Socially-dependable Designs for the Aging: Momento App

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Abstract
Through previous research, different user groups and needs were identified, leading to the finding of a gap in the user needs in the future generation of technologically adoptive elderlies, where social mobile apps should be simplified to accommodate the level of experience with technology the user group has, as well as to design for potential future physical deterioration of the end users. The design process involves user research, idea sketches, personas, storyboards and prototyping. The final chosen design idea is the Momento app, which is a simple app for capturing photos and audio recordings to make entries on the app that can be stored, played or shared to other applications. A participant-based usability and experiential evaluation of the high fidelity mockup app prototype showed that the design idea is favorable with the end users and suggestion for improvements in both the functionality and usability of the app were acknowledged. Video presentation available at: https://vimeo.com/143445740

Author Keywords
Mobile application; social networking; elderly technology users; socially-dependable design

ACM Classification Keywords
H.5.2 Prototyping

Figure 1. Sketches of other initial design ideas.

Introduction

The personal technology market today offers a wide variety of products which the majority of people use on a daily basis, such as smartphones, tablets, personal computers and a seemingly endless selection of applications to suit every imaginable user need. However there are little elderly users when it comes to personal technology. The main obstacles in the use of technology in the elderly demographics include as the high cost of products, the reluctance to adopt such technologies, the perceived lack of user need for the products as well as physical or mental health conditions. The reluctance to use technology is apparent in the current generation of elderly (aged 70 years or more) whereas the generation after them (aged 50 to 69 years) are shown to be more technologically inclined. The emerging class of elderly users has been exposed to technology through work and actively uses social technology outside of work. The problem will arise when this group of users age into their 70's when their physical health and decreased dexterity may prevent them from using certain technologies, especially keyboards and touch screen devices. The aim of this research is to design for the future generation of technologically inclined elderlies and to provide a social design that is suitable and easy for them use. The chosen design idea for this challenge is a social app which allows the user to easily make an entry consisting of a photo and a voice recording. Each entry can be shared or kept private. The following sections of the report demonstrates the design process through background research, various design artefacts, the final design idea as well as participant-based evaluation on the high-fidelity prototype.

Background

Previous research [2] suggests that the 'ageing population' is composed of a variety of different user groups with unique user needs. The user needs differ depending on the individual's lifestyle, previous exposure to technology, as well as physical and mental health. Physical health currently acts as a major barrier in preventing effective use of technology in the elderly due to their lack of ability to control the device through keyboards and touch screens as a result of deterioration of motor functions [4]. This group of users are found to have a higher average age and use little person technology in their daily life.

The second group of users are younger on average (age 50 - 69) and have been exposed to technology through their work life. They are either retired or close to retirement and use both personal and corporate technology. Frequently used examples of personal technology include smartphones, tablets, personal computers, email, text message, and Facebook. However, they are reserved in using or purchasing new hardware or software products and may take longer periods of time to learn how to use a new or unknown system. Nonetheless, besides having better health conditions, their willingness to learn and technological integration in their daily life is a distinction of this group of users and it sets them apart from the current generation of older users as described in the previous paragraph, who use little to no technology and have no motivation or need to use technology.

The previous findings also showed that older users used technology for two main reasons: social connections and personal hobbies [1]. Although the two reasons consist of a broad spectrum of technology and

Figure 2. Storyboard of Momento.

products, it nonetheless implies the underlying motivation for the use of technology, especially in fulfilling one's social needs, which is made easier and more accessible with the modern day technology. On contrary, the results also suggest that the main deterrent to using technology is the high cost of new technology, especially newly released hardware on the market. Although they are interested in using the technology, they often wait until the price decreases before purchasing it.

From these findings and conclusions, a prediction can be made about the emerging generation of technologically inclined elderlies (the current generation of users aged 50 - 69), who may experience deteriorated health and as a result cannot use their usual platforms and devices as effectively. When this is taken into consideration with the need for social connection and a low costing product, the result is the inspired Momento app, which takes both the user's emotional and physical need into context. The following sections will describe the design process, final idea and user evaluation of the app prototype.

Design Process

The design process are divided into further sections that show the evaluation of ideas that come together to generate the final design. These include two persona exercises as exploratory design methods as well as design artefacts such as (1) sketches of initial design ideas, (2) storyboards, (3) sketches of final design, (4) a low fidelity prototype and (5) a high fidelity mockup mobile app prototype.

Personas

Persona is chosen as an exploratory design method in order to further understand the lifestyle and context of technology in the targeted end users. Two personas are constructed in this exercise. Since the end users are the one of the groups from the previous research, these personas reference the interviewees in Assessment 1 in their lifestyle, habits, working life, family, as well as the use of various technologies. This is so that the persona can effectively enhance the design of the app by mimicking realistic users. The two persona summary are outlined below. For the full exercise, please see Appendix A.

Persona 1: Julia

Julia is 56 and works in a local high school as an administrator who takes care of the stocking of school textbooks, supplies and uniforms. She lives with her husband in a Queensland suburb. As a person who approaches life with a positive attitude, she believes in lifelong learning. As a family oriented person, she uses her smartphone daily (voice calls, text messages) and occasionally uses social media to keep in touch with her friends and family. Although she has experience with interacting with personal technology and IT systems, Julia does not have a lot of dispensable income and cannot afford expensive luxury products.

Persona 2: John

John is 55 and works as a travel consultant in a travel agency to help people book flights, hotels and recommend them travel packs. He currently lives with his wife in an apartment near the Brisbane CBD. His job requires him to interact with complex booking systems and John often forgets how to navigate through the system. Generally a laid back person who favours the

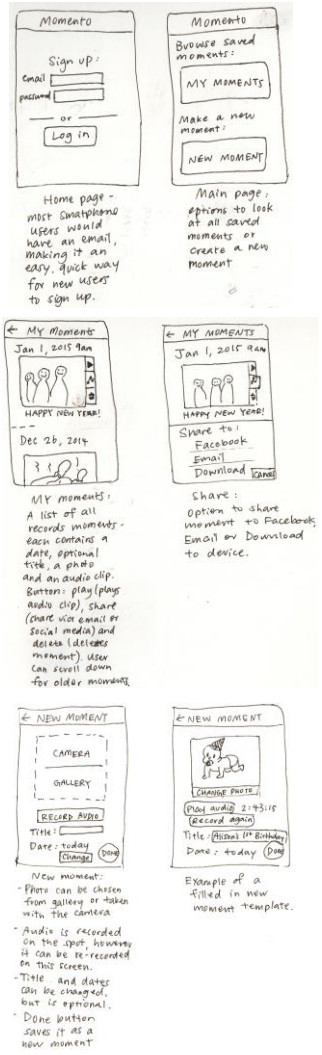

Figure 3. Sketches of Momento screens.

convenient, he enjoys using the internet to look up various things relating to his hobbies of travelling as well as using Facebook to see what all his local and overseas friends are doing. Although John likes technology for its convenience, he avoids technology if he thinks that it is too complicated to use and is not very enthusiastic for new technology.

Both Julia and John have previous exposure to technology through work and are still working. Both are social technology users who rely on smartphones or social applications to keep in touch with friends and family. Other design specifications gained from the personas include an inexpensive, simple to use final product. This eliminates the possibility of designing sophisticated hardware products, which are likely to be costly. The user need of simplicity implies a set of familiar user interface layouts, clear functional buttons and a straightforward system that is only designed to do a limited amount of tasks (and therefore lessening the complexity of the system).

When the possible future physical health deteriorations are taken into account, the findings of the persona exercises justify the design of the Momento app. The Momento app acts as a digital audio-visual diary or photo album. Mobile applications as a platform is familiar to the end users, therefore making the learning curve as well as the cost low. Also, by adding in options for sharing these entries or 'Moments', it makes the app more socially-based. The choice of using audio recording instead of text input prevents the some physical health limitations from hindering the user from using the app. In the early stage of the design process, a mind map outlining the contextual and user needs is completed and can be seen in Appendix C.

Sketches of other design ideas

These design artefacts are ideas that were explored but not chosen for prototyping. Each design is unique for caters for other user needs found in the results of Assessment 1. See Figure 1 or Appendix B for the sketches. A brief summary of each design is outlined below:

1. *Smart Assistant* – a mobile application that analyzes real time voice calls and notes down potentially important information during the call for the user to see later on; it has elaborate privacy settings due to its nature.
2. *Super Security* – a mobile application that helps the user to remember their usernames, email addresses and passwords for any account; it does not store any password but only displays the hints inputted by the user; also provides the basic knowledge of web security to keep the user informed.

Storyboard

A storyboard is generated for the purpose of exploring possible real life scenarios where the Momento app could be used. See Figure 2 to for storyboard, and see Appendix D for detailed storyboard with panel descriptions. This storyboard illustrates the user Julia from the persona exercise having a Mother's Day lunch with her daughter's family. After the meal and pleasant conversations, Julia creates an entry in Moment which consists of a photo of her, her daughter and grandson. She also records an audio clip of her grandson and daughter talking about the day. Months later, Julia shares all her Moments in a family Christmas gathering on the TV screen. Everyone enjoyed seeing and hearing the Moments throughout the year and had a good time sharing stories and remembering the events recorded by the app.

Figure 4. Photos of low fidelity prototype.

This demonstrates one of the ways that the Momento app can apply to social users who enjoy sharing with friends and family. The app helps to bring them closer together by reminding them of the moments that the user shared with other people. The voice recordings also aim to make each photo entry more personal and intimate. Although the storyboard only depicts scenarios involving special events, the app can also be used for day to day events or whatever the user desires. If the user wishes, they could also ignore the sharing aspect of the app and use it sorely for the purpose of keeping a digital diary.

Sketches of Momento Screens

These sketches show the core concept and functions of the Momento app in which the later prototypes are based on. Since one of the design specifications is to have a straightforward and simple system, the initial design attempts to limit the app to only the essential pages that would be more frequented by the users. See 3 and Appendix E for the sketches. The screens include a log in screen, a home screen, a screen to view saved entries and a screen to create a new entry.

Low fidelity prototype

A low fidelity prototype is made with printed screens attached to a fake smartphone made of cardboard cutout and a calculator's plastic case. The screens are taped together on the edges to allow each screen to be cycled through the smartphone shell. Photos can be seen in Figure 4, Appendix F and Appendix G. Due to the limited timeframe, this prototype was only tested by designers and not by end users. The feedback received are as follows:

- The "play", "share" and "delete" buttons should be larger and placed outside of the photo.
- Displaying the audio's length in the 00:00:00 format is confusing as it looks like it's in hours instead of minutes.

High fidelity prototype

The high fidelity prototype is a mockup app made with an online mockup editor and provides in real time interactive user interfaces that display on a mobile phone for realistic testing. There are a few changes in the high fidelity prototype, including the addition of a Settings menu to allow more user controlled actions, as well as the changes that reflect the feedback of the low fidelity prototype. Figure 6 and 7 show a photo of the high fidelity prototype and Figure 5 shows the flowchart of all the screens of the prototype. See Appendix H and I for more detail.

Final design idea

Out of the three initial design concepts, the Momento app is chosen for the more social-oriented purposes since previous research shows that social connection is one of the major user needs. The app takes in the user's input of a photo, an audio recording, an optional title and a date to create an entry in the app called a "Moment". All the saved "Moments" can be browsed through under the "My Moments" page. Each "Moment" can be played (audio), shared to Facebook, email, Dropbox or Google Drive. When used for the first time, a user must sign up with an email and password. After that, the user will be always logged in when they open the app unless they explicitly signs out of it.

The Momento app will be evaluated using the high fidelity prototype mockup app. Although it is not functional, it resembles the typical user experience by linking different static screens together to create the same effect of using a functional version. See Appendix

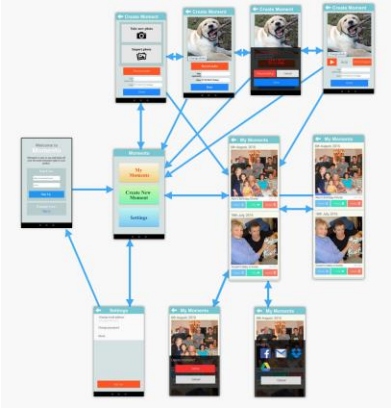

Figure 5. Flow diagram of high fidelity prototype screens.

Figure 6. Mockup app photo of Momento running on a smartphone [3].

J for details of prototype and Appendix I for screenshots.

Evaluation

The high fidelity prototype is evaluated in order to gain important feedback regarding the usability and user experience of the app. Functionality testing is excluded since the prototype does not function as a working application. Feedback are received from other designers (see informal feedback from other designers in Appendix N) as well as a formal participant-based usability testing section. The participant has signed a privacy statement for participating in this study (see Appendix K for privacy statement template).

Method

The prototype is tested by one participant (age 55) who also took part in the previous research (Assessment 1) and is a suitable end user for the app. The participant-based method involves a contextual interview prior to the testing, the usability test and lastly an interview with questions regarding the usability and user experience of the prototype. The contextual interview aims to gather an overview of the participant's level of experience with smartphones and apps, which is an important factor to the outcome of the usability test. Then the participant is given a smartphone with the running prototype[1] and is asked to perform the usability tasks on the app, which includes primary actions in Momento such as logging in, browsing, playing and sharing saved Moments, creating a new Moment and accessing settings. This process aims to identify potential bad navigation or layout designs that may be confusing or difficult to use by the user. They are also given time to freely explore and interact with the app and encouraged to speak their thoughts out loud during that time. Observations are made throughout the section of approximately 20 minutes. Then questions are asked to evaluate the following appraisal criteria (see Appendix L for usability tasks and interview questions):

- The app is intuitive and easy to learn initially.
- The user understands the user interface and is able to navigate through it to perform a desired action.
- The user is satisfied with the layout of UI elements on the screen.
- The user is satisfied with the colours, fonts and font size of the app.
- The user is satisfied with the functionalities provided by the app.
- The user enjoys using the app.

At this stage of the design process, usability testing is appropriate since the high fidelity prototype can be tested against the end users to identify user interface and experience issues as well as to assess the scope in functionalities in which the app aims to provide. The feedback would be useful towards the implementation of the app and lowers the chance of errors in the actual production.

Results

Contextual interview

The participant uses a Samsung smartphone and primarily uses the voice call, text message, email and web browser on the device. He is not very confident in downloading other apps from the Google Play Store. He

[1] The QR code in Figure 9 can be scanned for a live demo in the FluidUI app.

Figure 7. The mockup app running on smartphone for testing.

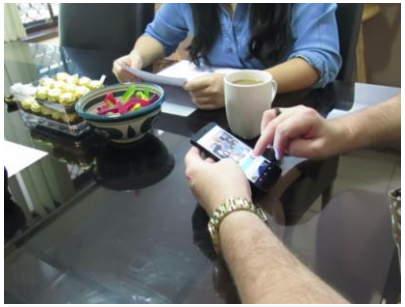

Figure 8. The mockup app running on smartphone for testing.

also uses an iPad predominantly for Facebook, however he is unsure about how to download other apps due to forgetting his account's password.

With the level of experience the participant has with smartphones and tablets, it is suitable for the targeted end-users as the app is designed to be used for users who are technologically inclined but not completely confident in using the latest technology. Although the challenge of downloading the app may limit Momento's full exposure to the end users, this is a problem that could be solved through social learning such as friends and family showing the user how to download apps.

Usability test

The participant was able to complete all the tasks given, including sign in, accessing previous Moments, creating a new Moment, sharing, deleting and playing a Moment and logging out (see Figure 8 for photo of the process). Overall, he showed relative ease when navigating through different screens in the app. Table 2 shows the observations noted down and the comments the participant made while testing.

Screen/UI element	**Comments and Observations**
Share Moment	Participant recognized the Facebook and Email icons but does not know Dropbox and Google Drive's icons.
New Moment	Participant understands the difference between 'New photo' and 'Import photo'. He also asked if it applies to videos and suggests it would be good to allow users to choose videos as well as photos.
Record audio	Participant did not press the Record button and started speaking on the New Moment screen. After being advised to press the Record button and finished the recording, the participant pressed 'Stop Recording' several times before pressing the 'Done' button.
Back button	Participant mostly used the back button on the Android bar instead of the app's back button. He also attempted to press the title of the screen (which is on the same bar as the back button) to go back to the previous screen.
Home screen	Participant thought the menu buttons were clearly labelled and easy to navigate to.
My Moments	Participant thought the Play, Share and Delete buttons are well colour coded to express their purposes.

Table 1. Observations and comments made during usability test with participant.

Post-test interview

In terms in usability, the participant is satisfied with the "pretty easy" navigation throughout app. He found that the main menus were "straightforward" and "not confusing at all". He also liked the "very clear" play, share and delete buttons corresponding to each Moment and the colours of the app. The only issue was that "for someone who doesn't use apps a lot, [he] didn't know what [Dropbox and Google Drive] are." He would also like the app to support a video format in

Figure 9. QR code for live Momento mockup demo – this can be scanned in the FluidUI app.

addition to photos. See Appendix O for heuristic evaluation.

In the experiential aspect, the participant enjoyed using the app and he felt that sharing a photo with friends was particularly easy, with the option to just store it in the phone or share through social media. He liked the 'new photo' feature which lets users take a new photo and thought it was convenient. Lastly, the participant would use this on holidays or travelling and would recommend it to his friends and family to use for holidays.

Future improvements

From the evaluation of the Momento prototype, an additional feature and several usability changes are chosen to be implemented as future improvements.

1. *Recording screen* – confusion was apparent in both the participant and designer feedback due to the redundancy of the "Done" and "Stop Recording" button, thus the "Done" button will be discarded leaving only the two distinct "Cancel" and "Stop Recording" buttons on the Recording screen.
2. *Share screen icons* – labels will be added under each application icons to more clearly communicate with the user what the icons represent. Further research should be conducted to evaluate the most frequently used apps for sharing of the users, since the inclusion of Google Drive and Dropbox may not be appropriate/useful for the end users.
3. *Other usability considerations* – this includes the in-app Back button and the Date and Title fields of a Moment (see Appendix O for more detail). Further participant-based evaluation is needed to confirm the issues since they are not raised during this study.
4. *Video* – the additional feature suggested during the evaluation would add a layer of complexity to the app that may not be suitable for other end users, therefore further research should be conducted before implementing the suggestion.

Conclusion

The Momento app design idea was shown to be a relevant provides an enjoyable user experience in the early stage of development. The design process of user research, design sketches, storyboards, personas and prototyping all assisted to shape the final design. Upon evaluation, Momento received many positive comments and a few suggestions for usability and functionality improvements. Overall, the design idea is considered successful and the improvements will be implemented in the future development of Momento.

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[2] Jones, A., Lo, L.S., Struik, S. (2015). *Ageing and Connection: What are the issues and challenges faced by the elderly in their adoption of technology?*

[3] Kreativa Studio. (2013). *Nexus 5 Mockup PSD*. [Accessed Oct 18 2015] Available at: https://dribbble.com/shots/1291675-Nexus-5-Mockup-PSD

[4] Pattison, M., & Stedmon, A. W. (2006). *Inclusive Design and Human Factors: Designing Mobile Phones for Older Users.* PsychNology Journal, 4(3), 267-284.

APPENDIX

Appendix A – Persona exercise

Persona 1 – Julia

Julia is 56 and works in a local high school as an administrator who takes care of the stocking of school textbooks, supplies and uniforms. She lives with her husband in a Queensland suburb.

Personality and attitudes

- Likes to be organised; has a positive attitude towards life and believes in lifelong learning
- Likes interacting with people; caring and family oriented

Domestic and professional details

- Julia is a wife, mother of three and a grandmother
- Her children are all adults, two of which live close by and the other lives interstate
- Has a large extended family with cousins, relatives, uncle and aunts as well as family friends
- She and her husband are in the middle class, although not struggling, they do not have a lot of money to spare most of the time
- She has a degree in arts, majoring in history and management, but she is not very academic and prefers 'doing' things over studying
- Her previous careers include restaurant manager, business administrator and social worker
- She has learned to use basic IT systems through those jobs

Goals

- At this age, Julia wants to live a stable life and aims to have financial stability after her planned retirement in a few years' time
- She also wants to help take care of her grandchildren after she retires

Habits and activities

- Meetups with family or friends on weekends
- Takes the dog for a walk every morning and evening
- Works from 9am to 3pm on weekdays
- Drives to get to places
- Cooks at home for breakfast and dinner; takes lunch to work; eats out occasionally
- Uses her smartphone to keep in touch with family almost daily through calls and texts
- Has Facebook account but only checks it once or twice a week
- Also uses emails and online banking as well as the internet to find new recipes
- Likes to keep traditional photo albums

Work description

- Requires Julia to use the school based computer system for stocking items
- It is a complex system to navigate through and there are a lot of information stored in the database, including the records of all the previous sales and stock details
- In case there is a change of item (e.g. change of textbook), Julia has to make sure to stop stocking the old item and stock an appropriate amount of the new item based on its use

User considerations

- The cost of the new technology must not be too high, since Julia does not have a lot of extra income

- She has a basic understanding of how to use computer systems
- She is a very social person who likes to keep in touch with people using technology, although not so much on social media
- Family is one of her top priorities and she values family get-together's a lot

Persona 2 – John

John is 55 and works as a travel consultant in a travel agency to help people book flights, hotels and recommend them travel packs. He currently lives with his wife in an apartment near the Brisbane CBD.

Personality and attitudes

- John is a laid back and open minded person who enjoys life as it comes
- He has a sense of humor and like travelling to different places
- He values having a good time with friends and family and experiencing different cultures

Domestic and professional details

- John has a son who has recently graduated from university and moved out not long ago
- John and his wife often likes to eat out in the city because of the variety of food offered
- Besides his family, he has a few close friends in Australia and many foreign friends in other countries
- John likes convenience in his day to day life, his apartment is nearby to the many shops and restaurants in the city
- He studied business and finance in university in USA, and had worked for a bank until he decided to switch his career to be a travel consultant
- He is familiar with finances and can use IT systems in the bank, although he had to relearn a new system for his travel consultancy job, he is able to use it effectively
- His only complaint was that the system was often so complex that he can't remember how to use it after a period of not using the system

Goals

- At this point in life, John is satisfied with his career and his role as a father
- John wants to spend less time at his work and more time with friends and family to travel
- He also wants to save up money before retiring to travel

Habits and activities

- Every now and then, John enjoys a beer in the evening with his friends while watching football
- He is an active user of Facebook and the internet, he likes it because it provides an easy way for him to see what his friends are doing and look up various things online, such as how-to's and travel information; he likes it for the convenience
- He also uses email to keep in touch with his foreign friends
- However, John takes to new technology very slowly – although he has heard of Instagram, he doesn't know what it is at all
- Although they own a car, John walks to work every day since it is only a 15 minutes' walk and he can avoid traffic in the rush hour that way, it also saves money that way
- Occasionally on the weekends, he and his wife go to the cinema for a movie
- He is taking German classes online and finds online banking very convenient

Work description

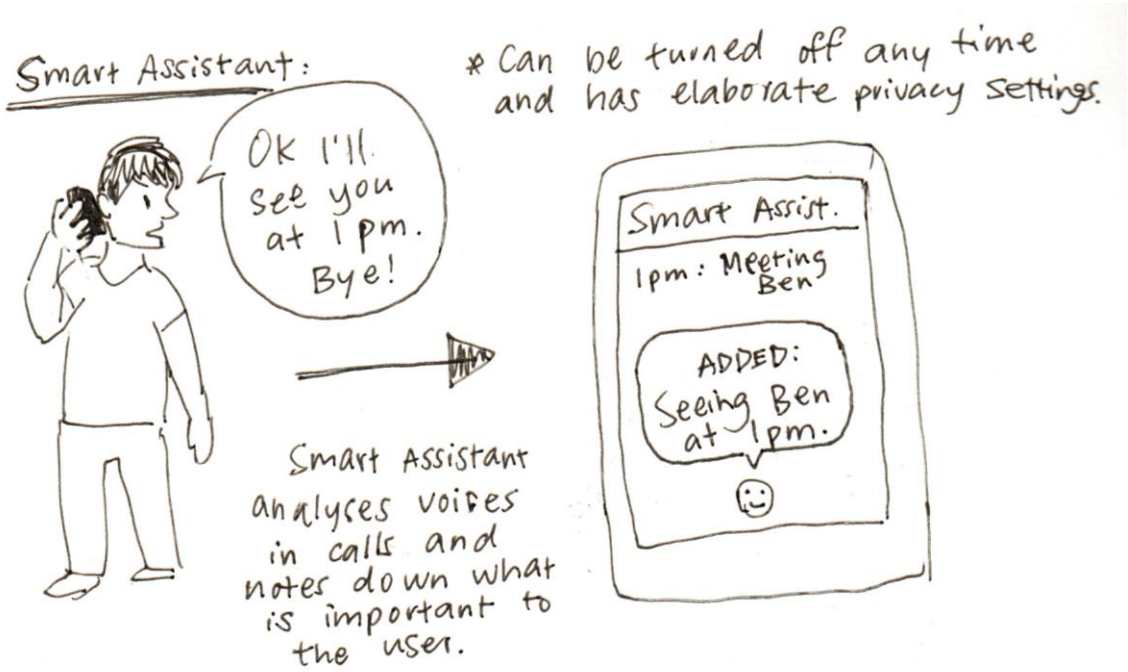
- John's work requires him to navigate through a complex booking system and searching for travel packages also requires working extensively with the system software
- John doesn't mind his job since he also learns a lot about traveling from it

User considerations

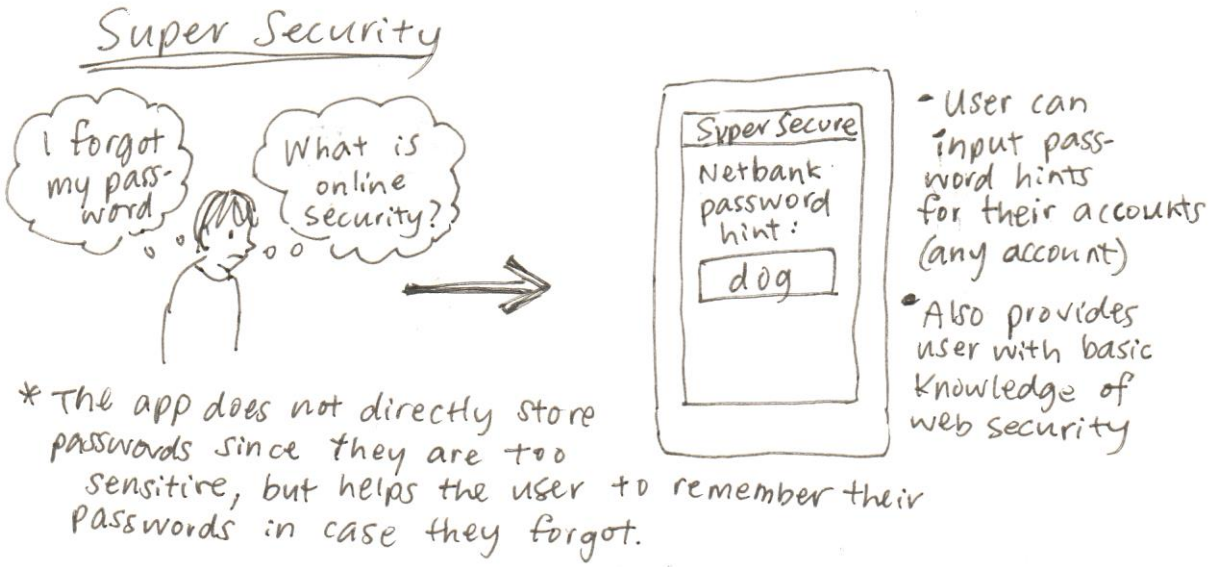
- John is not very enthusiastic for new technology
- But he likes the convenience of technology when it is not complicated to use
- His uses of technology socially and financially the most

Appendix B – Unused design ideas

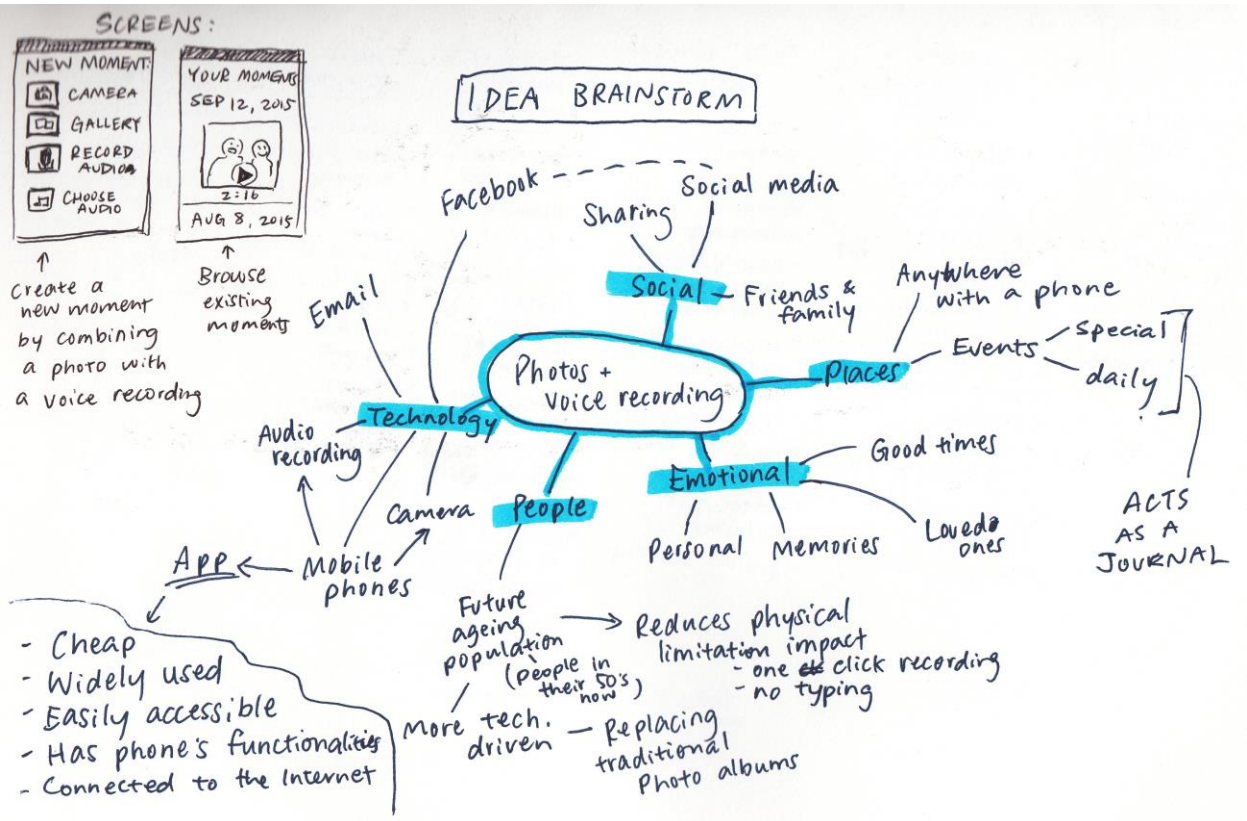
1. Smart Assistant



2. Super Security



Appendix C – Mind map for Momento



Appendix D - Storyboard

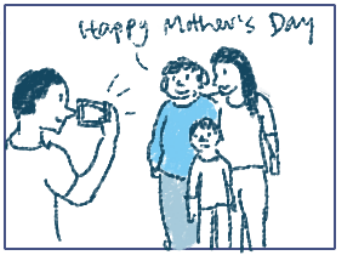
1.

Julia (in blue) invited her daughter's family to come to their house for a Mother's Day lunch. They have just arrived.

2.

They had a wonderful lunch and stayed for a while to chat and catch up with each other, since they don't see each other for weeks at a time.

3.



Before leaving, Julia suggested that they try out the new Momento app she downloaded. They took a photo and recorded everyone talking about the day.

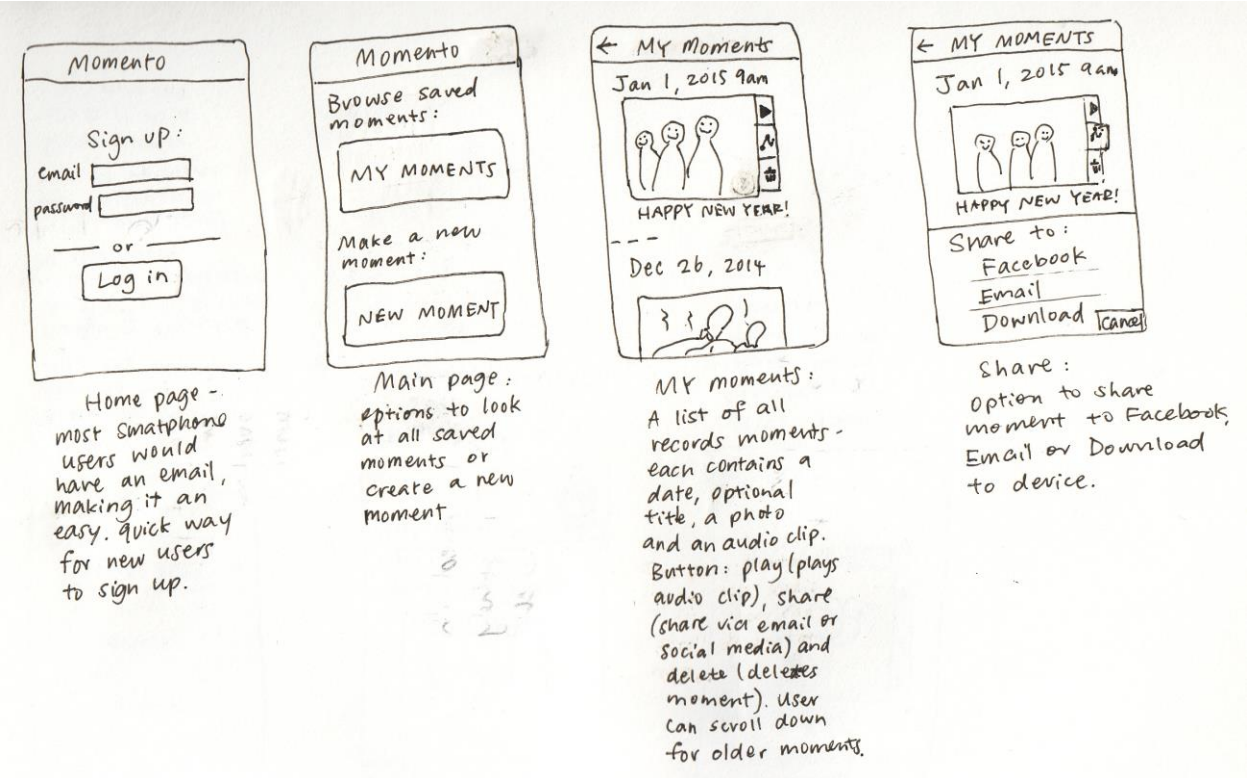
4.

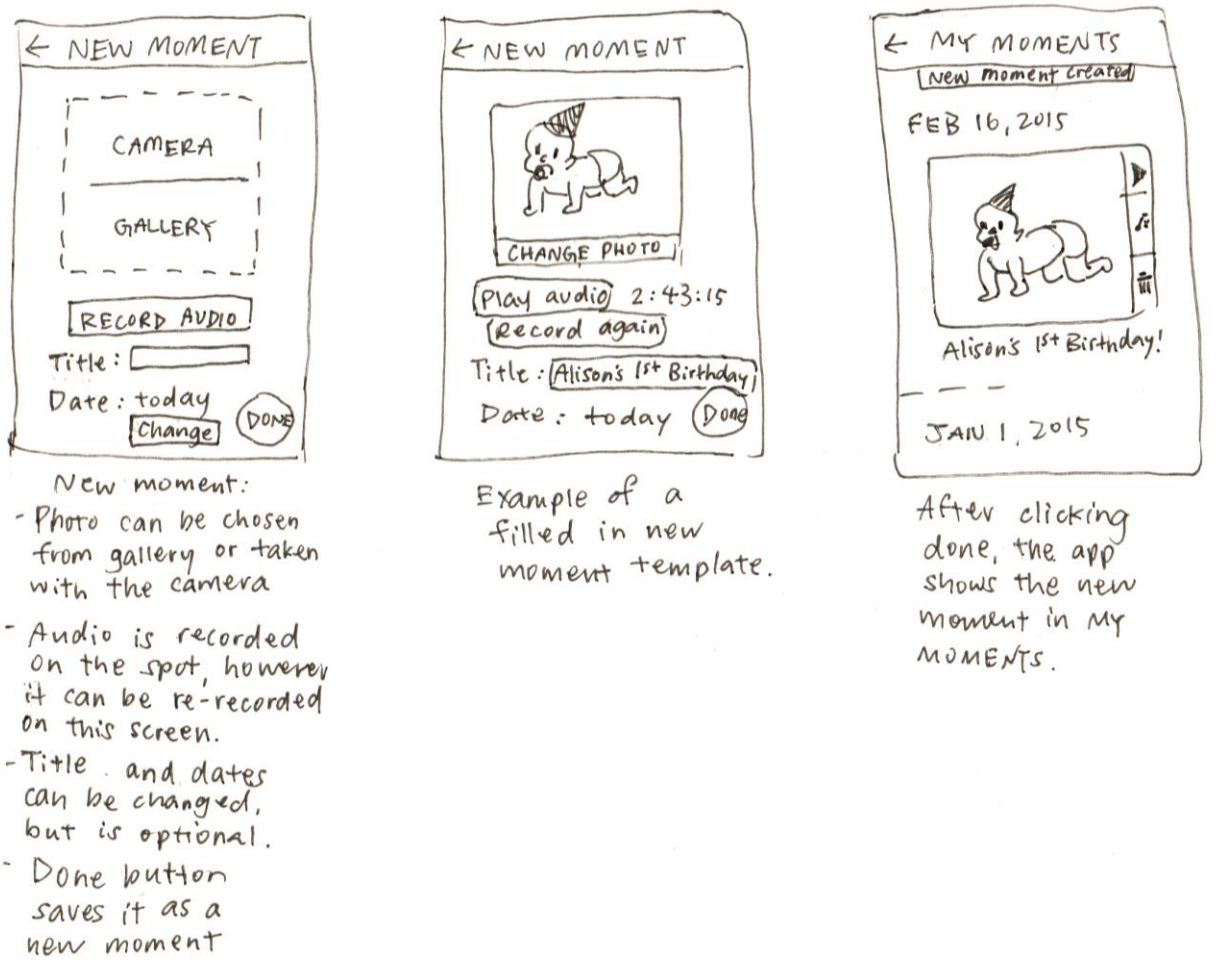
Julia now has a new entry on her Momento app with the photo and audio clip saved. She can play it on her phone any time she wants or share it via email or social media.

5.

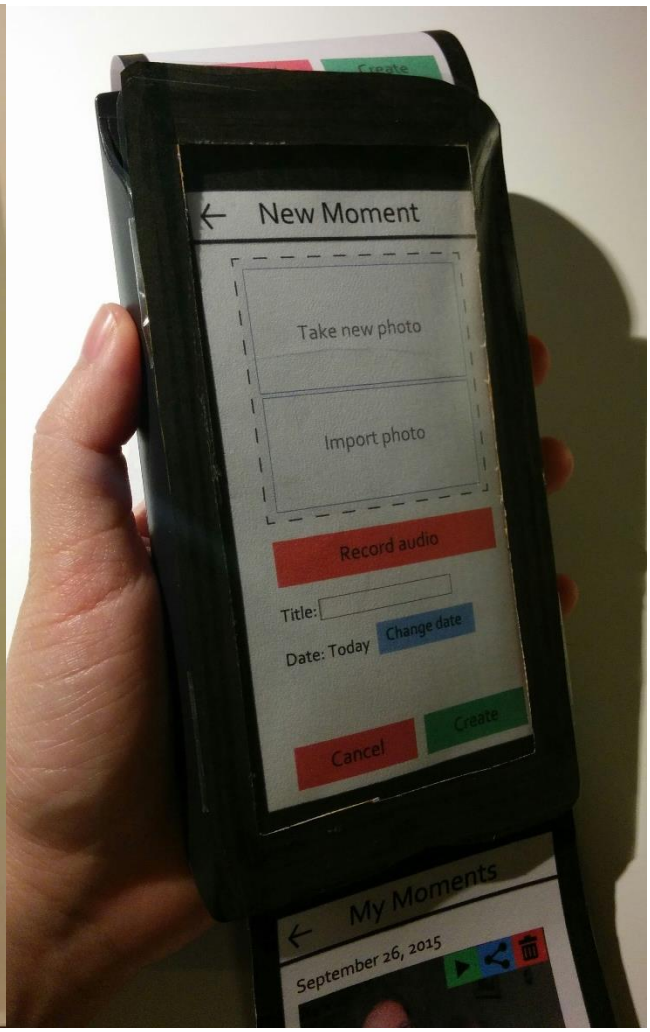
Later that year at a Christmas gathering, Julia shared all the photos and audio entries that she recorded throughout the year with her family. They had a good time sharing and talking about the events that happened.

Appendix E – Sketches of Momento screens

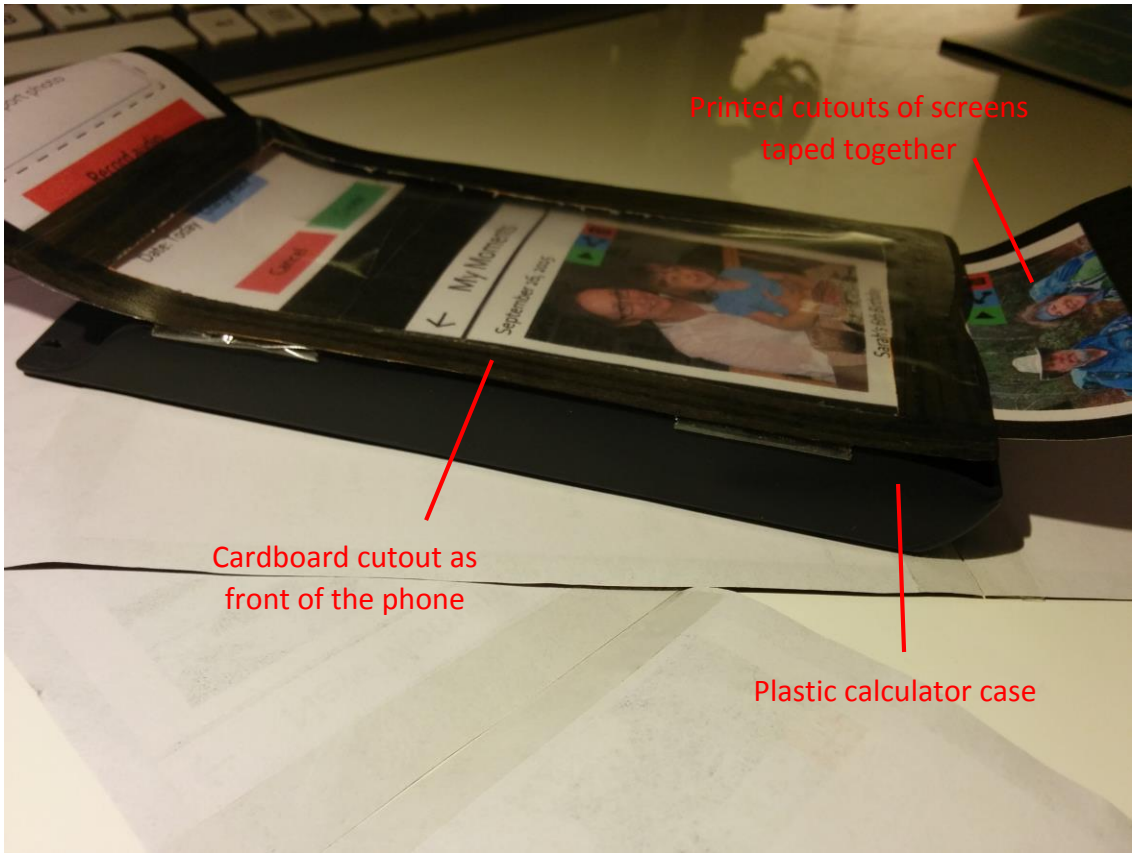




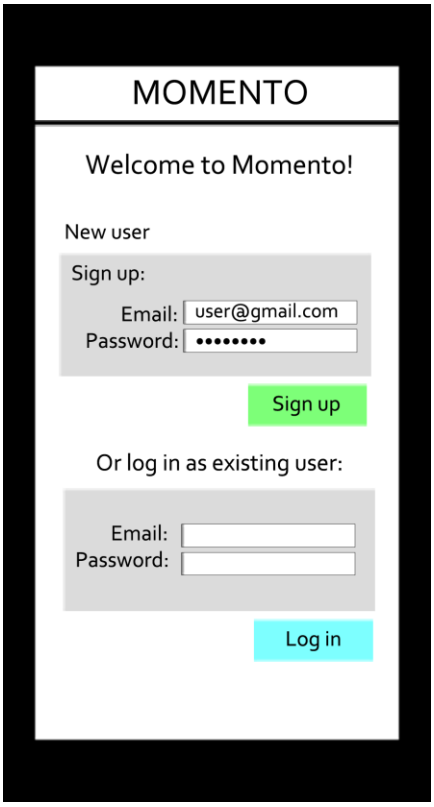
Appendix F – Photos of low fidelity prototype

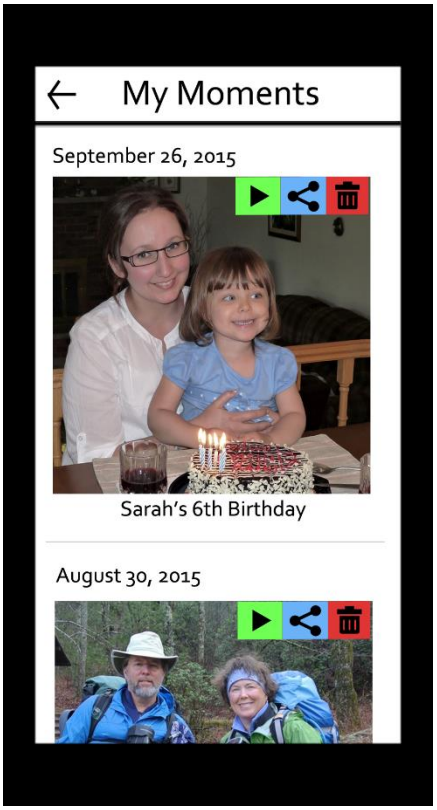


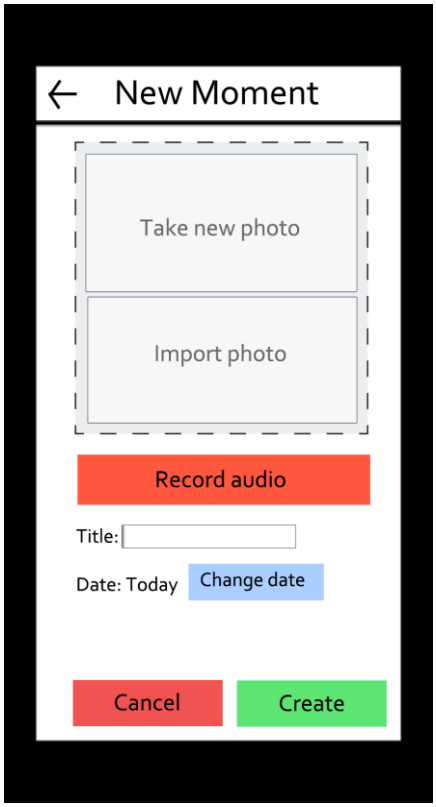

Date: Today
Change date
Cancel
Create
My Moments
September 26, 2015
Sarah's 6th Birthday
August 30, 2015
Screens can be cycled through by pulling on the end of the screen print out

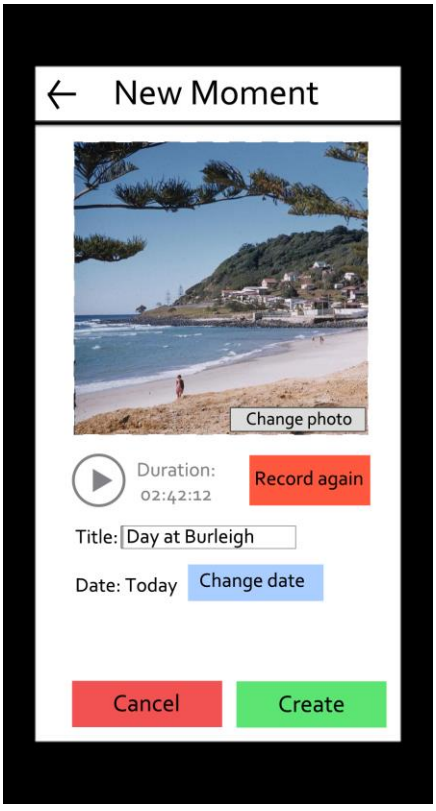

Printed cutouts of screens taped together
Cardboard cutout as front of the phone
Plastic calculator case

Appendix G – Low fidelity prototype screens

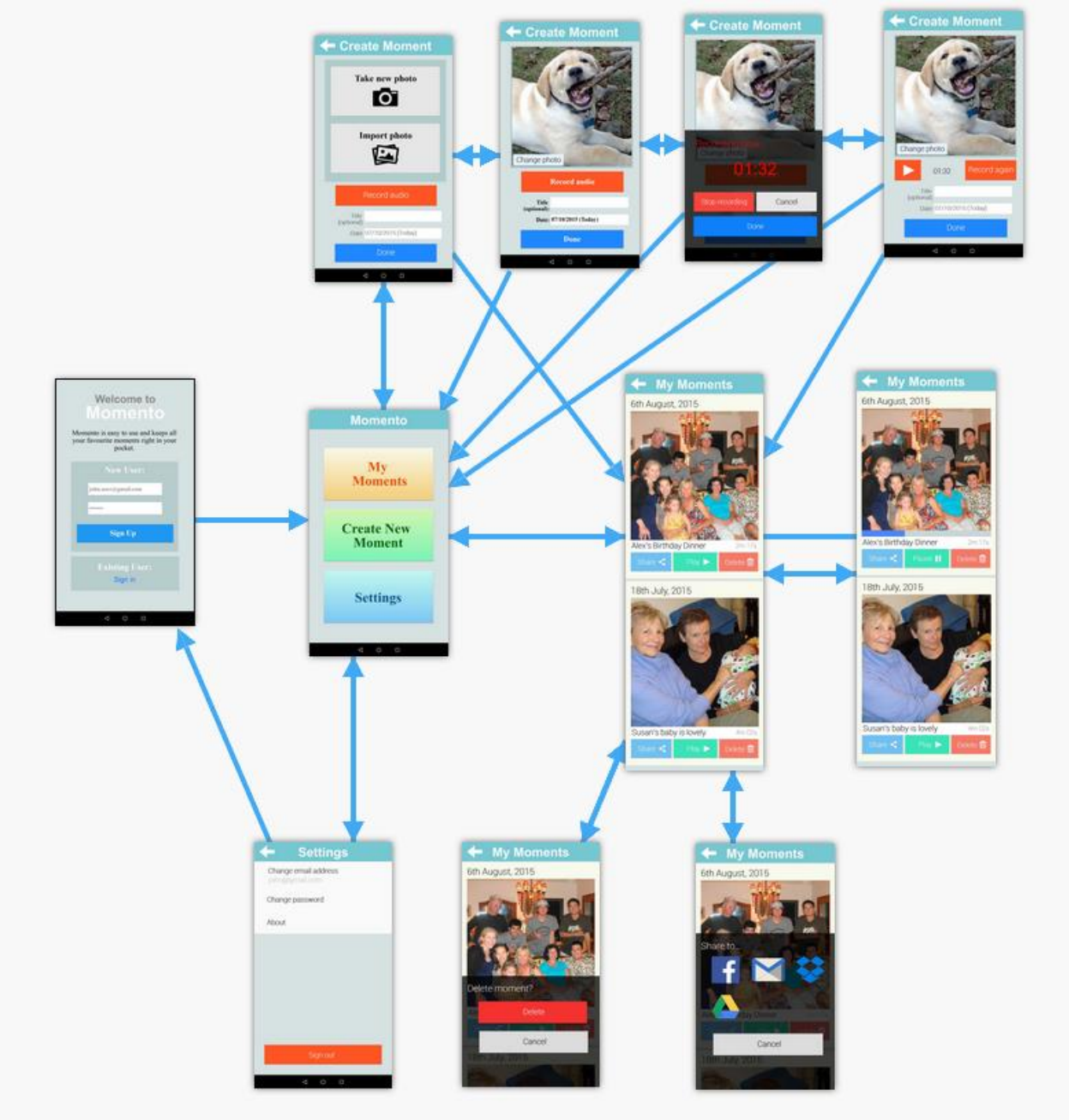




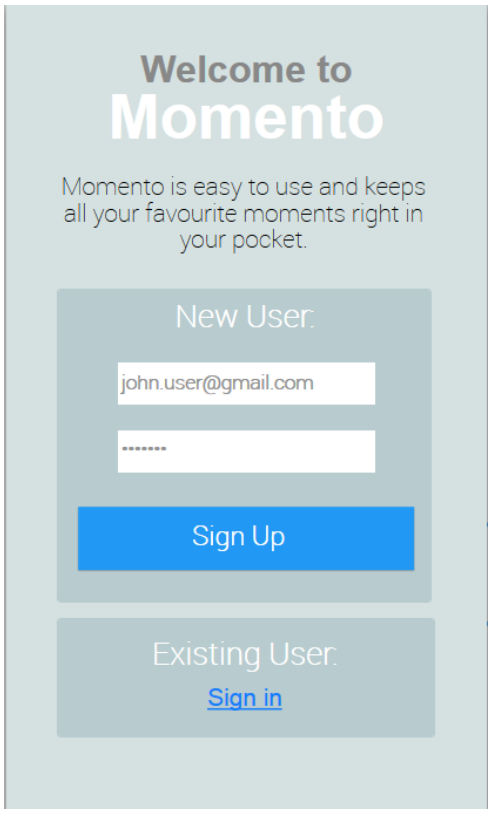


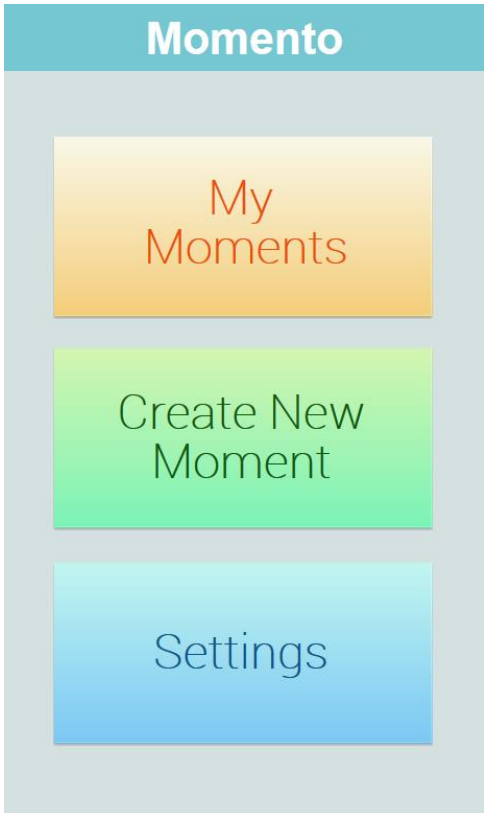


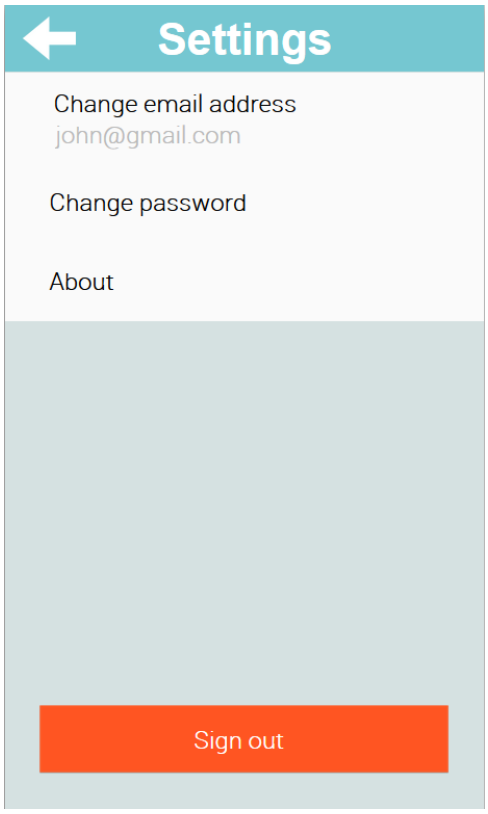
Appendix H – Screen flow of high fidelity prototype

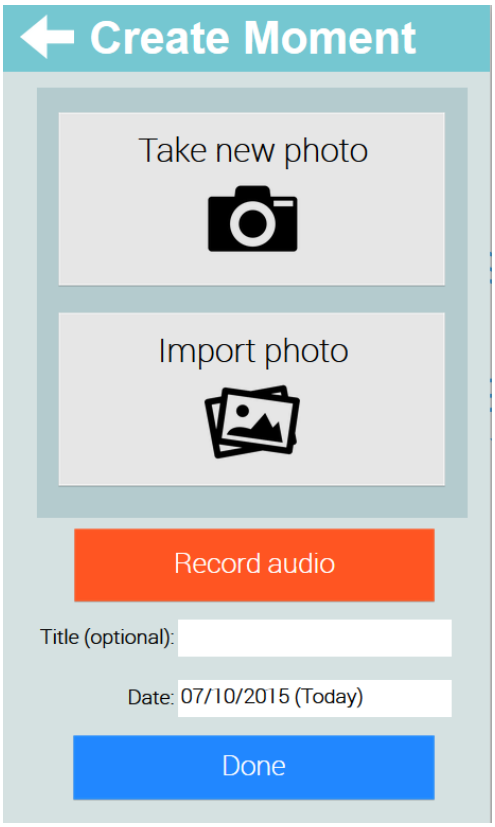


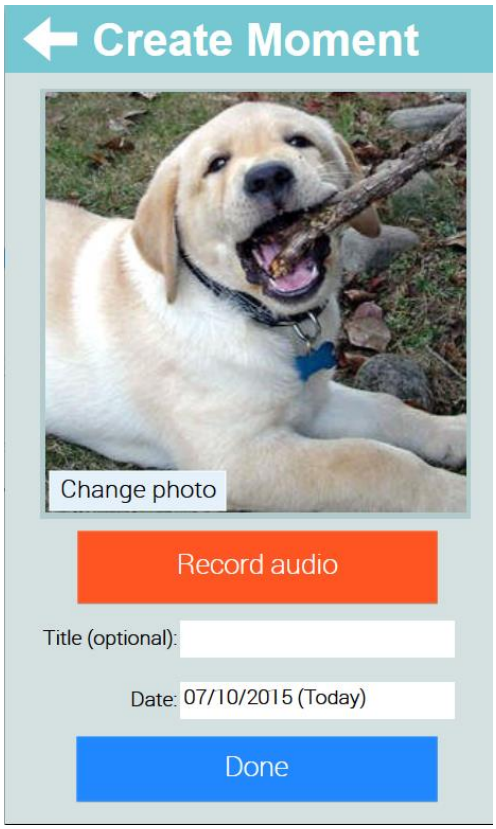
Appendix I – High fidelity prototype screens

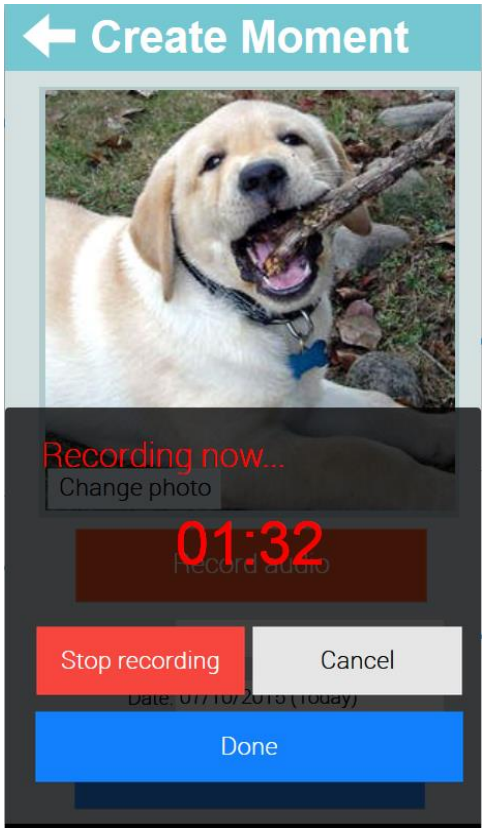












Create Moment

01:32

Record again

Title (optional):

Date: 07/10/2015 (Today)

Done

My Moments

6th August, 2015

Alex's Birthday Dinner 2m 17s

Share | Play | Delete

18th July, 2015

Susan's baby is lovely 4m 02s

Share | Play | Delete

My Moments

6th August, 2015

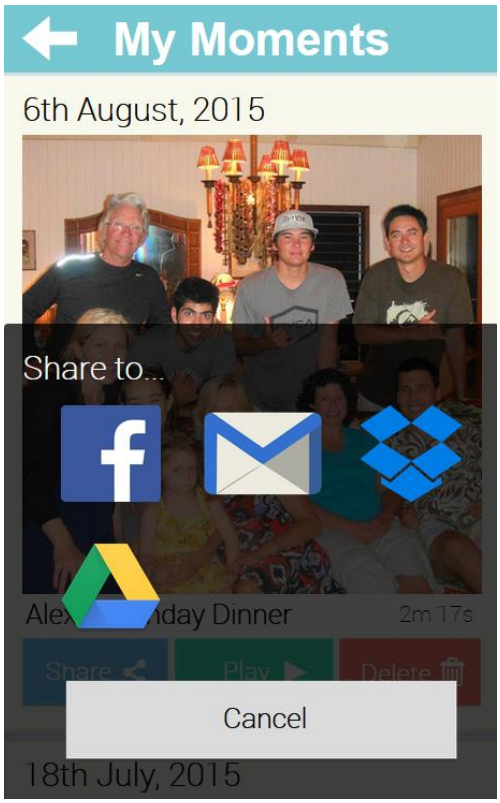
Alex's Birthday Dinner 2m 17s

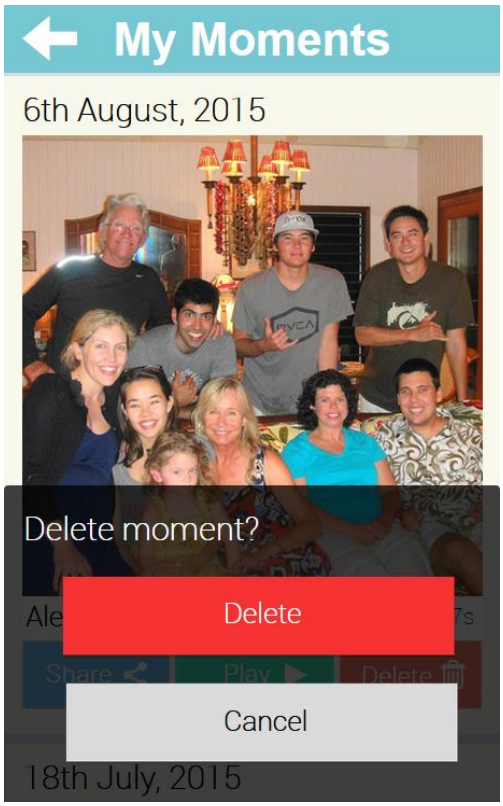
Share | Pause | Delete

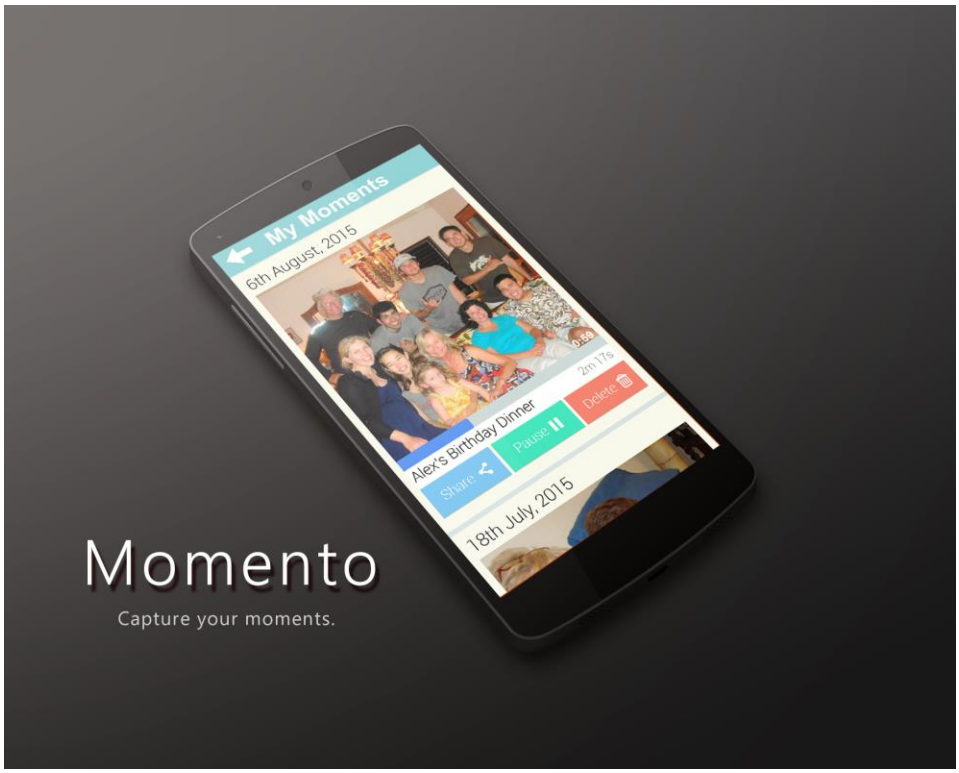
18th July, 2015

Susan's baby is lovely 4m 02s

Share | Play | Delete







Photoshop of mockup

Appendix J – High fidelity screens descriptions

Screen	Notes
Log in	Shows login or sign up options with email and password fields.
Home	Displays the buttons to navigate to “My Moments”, “Create New Moment” and “Settings”.
My Moments	Displays the saved Moments in a feed that can be scrolled through (mockup has scripted Moments); each Moment contains a date, title, and a “Share”, “Play” and “Delete” button.
My Moments – Play	Displays the audio progress bar below a Moment.
My Moments – Share	Prompts user to select Facebook, Email, Dropbox or Google Drive.
My Moments – Delete	Prompts user to confirm Delete or Cancel.
Create New Moment	A blank template for creating a new moment; elements include “Import/New photo”, “Record audio”, “Title (optional)”, “Date” and “Done”.
Create New Moment – Import/New Photo	A scripted photo appears in the photo area when this is clicked.
Create New Moment – Record Audio	Recording screen overlays the “Create New Moment” screen and shows the time duration of the recording, “Stop recording” and “Done” buttons.
Create New Moment – Final	The template is now full with the scripted photo and recording as well as the options to change/edit the photo or recording.
Settings	Displays user’s account email address, option to change email address or password, “About” and the Sign out button.

Appendix K – Privacy Statement Template

Greetings,

I am Moon Lo from the Queensland University of Technology. This semester, I am undertaking the unit ‘CAB210: People, Context and Technology’, which is largely based upon designing IT systems.

I have gathered research from my previous research and for the second part of the assignment, I have made an app called Momento, which the prototype you will be trying out today. It aims provide an easy way to share good times and store memories. After you test it out, I will ask you a few questions and get some feedback on the app. Your feedback will be very helpful, so don’t feel like you have to say good things about it!

The process will take approximately 20-30 minutes. Your identity will be shown as anonymous on the report and any data recorded (video recordings and notes) will not be published anywhere outside of QUT. The recordings will be deleted after the purpose of this assignment.

Thank you for taking your time to do this. It’s very much appreciated!

Name: _____

Date: _____

Signature: _____

Appendix L – Usability testing and interview questions

Pre-testing questions

- What is your current model of mobile phone?
- What are the most frequent activities you do on your phone?
- Which apps do you use most often on your phone?
- Are you familiar with downloading or using apps?
- Do you use other personal devices and if so, what do you use it for most often?

Usability testing

- Tasks:
  - Sign-in
  - Access previous Moments
  - Create a new Moment
  - Share a Moment
  - Delete a Moment
  - Play a Moment
  - Log out

Post-testing interview questions

Usability

- Is the app intuitive to learn or is it difficult to get used to?
- How do you find navigating through the menus?
- How do you find the buttons layout, fonts and colours of the app?
- How do you find the functionalities offered by the app?
- Would you like to see more or less features in the app?

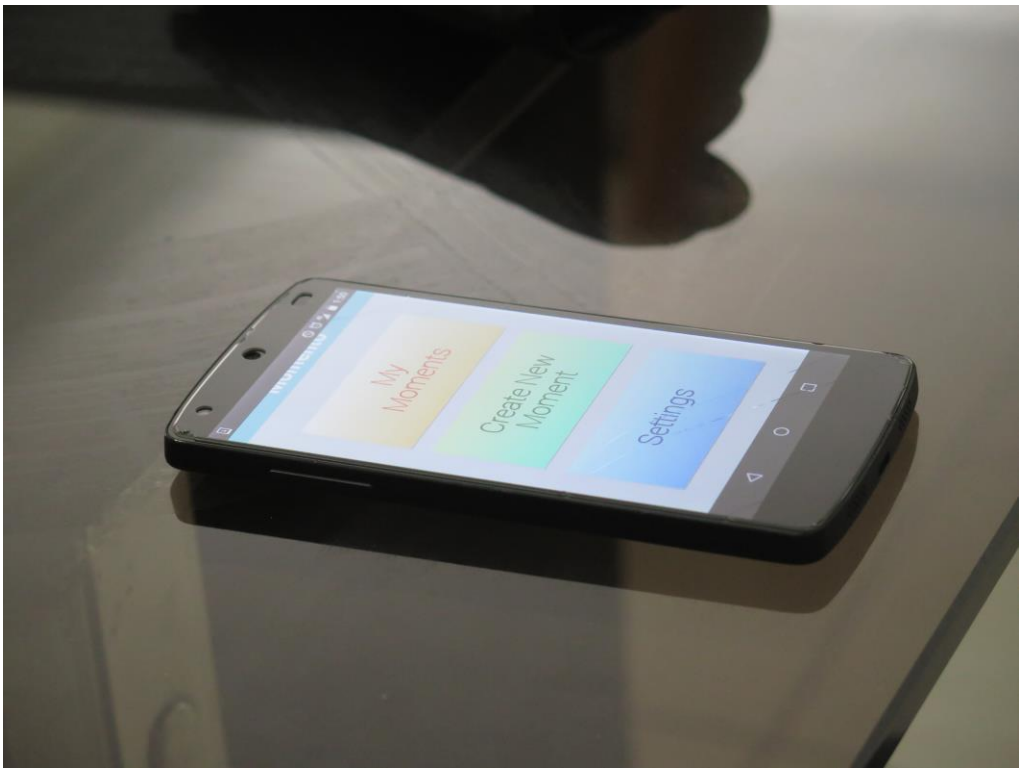
User Experience

- How do you feel about using the app in general?
- What parts of the app do you enjoy the most and the least?
- Would you use this app or recommend it to someone?

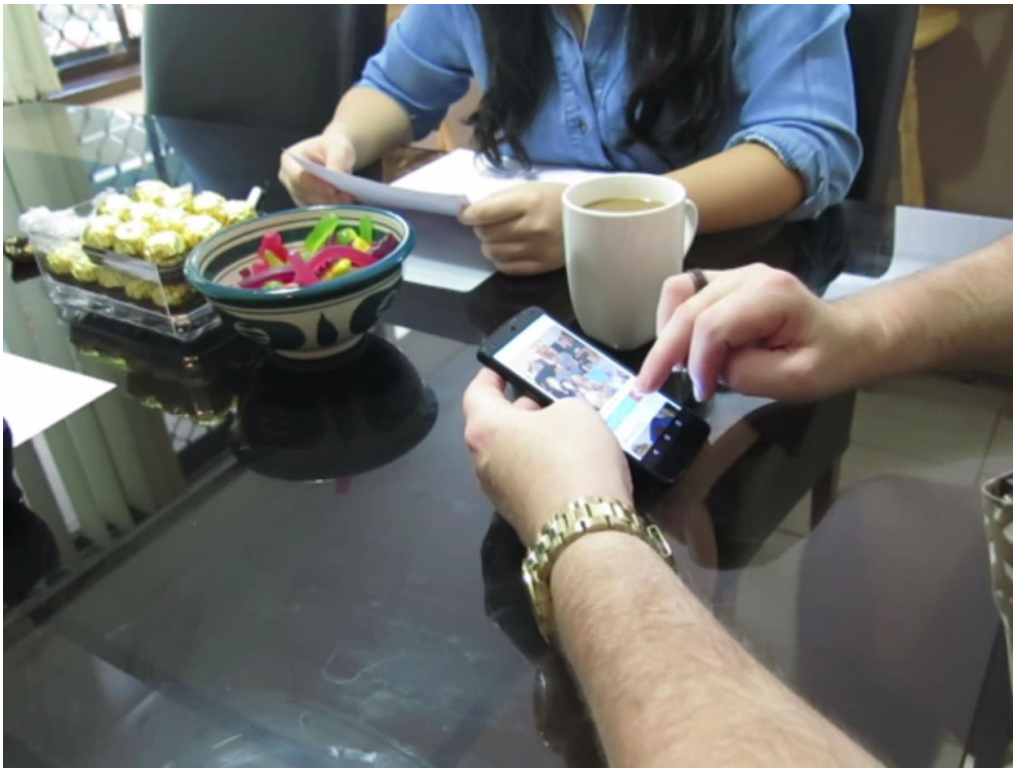
Instructions for loading prototype on smartphone:

- Download FluidUI app (for both Android and iOS)
- Scan the QR code:

Appendix M – Usability test and interview photos



The mockup Momento app is loaded on the phone for testing



Participant is used to perform tasks on the app

Appendix N - High fidelity prototype feedback from other designers

- Forgot password option is missing on log in screen
- Add support for fingerprint log in
- Recording screen – only needs 2 buttons ("Stop recording" and "Done" can be merged) – and perhaps a 'Record Again' button
- Put both the date and title of each Moment at the top of the photo
- Email icon – make it red for more distinction
- Clear navigation, overall enjoyable experience
- Likes: scrolling through existing moments
- Dislikes: setting screen – almost logged out – log out confirmation

Appendix O – Heuristic evaluation

Screen/Element description	**Usability issue**	**Heuristic category**	**Effect**
Icons on the "Share" screen	Unclear labelling	Recognition	User confusion about icons
Record audio screen	Redundant buttons – "Stop recording" and "Done"	Standards	Wastes time with unnecessary clicks
Back button	Redundancy – Android native Back button already exists	Standards	Creates two buttons with the same effect on screen
Date and title of a Moment	Inconsistent positioning	Consistency	Slower information intake