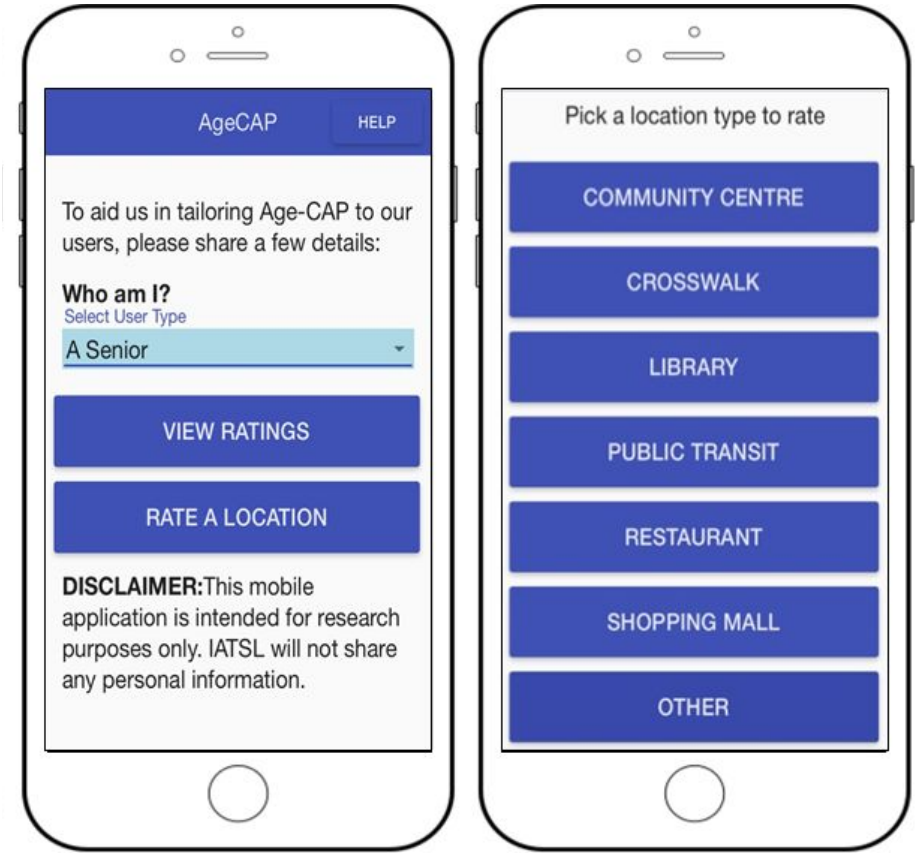
- Occupational therapy
  - "the art and science of enabling engagement in everyday living" (Townsend & Polatajko, 2007)
  - enablement of a just and inclusive society
- App to promote social participation of older adults

Background

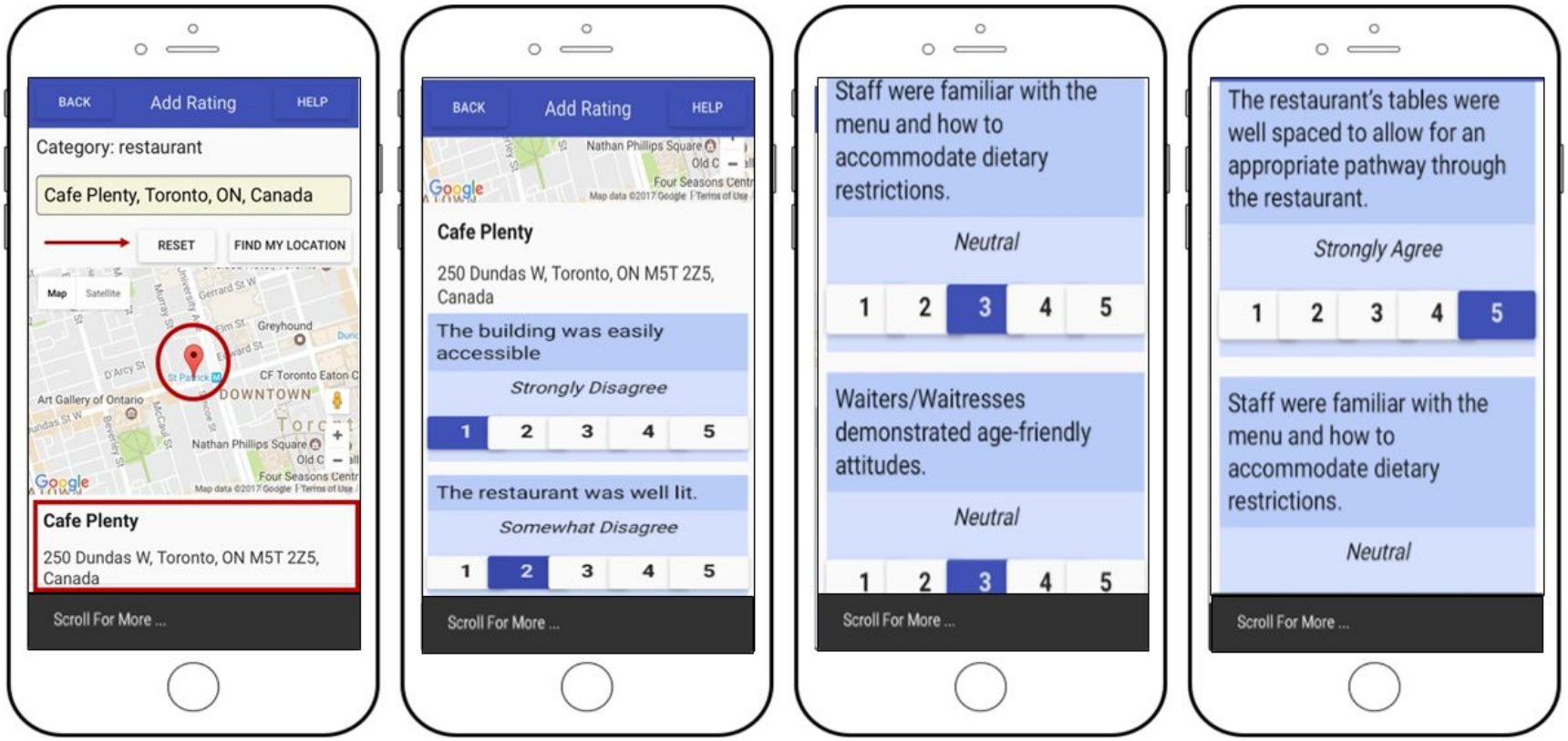
- Increasing number of OAs are smartphone users
  - Platform for feedback about AFCs
- WHO guide to Age-friendly communities
- Development of Age-CAP
  - rate and review locations
  - supports advocacy efforts

Age-CAP

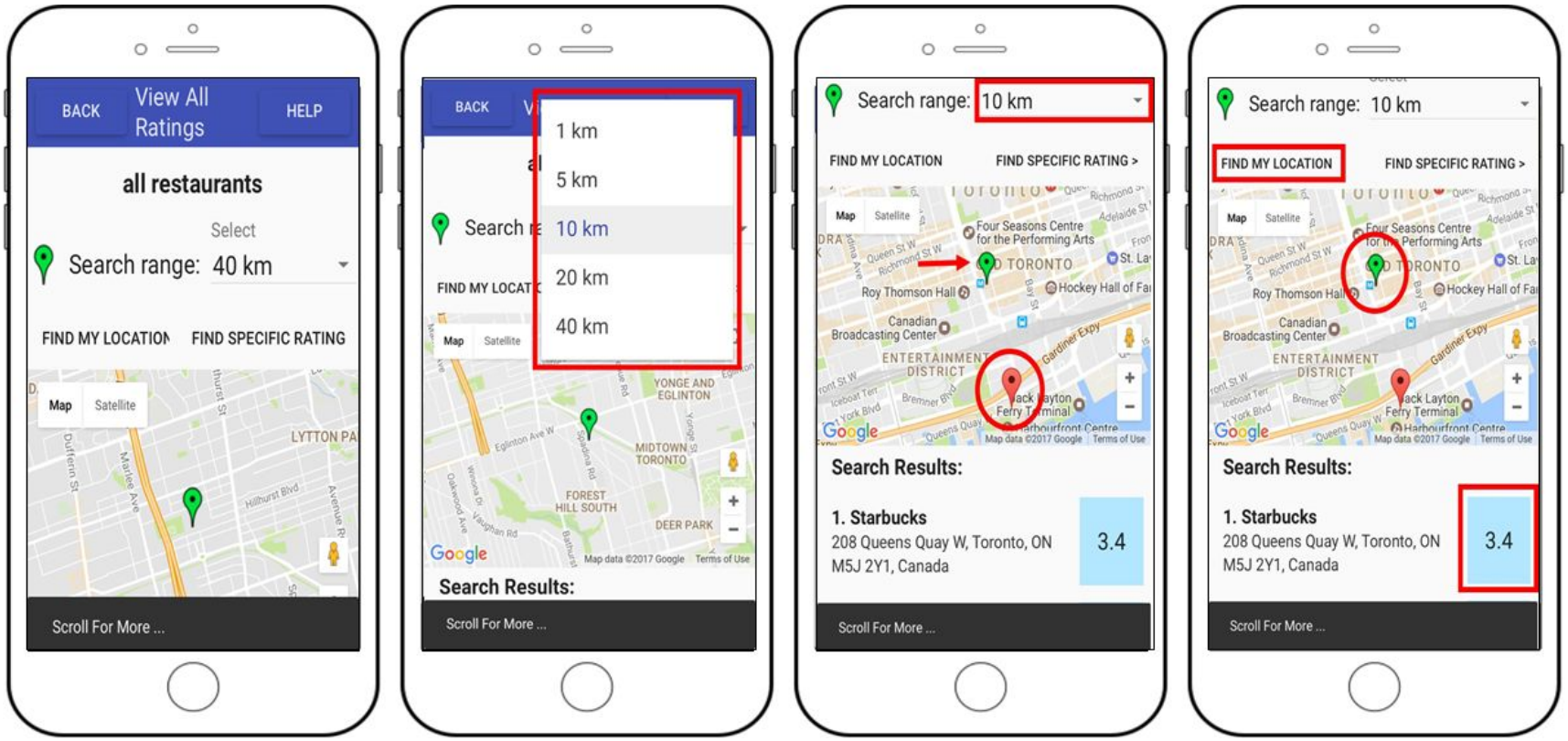
- 7 Categories
  - Community Centre
  - Crosswalk
  - Library
  - Public Transit
  - Restaurant
  - Shopping Mall
  - Other



Rate a Location



View Ratings



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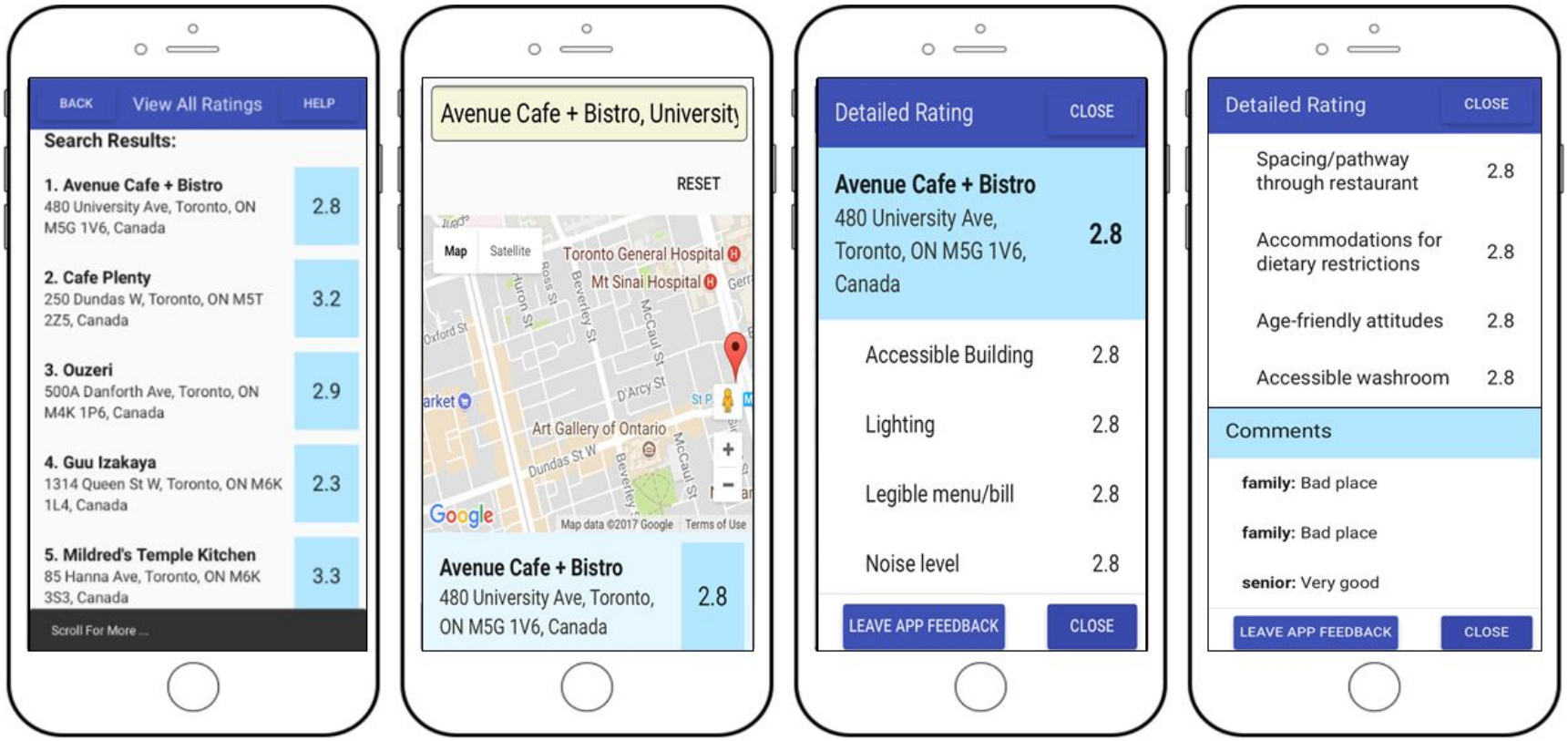


Research Objectives

- **Understand the usability of current Age-CAP mobile app by communicating with OAs (ages 65+)**

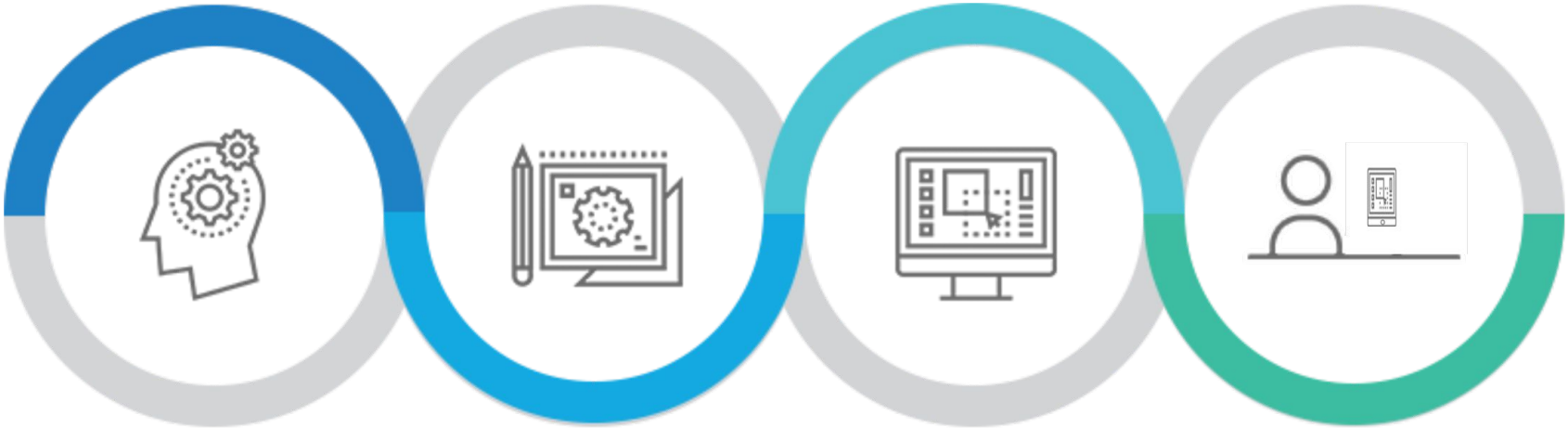
- **Design and develop a new mobile application according to Older Adult (OA) user feedback and evaluate its usability.**

Rationale

- Crowdsourced apps used as effective advocacy tools for environmental modification

- Age-CAP Pilot Test
  - Need for improved usability

Methods: User-Centred Design



Specify Context

Intended users & goals

Specify Requirements

Understand user requirements & identify issues

Design & Development

Iterative process of design solutions

Evaluation

Usability testing & user feedback

(http://colossom.com/images/user_centered_design.png.)

Results

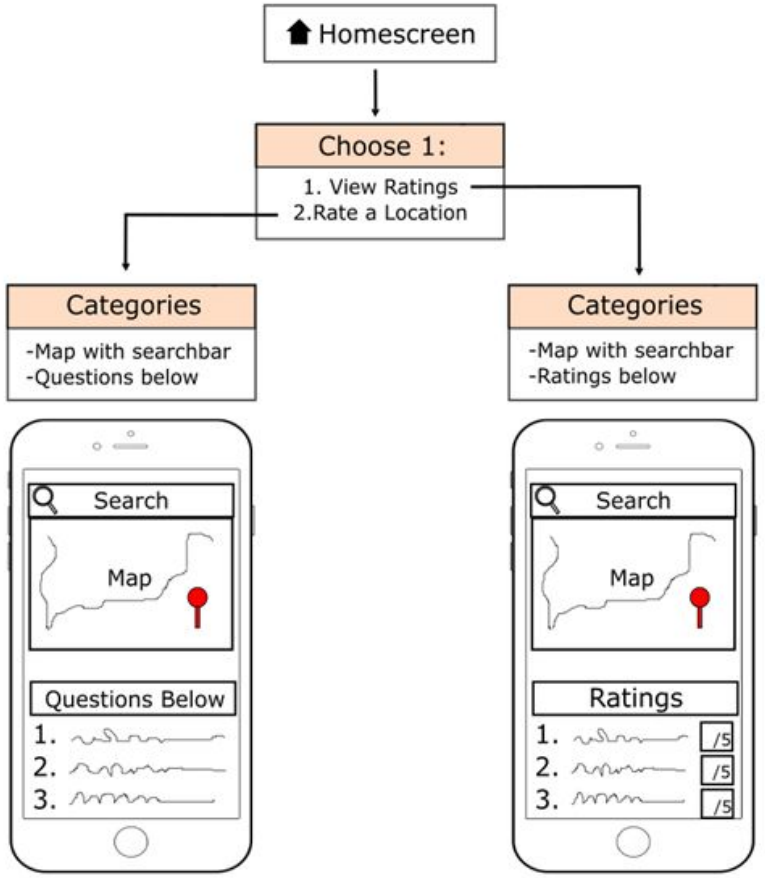
Phase 2: Requirements

- Agreed with categories
  - "Other" category
- Frustration caused by poor functionality
  - loading times
  - spontaneous closing
  - inaccuracy of GPS
- Need for improved readability & aesthetics
- Ability to edit submission

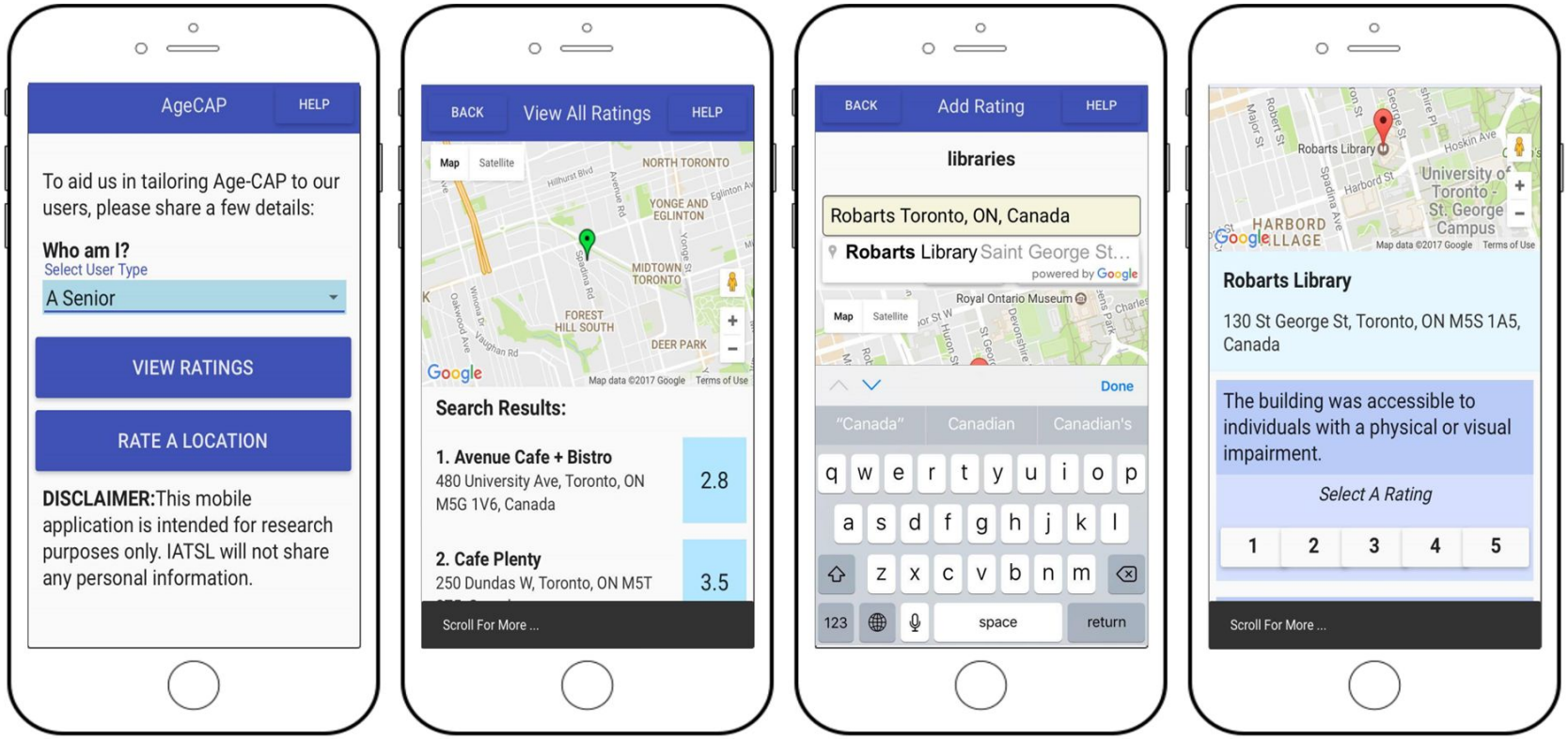
"Ten minutes and you're probably ok. But when the hardware fights...Then you're done."

Phase 3: Design

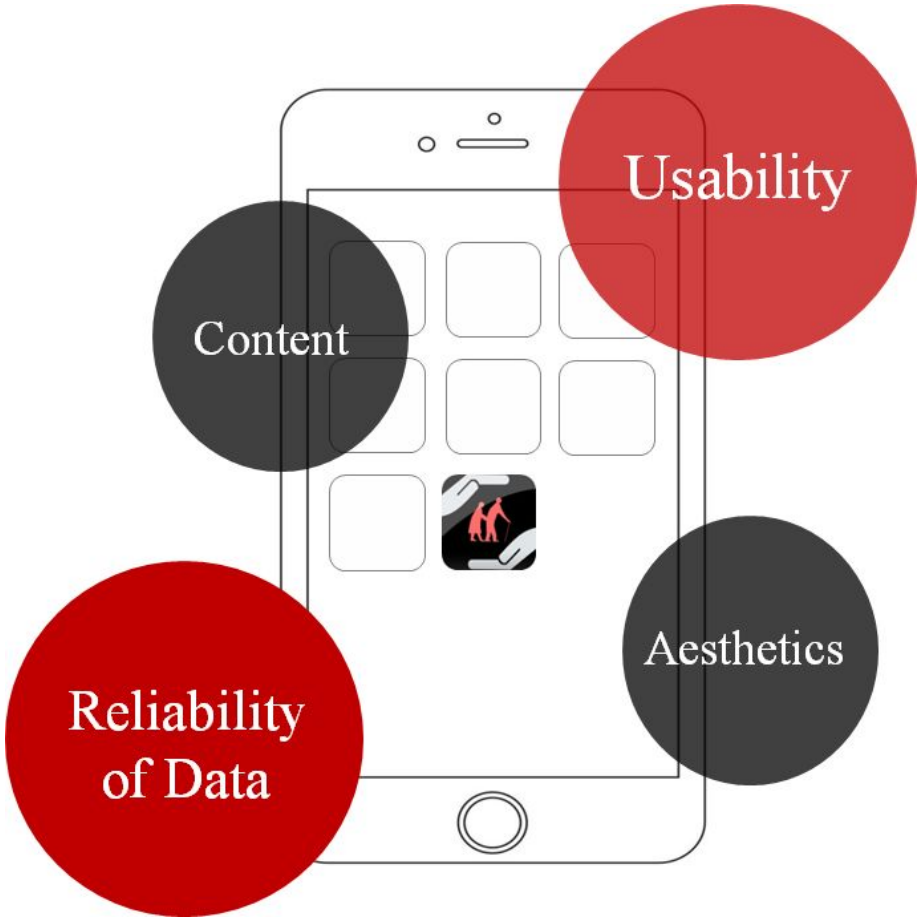
- Prototype designs created
- Map the flow of the app
- Iterative process



Phase 3: Development



Phase 4: Evaluation



Content

- Agreed with category questions
- Relevant information in "Crosswalk" and "Restaurant"
- Barrier is Age-friendly attitude
- **Generalize** 'Other' category questions

"'Employees and volunteers displayed age-friendly attitudes' that's a good one"

Aesthetics

- Enjoyed general aesthetic
- Readability was “excellent”
- Icons were appropriately sized and easy to use

“the size of text, the use of color separators between different parts of the screen. The text and contrast of the text is really good now”

Reliability of the Data

- Non-applicable questions
- Ability to edit submissions
  - errors entering data
  - update past rating
- Ratings dependent on OA status
- Accuracy increased with more ratings

"a senior…just designates age. It doesn't designate your functionality or your ability to move."

Usability

- Functioned without issues
  - Participants would use again in the future
- Menus were intuitive
- Employed search bar feature
- Map function complex

"I find the menus now are very intuitive. I was not trying to guess what am I going to do next."

System Usability Scale

- Mean score = 70
- Scores indicated:

Strengths:

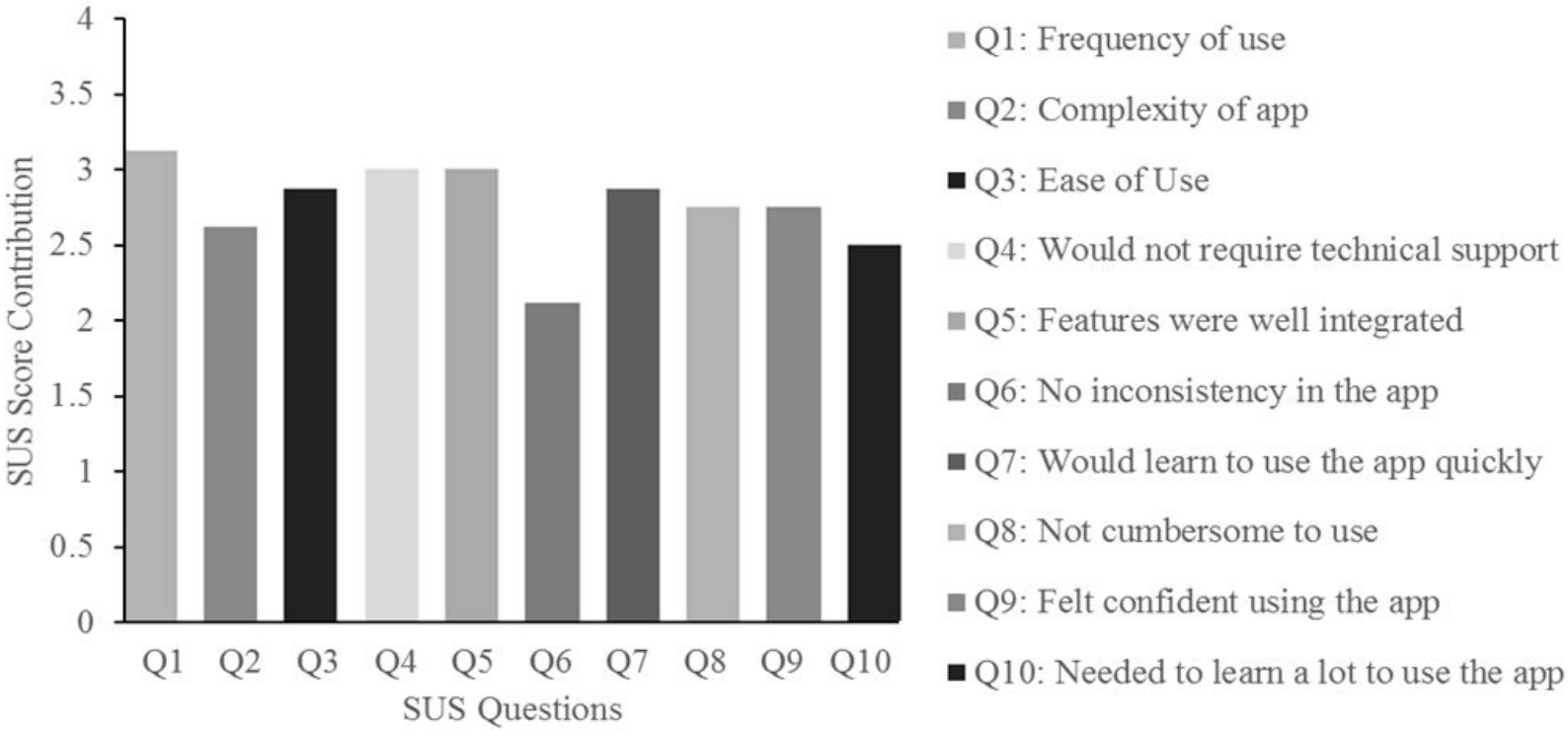
  - Frequency (3.1/4)
  - Ease of use (2.99/4)

Improvements:

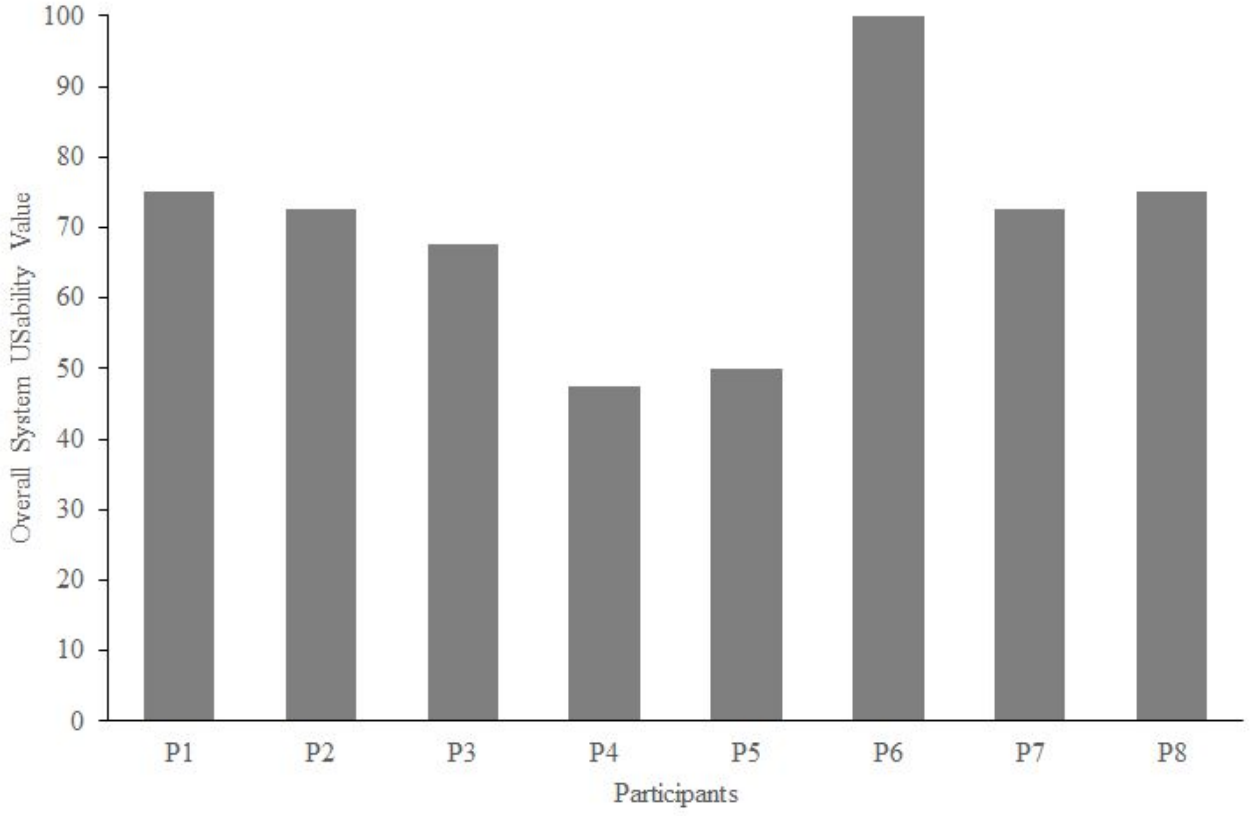
  - consistency (2.1/4)
  - prior learning (2.5/4)

1. Use this system **frequently**.
2. I found the system unnecessarily **complex**.
3. I thought the system was **easy to use**.
4. I would need **technical support.**
5. Functions in this system were **well integrated**.
6. Too much **inconsistency** in this system.
7. People would **learn this system quickly**.
8. **Cumbersome** to use.
9. I felt very **confident** using the system.
10. I needed to **learn a lot of things**.

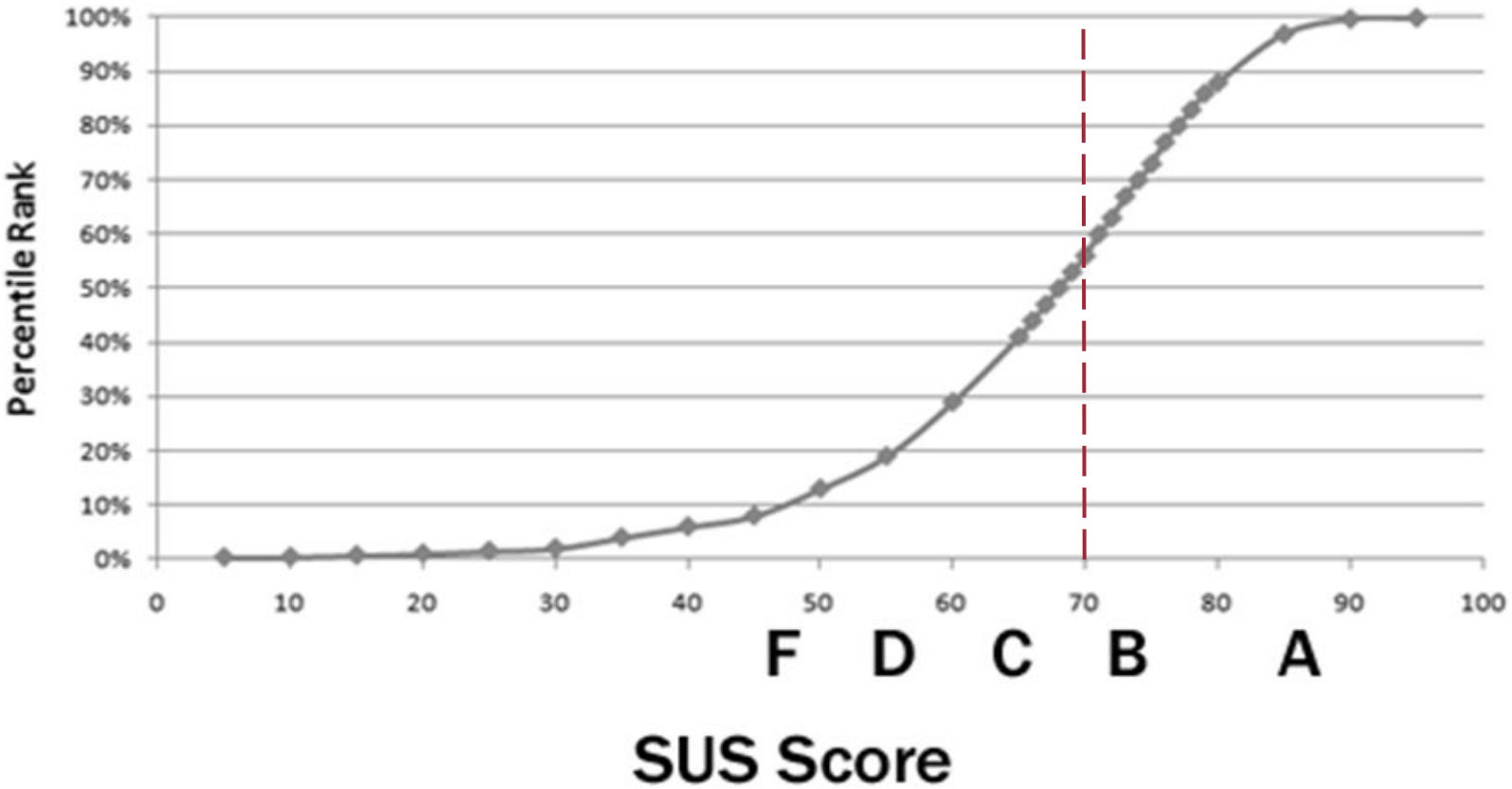
Individual Item Scores



Total SUS Scores



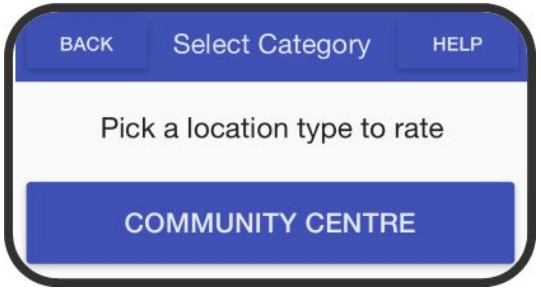
SUS Score Interpretation



https://measuringu.com/images/sus-curve.png.

Discussion

- Contrasting colours and simplified menu
- Web-based app
- Improved map function
  - Google place IDs
  - Search bar

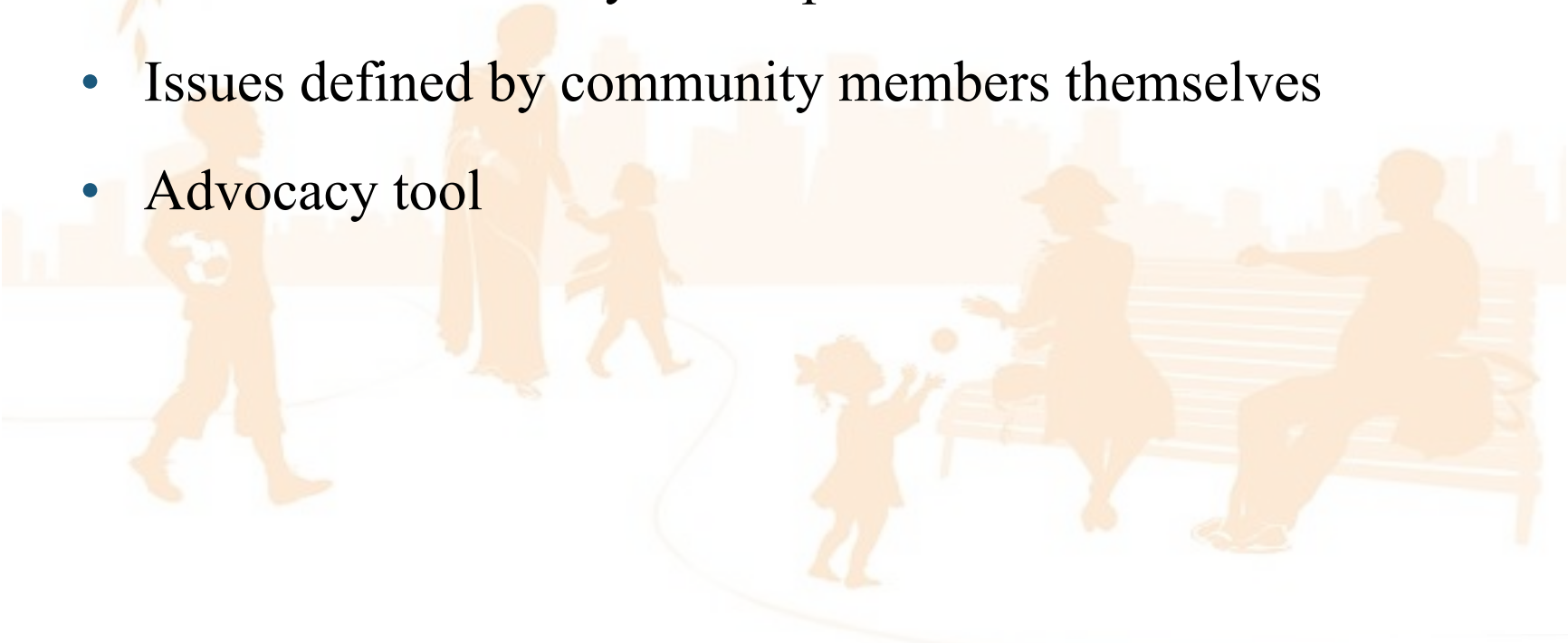


Discussion

- Age-friendly communities
- Linking Age to Older Adults
- Crowdsourced platforms

Implications for OS&OT

- Effective community development tool
- Issues defined by community members themselves
- Advocacy tool



(WHO, 2007)

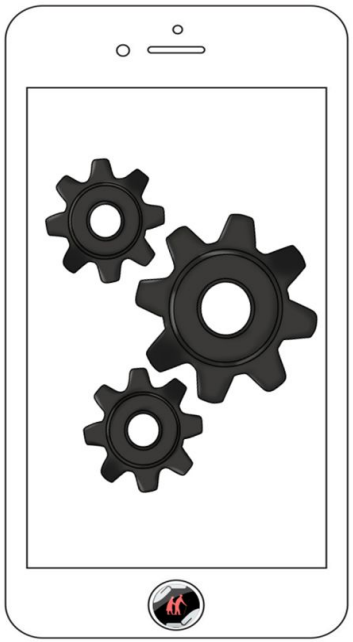
Limitations & Future Recommendations

Limitations

1. Sample Size
2. Variability of Sample

Future Recommendations

1. Ability to edit ratings
2. Simplify map feature
3. Increase the number of users
4. Further evaluation



Conclusion

- New mobile app was designed and evaluated
- Concept of Age-CAP to be beneficial
- Aesthetic, compatibility, and content relevancy were praised
  - Requires a less complex map function and reliable data
- Age-CAP can be a helpful community development tool

Questions

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