

# Evaluation Planning

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## Subject Information

<b>Subject 1</b>	<p><b>Name:</b> Steve Park <b>Age:</b> 7 years old <b>Occupation:</b> Second Grader <b>Gender:</b> Male <b>User Type:</b> Child</p> <p><b>User-Related Logistics:</b></p> <ul style="list-style-type: none"><li>• Vicky was the evaluator and played the role of facilitator and observer.</li><li>• The evaluation with this test subject was performed in the comfort of Vicky's house, as he was visiting her for the weekend.</li><li>• The subject used the evaluator's phone because the prototype was already downloaded on it.</li><li>• The subject uses his parents' phones at least once per day for thirty minutes to play various types of games.</li><li>• The subject tends to become easily distracted and has difficulty reading.</li><li>• The parents of the subject were present in the room.</li><li>• The evaluator used an iPad to take quick notes about her observations.</li></ul>
<b>Subject 2</b>	<p><b>Name:</b> Allison Frank <b>Age:</b> 27 <b>Occupation:</b> Master's Student <b>Gender:</b> Female <b>User Type:</b> Adult</p> <p><b>User-Related Logistics:</b></p> <ul style="list-style-type: none"><li>• Vicky was the evaluator and played the role of facilitator and observer.</li><li>• The evaluation with this test subject was performed at the comfort of the subject's house.</li><li>• The subject used the evaluator's phone as the interactive prototype of the application because it was already downloaded on it.</li><li>• The subject is born and raised from Chicago.</li><li>• The subject knows the geography of the city very well, but does not know much about its history.</li><li>• The subject's computer/technical skills are advanced, as she has had a computer since she was 12 years old and a smartphone since she was 15 years old.</li><li>• The evaluator used an iPad to take quick notes about her observations.</li></ul>

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<b>Subject 3</b>	<p><b>Name:</b> Avin Jain  <b>Age:</b> 10  <b>Occupation:</b> Fifth Grader  <b>Gender:</b> Male  <b>User Type:</b> Child  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Basavaraj was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this test subject was performed at the comfort of the evaluator's house.</li> <li>• The subject used the evaluator's phone as the interactive prototype of the application because it was already downloaded on it.</li> <li>• The subject is from California and was visiting his uncle's place in Chicago. He is a game fanatic and became excited when I told him about this game that he can play from the Skydeck using our application.</li> <li>• The evaluator took notes in his notebook about his observations.</li> </ul>
<b>Subject 4</b>	<p><b>Name:</b> Umesh Wali  <b>Age:</b> 28  <b>Occupation:</b> Software Engineer  <b>Gender:</b> Male  <b>User Type:</b> Adult  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Basavaraj was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this test subject was performed at the comfort of subject's house.</li> <li>• The subject used the evaluator's phone as the interactive prototype of the application because it was already downloaded on it.</li> <li>• The subject is from Columbus and has recently moved to Chicago. He was planning to go to the Skydeck and found this application very interesting and useful.</li> <li>• The evaluator took notes in his notebook about his observations.</li> </ul>
<b>Subject 5</b>	<p><b>Name:</b> Liam Jacob  <b>Age:</b> 9 years old  <b>Occupation:</b> Third Grader  <b>Gender:</b> Male  <b>User Type:</b> Child  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Mona was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this test subject was performed t at the evaluator's house.</li> <li>• The subject was provided with a smart phone to perform the evaluation process of the interactive prototype of the application.</li> <li>• The user has a kid tablet and loves to play games for at least an hour on most days.</li> <li>• The parents of the child were not present during the evaluation.</li> <li>• The evaluator used a notebook to take notes about her observations.</li> </ul>

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Subject 6	<p><b>Name:</b> Ali  <b>Age:</b> 29  <b>Occupation:</b> Graduate Student at DePaul University  <b>Gender:</b> Male  <b>User Type:</b> Adult  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Mona was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this user was performed at the Student Center at DePaul University.</li> <li>• The subject was provided with a smartphone to perform the evaluation of the interactive prototype.</li> <li>• The subject is an international student and has been in Chicago for 5 years.</li> <li>• The evaluator used a notebook to take notes of her observations.</li> <li>• The subject's computer/technical skills are very advanced, as he has used a computer since high school.</li> <li>• The subject uses phone applications for most of his daily activities. (Ex: CTA App)</li> <li>• The subject is familiar with some areas in Chicago (The Loop, River North) and eager to learn more about the city.</li> </ul>
Subject 7	<p><b>Name:</b> Megha Darbar  <b>Age:</b> 28 Years  <b>Occupation:</b> Graduate student  <b>Gender:</b> Female  <b>User Type:</b> Adult  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Alap was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this test subject was performed at the subject's home.</li> <li>• The subject used the evaluator's phone with the downloaded application prototype in pdf format.</li> <li>• The subject owns a smartphone and frequently uses different applications installed on it.</li> <li>• The evaluator used a notebook to take quick notes about his observations.</li> </ul>
Subject 8	<p><b>Name:</b> Salman Khan  <b>Age:</b> 40 years  <b>Occupation:</b> Pharmacist  <b>Gender:</b> Male  <b>User Type:</b> Adult  <b>User-Related Logistics:</b></p> <ul style="list-style-type: none"> <li>• Alap was the evaluator and played the role of facilitator and observer.</li> <li>• The evaluation with this user was performed at local coffee shop.</li> <li>• The subject used the evaluator's phone with the downloaded application prototype in pdf format.</li> <li>• The subject owns a smartphone but only uses it for communication and social media.</li> <li>• The evaluator used a notebook to take quick notes about his observations.</li> </ul>

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**Subject 9**

**Name:** Matthew Rivers

**Age:** 32

**Occupation:** Lawyer

**Gender:** Male

**User Type:** Adult

**User-Related Logistics:**

- Vicky was the evaluator and played the role of facilitator and observer.
- The evaluation with this user was performed at a Starbucks.
- The subject used the evaluator's phone because the prototype was already downloaded on it.
- The subject was previously interviewed for the Contextual Inquiry and the interviews.
- The subject only uses his phone and laptop for basic functions.
- The evaluator used an iPad to take quick notes about her observations.

## Task Scenarios

### Subject 1 - Task Scenario

Imagine that you are at the top of the Skydeck and you want to explore the city of Chicago using the BirdEyeChicago application. You want to explore the landmarks and streets, and also find information about places of interest to you using this application. Can you show me how you would use this interface to find the height of the Skydeck?

### Subject 2 - Task Scenario

Imagine that we take a fun trip to the Skydeck and you are looking over the city from 103 floors up. You become bored after taking pictures from all angles inside the Skydeck, but your parents are still not ready to leave. So, you open up the BirdEyeChicago application on your mom's phone to play a game called Treasure Hunt Chicago. Can you show me how you would solve two clues in order to win the game?

## Measurements

The data that our team will collect from each evaluation is the following:

- The total time to complete the task
- The number and type of errors committed per task
- The number of times the test subject seeks help
- The average time it takes the test subject to recognize icons on the application
- Whether the task was completed or not (Y/N)
- Whether s/he meets our expectations (did s/he complete the task as we were expecting?) (Y/N)
- Visible navigation frustrations
- Comments/Questions asked

# Evaluation Results

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## Data Evaluation

- Due to financial restraints, the evaluations were performed at the comfort of the subjects' homes and at local coffee shops, rather than at the top of the Skydeck, which is where the test subjects had to use the application for most of its major functions.
- Due to schedule differences, two of our subjects evaluated had been already been part of the Interview and Card Sort assignments, so this may have affected both their performance and their familiarity with the application.
- We unfortunately do not know or familiarize with many children, so we had more adults than children as test subjects (6:3 ratio). This may have skewed the results.
- During one of the child evaluations, the parents were present and had multiple urges to help their child by reading instructions for him and giving them hints (even though I asked them to remain quiet), which aided the performance of the child. However, when a child plays a game, s/he typically asks for help, so the parent's assistance here was realistic and useful.
- At one of the evaluations that took place at a coffee shop, there was a lot of background noise and activity, so the test subject was somewhat distracted the entire time. This may have caused them to take longer than normal to complete the tasks.
- The 3D Virtual Tour screen is not synchronized and the features weren't very interactive, as it is a low-fidelity prototype and does not provide the difficulty level and interaction experience that the users would have with the final product at the top of the Skydeck.

## Data Analysis and Presentation

Our team evaluated a total of 9 test subjects, who were divided in the following groups: 6 participants for adult scenario evaluation and 3 participants for child scenario evaluation. Thus, we have separated our analysis between the adult and child scenarios.

### Adult Scenario

- 5 out of 6 users selected the correct drop-down menu icon (the Hamburger icon) at the home page and 1 user selected the BirdEyeChicago logo.
- 3 out of 6 users tapped on the Hamburger icon more than once before the menu options appeared on the screen; the other 3 users were able to see the options on the first tap.

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- 5 out of 6 users asked for help during the evaluation process (verbally and non-verbally) and 1 ignored the help button and did not ask the evaluator for clarification of task or any other type of help.
- 6 out of 6 users selected the correct button, "Sky View," to find the height of the Hancock Observatory.
- 5 out of 6 users selected the correct button, "3D virtual tour," to get to the information page and 1 user selected the "Fun Facts" button.
- 3 out of 6 users took more than 5 seconds to recognize the 3D virtual tour icons, 2 users did recognize it instantly and 1 user did not care to check them out.
- 4 out of 6 users searched for the "Hancock Observatory" when using the search box and 1 user clicked the "i" icon.
- 6 out of 6 users completed the task of find the height of the Hancock Observatory successfully.
- 3 out of 6 users commented that BirdEyeChicago has a unique learning environment because it integrated the virtual tour guide; 3 users found that having all three sections under the Sky View page (virtual tour, street view, and information sections) was organized and educational.
- 4 out of 6 users made a similar comment about how they like the simplicity of BirdEyeChicago (for example it is "easy to navigate from virtual tour to street view"); 2 users commented that they would like the information to be group in another format.
- One user commented that he was impressed with many of the application features, such as the "highlighter" for defining routes.
- 2 out of 6 users commented that they like that the application has features for users of all age groups.
- 1 user was not satisfied with the long navigation required to retrieve the information about the height of the "Hancock Observatory."
- 4 out of 6 users considered BirdEyeChicago "very reliable" for finding information about Chicago and 2 users considered it moderate reliable.
- 3 out of 6 users found BirdEyeChicago "moderately capable" in providing the information needed, 2 users found the application "very capable," and 1 user considered the application "extremely reliable."
- 3 out of 6 users found BirdEyeChicago features "extremely intuitive," 2 users found it "moderately intuitive," and 1 user found it "slightly intuitive."
- 4 out 6 users said that BirdEyeChicago is "moderately easy" to use, and 2 users felt that it is "extremely easy."
- 4 out of 6 users said that they are "very likely" to use the BirdEyeChicago application again to learn about the city or play Chicago-themed games and 2 users said they are "extremely likely" to use the application again.

- 3 out of 6 users commented that they will be “very likely” to recommend BirdEyeChicago to their friends/peers when visiting Chicago and 3 users are “extremely likely” to recommend the application to his friends/peers.
- 4 out of 6 users thought BirdEyeChicago application provides “good precision navigation” and 2 users said the application provides “somewhat precision navigation.”
- 4 out of 6 users said that it was “very easy” to tap the icons of the application on BirdEyeChicago, 1 user said it was “extremely easy,” and 1 user said was “a little difficult.”
- 5 out of 6 users found that a help icon for BirdEyeChicago with actual content would be “very helpful” and 1 user found that it would be just “a little helpful.”

### Child Scenario

- 9 out of 9 users chose an Avatar character successfully.
- 7 out of 9 users selected a mission successfully and 2 users skipped the mission selection.
- 6 out of 9 users showed signs of confusion on what to do at the Treasure Hunt game page and 3 users proceeded the game without confusion.
- 4 out of 9 users verbally asked for help during the Treasure Hunt Game task and the 5 users either tapped on the Help icon or figured it out on their own.
- 2 out of the 9 users went back to the game’s homepage to re-read the instructions after proceeding to playing the game and 7 users never returned back to the homepage.
- 4 out of 9 users selected the correct icon for the clue (“?” icon), 3 users tapped on multiple buildings on the page, and 2 users tapped on the speech bubble.
- 7 out of 9 users checked the slide menu option before proceeding to the game and 2 users did not tap on the menu option at all.
- 8 out 9 users recognized the icons for the Treasure Hunt game menu and 1 user found the “Item” icon to be unclear.
- 1 out of 9 users clicked on the “Item” icon out of curiosity, as he found it unfamiliar, and 8 users did not click on this icon because they either recognized it or didn’t spot it.
- 7 out of 9 users selected the arrow icon to move across the city and into the next clue location, and 2 users clicked around the screen to proceed.
- 2 out of 9 users completed the task assigned in their first attempt without difficulty and 5 users completed the task in their second attempt without difficulty.
- 1 out of 9 users found the clue icon location (?) to be too close to the buildings.
- 2 out of 9 users found the Treasure Hunt Game to be very short.



- 2 out of 9 users loved the idea of the game consisting of a real environment (Chicago City).
- One user wished that the audio feature for the Treasure Hunt Game worked instead of having to read the text, as he has difficulty reading.

### Interpretation

- The Hamburger icon may have been too small for users to tap on because various subjects had to tap it a few times before the menu options appeared on the screen. These test subjects have been active smart phone users for years and are familiar with this icon by now, so we had expected this icon to work on the first tap.
- The instructions may not have been clear enough, as users tapped on the wrong items before they landed on the screen they sought. Most of the test subjects that made this type of mistake were adults and they obviously need clear and accurate instructions unlike children, who don't mind instructions because they are okay with guessing their way through games.
- The test subjects used in previous assignments were more familiar with the application and thus had less navigation-related errors than the new subjects.
- The font color of the building names does not contrast enough with the background in the 3D Virtual Tour Screen. This may have caused the users to analyze the screen too much and/or choose the wrong items.
- The color of "?" icon that displays the clues is not contrasting enough to the background or the cartoon character sitting on it. This may have caused the users to ignore it or at least not notice it at first glance to understand that it needs to be tapped on in order to proceed.
- There is only one path to find the history or the specific information and it is within an application feature that requires various selections/taps. This is why some users may have felt it was only moderately easy to find a small piece of information. For example, one user eventually found the information, but was not satisfied with the amount of time it took him.
- The Treasure Hunt game is short with only two clues available at this time, since it is a low-fidelity prototype. Many users do not fully understand what this entails and expect to work with a finished product, which causes disappointment due to the size and simplicity of the task.
- The size of the opening icon (">") for the menu that displays the game features is not big enough to note. This may have caused the users to ignore it and proceed to playing.
- Some users were not very familiar with the icon or purpose of the "Item List feature" inside the sliding menu in the game. This caused one user to become curious about it and click on it even though it was not required for the task.

- Children are at lower reading levels and thus prefer games without too much written guidance regardless of the fact that it is educational for them. This may have caused the young test subjects to become distracted and frustrated, as most wished the audio feature of the game worked.
- Many of the new test subjects confused our prototype with a real finished application given that their high expectations after hearing the application's description and goal.
- The test subjects that asked for help were either too nervous or overwhelmed with their unfamiliarity of the application. Many of these subjects repeated the task for reassurance that they were on the right track.
- The test subjects who chose the "Sky View" option to find the height of the Hancock Observatory and the "Entertainment" option to play the game from the Hamburger menu on the first try possess a reading and logic level high enough to differentiate the purpose of the two.
- The test subjects that selected the "3D Virtual Tour" were either previously interviewed and knew about the 3D feature, were interested about the option, or understood from the instructions that they had to use the 3D Virtual Tour option. The one user who chose "Fun Facts" instead may have thought that it was a shortcut or the most appropriate place to find a small piece of information (like the height of a building).
- The 3 users that took more than 5 seconds to recognize the icons were users that use their phones for basic functions and their laptop only when necessary (ex. booking hotels and flights). Also, they are probably cautious and patient users that needed to take their time in studying all the options available in each of the screens before making the most appropriate selection.
- The users who successfully used the "i" icon had previously seen and used this icon to find information in websites and other applications.
- The test subjects that commented on the simplicity, intuitiveness, and capability of the application, as well as the appropriateness of all the icons used in the application, are active smart phone users who are very comfortable with navigating sites and applications. On the other hand, the users that wished the information was grouped or formatted differently do not use their phones frequently and prefer short paths or at least shortcuts to all types of information.
- Use of the left-hand menu buttons made the navigation clear and straightforward for the users.
- The labeling and tool tips all over the application help the users locate things fast and easily.
- Not all of the instructions were clear and detailed. This might have led some users to spend more time browsing before they made a move in the application.

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- We need to take some time to explain what a prototype is and, more importantly, its significance within the design process before we show it to users that are uninitiated to the concept.

### Design Changes

- We would use some custom icons which can be easily and instantly recognizable and make them a little bigger for better precision.
- Even though the game is pretty straightforward, we would include real description and instruction content instead of “Lorem Ipsum” content to prevent confusion, since it is useless for the purpose of our required tasks and not everyone is familiar with the filler text.
- We would change the font color or the color of background images to provide a contrast between the two.
- We would increase the size of the Hamburger icon to a reasonable extent, to make it eliminate the need to tap it multiple times.
- We would be more specific with our wording for the clues, as many of the subjects were confused on whether to click on the speech bubbles or the question mark images to proceed.
- We would add a search feature on the application home screen to be able to locate unfamiliar information on the site instantly.
- We would make the game more enjoyable and challenging by incorporating more clues and different difficulty levels.
- We would make an improvement to the game by minimizing the text content during the missions and replacing it with audio instructions.
- We would change the size of the opening icon ( > ) for the option menu on the right side of the game page to be a little bigger so it is more noticeable.
- Change the icon “item” in the Treasure Hunt Game to a different icon. For example a transparent bag with multiple tools inside it may be suitable.
- So in general, we will use custom icons to represent app-specific content, functions, or modes in top navigation bars, side toolbars, virtual game page and 3D virtual tour.

## A6 Process Retrospective

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Overall, we are very pleased with the results of our evaluations, as we gathered very useful data and feedback of how users would realistically use our application and how they feel about its functions and purpose. We were able to successfully schedule 9 evaluations on short notice, including two more children subjects than in our previous assignments. We had all types of users from different ages, backgrounds, education levels, and computer skills, which helped us analyze and frame an accurate understanding of the expectations and preferences of the real users. We also came up with a large range of questions that helped us gather a large amount of data for our analysis. We didn't ask all of the questions, but we had enough question to choose from to help us carry out the evaluations and get useful answers out of the users.

Furthermore, we were able to successfully link all of the features through menus tabs, buttons, and icons using MyBalsamiq. This made it easy for us to download our prototype as a pdf in the Adobe Reader on our phones. We feel that using this kind of low-fidelity interactive prototype on our smart phone to complete the evaluations was the best method we could have used. We have a large number of pages/screens between the two tasks that the interactive prototype on our phones made easier to both manage and present our features as they would work and appear in the finished prototype. Also, we didn't have to worry about ensuring that the pages were in order or about misplacing pages as with a paper prototype.

At the beginning of this project, we had a minor set back, in that all of the group members were on different pages about the requirements, particularly those for the task scenarios. However, we clarified them during the workshop in class and we were able to get back on track and proceed to the evaluation with enough time to finish. In retrospect, we would have two people at each evaluation and divide the facilitator and evaluator roles. This would have made the evaluations move along more smoothly and ensure that we didn't miss any crucial cues or comments made by the subjects during each evaluation. Also, we originally had overlooked the fact that we needed instructions for the game. Consequently, we were forced to go back to our prototype after our third evaluation to update it. After this edit, the subjects were able to navigate through the game more efficiently than the first three evaluated subjects, as they understood the game's requirements better.

## Project Retrospective

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In retrospect, we all feel that we have truly learned a great deal about not only the concept of the user-centered design process, but all the accompanying principles and appropriate practices. We are glad to have focused on one project all quarter and to have learned in detail how each phase of the process works. This allowed us to hone in on specific issues within the project and better understand the process.

Our favorite part of the process was interviewing users to determine what their needs really are rather than guessing what they want or need. We feel more confident in interviewing people and using proper interview techniques to not only make the interviewees/subjects comfortable, but to also gather raw data untainted by our question format, behavior, or comments. Another reason that we enjoyed conducting the interviews and evaluations is that it opened our eyes to great findings and conclusions. For example, we learned that most born and raised Chicagoans have not been to the Skydeck yet while it is the number one site on most tourists' agenda. We understand that Chicagoans, like any one else in their hometown, do not like touristy places. However, given that the Skydeck is such a popular site with a one-of-a-kind view and almost all Chicagoans are proud of their city, we found this fact shocking.

Now, a finding more related to our application is that the children did much better in playing the Treasure Hunt Game. We found them to be both more impatient and more intuitive whereas adults are more cautious and logical. The most rewarding finding that we encountered was that all the subjects who had already been to the Skydeck thought their experience would have been much better with an application like BirdEyeChicago, as they would have learned more in a organized and detailed manner. Also, they felt that there should already be an application like this that makes their time and money even more worthwhile.

As we mentioned previously, we found all of the stages of the project useful and crucial. However, a few of them stood out as the most useful. For example:

- **Contextual Inquiry:** Contextual inquiry helped us understand the users' needs and decide the main features for BirdEyeChicago. It was the basis of our design.
- **Observations:** We thoroughly enjoyed the observations because they exposed us to real users from which we were able to learn about their real needs, expectations, and feeling about our design via verbal and nonverbal feedback.
- **Flow Diagram and the Card Sort:** It was the first time any of us had used these two strategies and we all found them very helpful because they got us thinking about the structure of the application and the grouping of our application's features. Using open-card sorting helped us to clear the confusion about names of the categories. Also, we found the flow diagram more helpful and valuable than the concept map, as it led us to building and structuring our wireframes and prototype properly.

- **Wireframes, Low-fidelity prototype, and usability evaluation:** using a mobile interactive prototype for our evaluations rather than paper gave us an idea of how efficiently the users were able to navigate the application on an actual device and allowed us to better determine the usefulness and effectiveness of our application's features and functions.

Nonetheless, we figured out how to handle them and eventually overcame them. One of our first challenges was understanding the actual difference between insights and insight clusters in Assignment 3. We had to re-read our notes, the slides, and Chapter 3 from our assigned book to understand them more clearly. Another issue we encountered was identifying the appropriate categories and features for the Card Sort and the Site Map. We had difficulty understanding their purpose and structuring the pieces required for both of these assignments. The most challenging part of the whole project, however, was getting all of us on the same page. Often, we all understood certain requirements differently and had different suggestions on how to best complete a project task. Therefore, we found all of the workshops extremely helpful and convenient since we got to discuss our worries and confusions with the professor.

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## Team Member Contributions

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As a group, we all reviewed and added information to each portion of the assignment as needed. However, we all distributed specific sections of the report among us. The work breakdown is the following:

Team Member Name	Email Address	Specific Contributions
Vicky Moreira	vmorei1@hotmail.com	Evaluated two subjects, structured and started write-up, adult scenario, measurements, data evaluations, script, adult survey, finish up the both retrospectives, and proofread and formatted entire document.
Mona Ahmed E Albusaysi	monaalbusaysi@gmail.com	Evaluated two subjects, child scenario, brainstormed for the project and process retrospectives, interpretations, design changes, data analysis, and proofread the final report.
Basavaraj Malagi	basavaraj.malagi@gmail.com	Evaluated two subjects, developed the prototype, power point presentation, video Presentation, document formatting, and proofread the final report.
Alap Raval	alapsraval@gmail.com	Evaluated two subjects, brainstormed for the project and process retrospectives, design changes, developed the prototype, and proofread, formatted and submitted the final report.

# Appendix

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## Evaluation Script

### Intro

My name is \_\_\_\_\_ and I will be the facilitator and observer for an usability evaluation that I would like to perform with you today to see how easily someone can use the platform of a new application called BirdEyeChicago to perform various tasks. This application is designed to enhance not only the Skydeck experience, but also the user's overall visit to Chicago. The purpose of the evaluation is to find ways to improve the current version of this application to best meet the user's needs in an efficient and effective way. I will be right by your side giving you specific task/s to perform in the BirdEyeChicago application and I will observe you as you attempt to carry them out. As we go along, I'm going to ask you to think out loud, to tell me what's going through your mind, and I'll ask you questions as well. You can stop the evaluation at any time and still receive compensation of \$10 cash. You will still be compensated if you decide to stop the evaluation at any time or for any reason. The evaluation should take about 30 minutes and the debriefing at the end another 10-15 minutes. The data we collect will be used for our team project in HCI 440. Only the team members and the instructor will see the data we gather. Do you have any questions or concerns before we begin?

### Adult task scenario

**\* We were directed to only make the Adult test subjects perform both of our task scenarios.**

- Imagine that you are at the top of Skydeck and you want to explore the city of Chicago using the BirdEyeChicago app. You want to explore the landmarks, the streets, and find information about places of your interest using this application. Can you show me how you would use this interface to find the height of the Skydeck?
  - Task Completed:  Yes  No
  - Meet Expectations:  Yes  No
  - Completion Time: \_\_\_\_\_
  - Number and type of errors committed: \_\_\_\_\_
  - Number of times user seeks help: \_\_\_\_\_
  - Average time user took to recognize icons on app: \_\_\_\_\_
  - Visible navigation frustrations: \_\_\_\_\_  
\_\_\_\_\_
  - Comments/Questions asked: \_\_\_\_\_  
\_\_\_\_\_
- Imagine that we take a fun trip to the Skydeck and you are looking over this city from 103 floors up. You become bored after taking pictures from all angles inside the Skydeck, but the people your with are still not ready to leave. So you open up the BirdEyeChicago application on your phone



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to play a game called Treasure Hunt Chicago. Can you show me how you would solve two clues to win the game?

- Task Completed:  Yes  No
- Meet Expectations:  Yes  No
- Completion Time: \_\_\_\_\_
- Number and type of errors committed: \_\_\_\_\_
- Number of times user seeks help: \_\_\_\_\_
- Average time user took to recognize icons on app: \_\_\_\_\_
- Visible navigation frustrations: \_\_\_\_\_  
\_\_\_\_\_
- Comments/Questions asked: \_\_\_\_\_  
\_\_\_\_\_

### Child task scenario

Imagine that we take a fun trip to the Skydeck and you are looking over this city from 103 floors up. You become bored after taking pictures from all angles inside the Skydeck, but your parents are still not ready to leave. So you open up the BirdEyeChicago application on your mom's phone to play a game called Treasure Hunt Chicago. Can you show me how you would solve two clues to win the game?

- Task Completed:  Yes  No
- Meet Expectations:  Yes  No
- Completion Time: \_\_\_\_\_
- Number and type of errors committed: \_\_\_\_\_
- Number of times user seeks help: \_\_\_\_\_
- Average time user took to recognize icons on app: \_\_\_\_\_
- Visible navigation frustrations: \_\_\_\_\_  
\_\_\_\_\_
- Comments/Questions asked: \_\_\_\_\_  
\_\_\_\_\_

### Probe Questions

- Can you tell me why you chose that icon?
- What is catching your attention now?
- What are you thinking right now?
- Why are you pausing right now?
- What are you seeing here?
- Did you notice this icon?
- Can you tell me what happened?
- Can you tell me what that speech bubble with content means?
- What happened there?
- I noticed you doubted before clicking. Why was that?
- What were you looking for just now?
- Do you find this icon/tab for this [interface function] appropriate?
- Does this icon/button make sense to you?

**Debriefing**

Thank you. Now, I have some debriefing questions that should take about 10 to 15 minutes. I encourage you to be as frank as possible. Is it okay if I proceed?

1. What is your age?
2. What is your educational background?
3. How many years have you used technology for?
4. Have you ever used an application like BirdEyeChicago?
5. Can you please tell me how easy you found the process of completing the required task/s?
6. Why did you [emotional reaction] while [specific event]?
7. What did you like the most about BirdEyeChicago?
8. Do you feel you encountered any obstacles while completing the task/s?
9. What did you find the most challenging in using BirdEyeChicago? How did you solve them or coped with them?
10. Can you please tell me your overall thoughts of BirdEyeChicago?
11. Do you wish BirdEyeChicago had anything other feature or allowed you to perform any other task?

Thank you for all your honest opinions and clarifications. Lastly, I have a small survey that I would appreciate if you could complete for me. It consists of 11 questions and please let me know if you need clarification or have a question about any of them.

**Adult Survey**

**Usually, which of the following searches do you perform when you visit a new city?**

<input type="checkbox"/> Hotels in the city	<input type="checkbox"/> Restaurants in city	<input type="checkbox"/> Events in the city
<input type="checkbox"/> Pictures of city	<input type="checkbox"/> City's history	<input type="checkbox"/> City's geography
<input type="checkbox"/> Directions in city	<input type="checkbox"/> Games	<input type="checkbox"/> Bar's in the city

**How technological reliable do you consider BirdEyeChicago for finding information about Chicago?**

Not at all reliable	Slightly reliable	Moderately reliable	Very reliable	Extremely reliable
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How capable is BirdEyeChicago in providing the information you were looking for?**

Not at all capable	Slightly capable	Moderately capable	Very capable	Extremely capable
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How clear and intuitive are the features of BirdEyeChicago?**

Extremely intuitive	Moderately intuitive	Slightly intuitive	Neither intuitive/unclear	Slightly unclear	Moderately unclear	Extremely unclear
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How easy or hard do you consider BirdEyeChicago as a game?**

Extremely hard	Moderately hard	Slightly hard	Neither easy/hard	Slightly easy	Moderately easy	Extremely easy
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How likely would you use BirdEyeChicago again to learn about the city or play Chicago-related games?**

Not at all likely	Slightly likely	Moderately likely	Very likely	Extremely likely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How likely would recommend BirdEyeChicago to your peers/friends when visiting Chicago?**

Not at all likely	Slightly likely	Moderately likely	Very likely	Extremely likely
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






**Do you think BirdEyeChicago gave you sufficient information about the Chicago Area?**

Not at all	Very little information	Some information	Very much information	More than enough information
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>






**Do you think BirdEyeChicago provides a straightforward navigation?**

Not at all	Very little precision	Somewhat precise	Good precision	Very precise navigation
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How easy was it to tap (select) the icons of the application on BirdEyeChicago?

Very difficult	A little difficult	Somewhat easy	Very easy	Extremely easy
				

Did you find the help icon for BirdEyeChicago helpful?

Not helpful	A little helpful	Somewhat helpful	Very helpful	Extremely helpful
				

#### Child Survey

1. After playing The Treasure Hunt game, would you say that you enjoyed it?
2. If yes, what did you like the most about it? If no, what did you not like about it?
3. After playing the game, what new information did you learn?
4. Did you find anything hard about the game?
5. Would you recommend this game to a friend?

#### Closing Statement

I really appreciate your patient and your willingness to participate and answer all the questions thoroughly. Do you have any questions or additional comments that you would like to share with me?

Thank you once again for your time and participation. Please accept this \$10 as compensation. May I please have 5 minutes anywhere out of your way to organize my notes before I leave? (If evaluation takes place at the subject's house)