

Usability Investigation Test Plan for the Uber Elevate Application

Prepared for:
Human Factors Engineer
HSE 225 Company
1234 E. Main Street
Mesa AZ 85215
480-555-1212

Prepared by:
Christopher Durgin
Daniel Munoz

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1 INTRODUCTION

This document describes a test plan for conducting a usability test of the Uber Elevate application.

In April of 2018, the HSE 225 team designed and prototyped the Uber Elevate application. The Uber Elevate Air Taxi application is a mobile tool that can be used by an Uber Elevate customer to optimize their overall experience while using the Air Taxi service. This application allows Uber Elevate users to book rides, create and maintain accounts, check flight history, track rewards, make payments, and get real time notifications about rides; all directly through the app. The design of the Uber elevate application is focused on creating a user centered experience, allowing a user to become invested and involved with the Uber Elevate service. Over the past week the HSE 225 team has been conducting extensive analysis in the creation of the Uber Elevate application and have concluded that usability testing is the best method for developing an understand for the overall effectiveness of the app. Usability testing will give our team the qualitative and quantitative data necessary to finalize and create an effective user experience for the Uber Elevate Air Taxi application.

2 OBJECTIVES

The usability testing objectives are to measure:

- Application overall user satisfaction
- Application attractiveness
- Usefulness of the application
- Efficiency of the application's navigation
- Ease of learning
- Overall controllability

2.1 SCOPE of Test

The scope of this test is to evaluate the Uber Elevate Air Taxi application. This test will be focusing on the navigation and ease of use with the prototype of the application. The prototype will be completed on April 15th of 2018, and testing is planned to begin Monday April 16th, 2018. This project and testing has an open budget.

The test will be constrained to evaluating the navigation while setting up an account, managing account benefits, and booking a ride. We will also be measuring the aesthetics and overall user satisfaction during this testing.

We will not be testing the notifications aspect of the application, help, company contact options, or changing application settings.

The design overall is on stage 6 of the Nielsen's scale of UX maturity, indicating a need to track user experience and quality of the product (Nielsen, 2006). The application has been developed through InVision a digital product design platform that is a powerful tool

for prototyping, that allows easy user testing on the specific platform the app was intended.

3 METHODOLOGY

Based on the accessibility of our user group, our team decided it was best to conduct usability testing for this study. This testing methods will allow us to gain both quantitative and qualitative data that target our concerns and objectives.

3.1 User Group

Eight HSE 225 participants will serve as the primary user group. At least eight different participants will be used, if additional participants are available and time permits then more subjects will participate in the test. Having eight users will ensure we optimize our return on investment and maximize our benefit-cost ratio.

The test subjects for this study will have no experience with the actual application. However, all test subjects will be familiar with mobile applications and have a basic to moderate understanding of how to interact with similar type applications. These test subjects fit the user profile for the typical users of this application.

3.2 Usability Testing

Conducting usability testing will allow us to go a step further than just interviews, enabling us to ask a user to complete specific tasks and give us the opportunity to record observational data. This type of evaluation of the app will help us gain both qualitative and quantitative data at the same time; based on time to complete tasks and difficulty level of a specific task. We will also be able to reliably measure user satisfaction of the current application assets and identify possible changes required to improve the application. Usability testing will help us to analyze application performance and develop concept stories that do a better job of meeting our usability and sustainability objectives for an effective design. The usability test is comprised of three different aspects:

- Pre-Session Questionnaire (see Appendix 1)
- Scenarios and Tasks (see Appendix 2)
- Post-Session Questionnaire (see Appendix 3)

3.3 Dependent Variables

During the test session, test administrators will record both objective and subjective data. Ensuring we gain data that is both external, based on facts, and data that is based on user emotions during the study.

Objective

Quantitative objective data being collected during this study includes a count of successfully completed tasks and a count of errors, time spent per task, and count of

clicks performed during the tasks. Qualitative objective data will be a description of the observation and steps performed by the user.

- Count of tasks completed successfully
- Count of errors – miss clicks and preferred return method
- Time spent per task – total time
- Count of total number of clicks performed during task completion
- Observed sequence of steps performed

Subjective

Quantitative subjective data being collected during the study will be based on Likert scale ratings by the participant of how well they were able to complete tasks, the efficiency at which they felt they completed the tasks, and overall satisfaction. Qualitative subjective data will include the participants comments related to task completion, efficiency of the application, satisfaction, and their observed behavior recorded by the test administrator.

- Likert scale rating by participants of how well the application performs
- Likert scale rating by participants of how efficient the application is
- Likert scale rating of participants satisfaction with the application
- Participants comments related to task completion
- Participants comments related to efficiency of application
- Participants comments related to satisfaction of product
- A description of observed behavior by participant

3.4 User Interface

The Uber Elevate applications user interface is comprised of navigational buttons that give the user access to booking a ride, their account, notifications, ride history, payment methods, rewards, settings, and help. After an initial loading page, the user is greeted with the home page that has the above listed buttons along with user photo and identifying information.

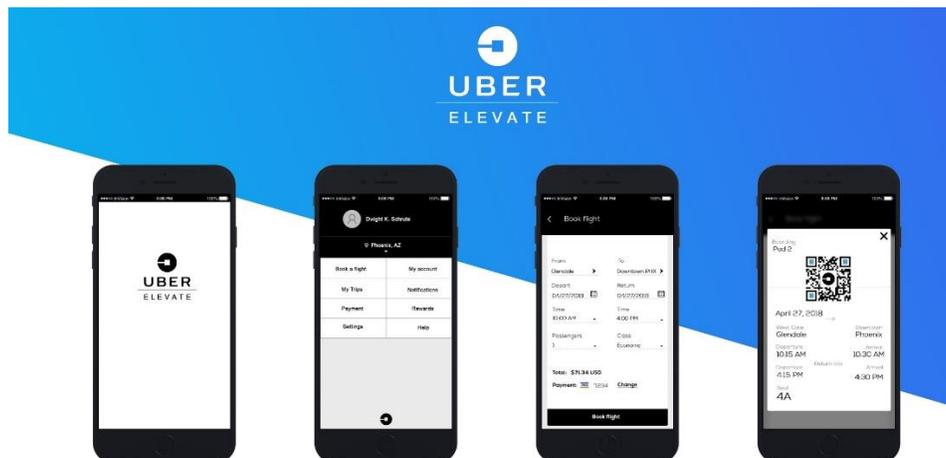


Figure 1. Application UI Examples

3.5 Test Location and Conditions

All testing will occur at the Arizona State University's HSE 225 classroom. The testing room will be quiet with adequate ambient lighting. The test room/facility shall include a test phone that will host the Uber Elevate application, allowing a user to test on the device that the app was intended for, creating a more accurate user experience.



Figure 7. Test facility

3.6 Test Equipment / Instrumentation

The test will be conducted on a touch screen-based cell phone. Either Android or Apple products will work for this study, final decision between these two platforms will be determined on the day of the test. Having the test performed on a phone will accurately depict a realistic end user experience. Possible interference in testing could be language barriers, unforeseen facility problems, or inadequate charge of the devices.

3.7 Procedure

The usability testing will be conducted with a script for consistency and in three stages; a pre-session questionnaire, a series of scenarios and tasks for the user to work through, and a post-session questionnaire (see Appendix 4). In addition, all participants will sign a consent for in applicable (see Appendix 5).

3.7.1 Test Schedule

The following table describes a notional schedule for completing the usability testing on the Uber Elevate application. This schedule is subject to change prior to the onset of testing.

Test setup	1600-1610	
Orientation/fam	1611-1620	
Elevate pre-test	1621-1630	PT 1
Elevate scenario/task test	1631-1645	ST 2
Elevate post-test	1646-1655	PT 3
Breakdown test	1656-1705	

4 DATA COLLECTION, REDUCTION, AND ANALYSIS

4.1 Collection

Data collection will focus on the three primary attributes that comprise usability: effectiveness, efficiency, and satisfaction (ISO 9241-11). Data collection based on these three attributes will be divided into quantitative and qualitative data. All subjective and objective data recorded during testing will be recorded via electronic document in appropriate spreadsheets for reduction and analysis.

4.2 Reduction

All data will be organized by user results per task, answer, or comment. All data will be scanned for redundancy and organized into a corrected, ordered, and organized form.

4.3 Analysis

Data analysis will be measured by issue indication, cause identification or investigation, and triangulation on variance, patterns, consistencies, and outliers within the data. Prioritization and type will organize this data. Types of issues include technical and navigational issues along with aesthetic and visual design issues.

- Additional post-test statistical analyses can be performed: ANOVA, ect.

5 RESULTS

The results depicted below reflect the average of the data collected across all trials. We will report:

- Number and percent of participants who complete each scenario, and all scenarios.
- Average time taken to complete each scenario for those who completed the scenario.
- Satisfaction results.
- Participant comments and Likert scale results.
- Observation results if they are illustrative.

5.1 Objective Measures

- Count of tasks completed successfully
- Count of errors
- Time spent per task
- Count of number of clicks performed during task completion
- Observed sequence of steps performed

5.2 Subjective Measures

- Likert scale rating by participants of how well the application performs
- Likert scale rating by participants of how efficient the application is
- Likert scale rating of participants satisfaction with the application
- Participants comments related to task completion
- Participants comments related to efficiency of application
- Participants comments related to satisfaction of product
- A description of observed behavior by participant

6 COMMENTS

Test subjects made the following comments about the Uber Elevate application.

6.1 Comments

TBD

7 CONCLUSIONS

Based on our usability testing of the Uber Elevate application, we will be able to determine:

- Application overall user satisfaction
- Application attractiveness
- Usefulness of the application
- Efficiency of the application's navigation
- Ease of learning
- Overall controllability

8 RECOMMENDATIONS

Based on our user testing, we are making the following recommendations to improve the overall usability of the Uber Elevate application.

TBD

APPENDIX 1 PRE-SESSION QUESTIONNAIRE

The test subjects will complete the following pre-test questionnaire. This list is subject to change prior to the onset of testing.

1. What is your gender?

- Female
- Male
- Prefer not to say
- Other: _____

2. What is your age?

- Under 20 years
- 20 - 30 years
- 30 - 40 years
- 40 - 50 years
- Over 50 years

3. What is your highest level of completed education?

- High School
- Associate Degree
- Bachelor's degree
- Master's degree
- None

4. Work experience? What do you do for a living?

5. What is your computer ability level?

- Basic
- Advanced
- Expert

6. What is your frequency of internet usage?

- Low (1 - 15 hrs. Per Week)
- Moderate (16 - 30 hrs. Per Week)
- High (31+ hrs. Per Week)
- None

7. What are your favorite applications?

8. What do you know Uber for?

9. Have you booked flights or taxis on an application before?

- Yes
- No
- Maybe

10. Have you heard of Uber Elevate?

- Yes
- No
- Maybe

APPENDIX 2 SCENARIOS & TASKS

The test subjects will complete the following tests during the usability test. This list is subject to change prior to the onset of testing.

Scenario 1

“You're a business person and your employer set up a ride for you through Uber Elevate. You want to log in to your account and check to see account and trip details”

- **Task 1:** Log in to your account.

Time	Miss#	Comments

- **Task 2:** From the main page, check your account information and confirm your email.

Time	Miss#	Comments

- **Task 3:** From the main page check your trip and figure out the departure date.

Time	Miss#	Comments

- **Scenario 2**

“You live in Glendale and your friend is having a wedding in downtown Phoenix on April 27th. You need to leave by 10 a.m. to make it on time and return at 4 p.m. You’re a single passenger and you need to use the economy class. You decide to book a ride through the Uber Elevate the application”.

- **Task 1:** From the main page, book the ride.

Time	Miss#	Comments

APPENDIX 3 POST-SESSION QUESTIONNAIRE

The test subjects will complete the following post-test questionnaire. This list is subject to change prior to the onset of testing.

Post-Session Questions: Please answer the following questions to the best of your ability.

Please rate (i.e. check the box to show) agreement or disagreement with the following statements:

1. You were able navigate the application easily.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

2. That application had an effective layout.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

3. You feel the application was a positive experience overall.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

4. It was easy for you to complete your tasks.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

5. You enjoyed navigating the application.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

6. The links on the main page are well placed.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

7. The language used with the links and navigation is clear and easy to understand.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

8. This application has information that is useful to me.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

9. Information in the application is easy to find.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

10. I enjoyed the colors used in the application.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

11. The website pages are confusing and difficult to read.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

12. The information presented is aesthetically pleasing.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

13. The purpose of the application is apparent from the main page.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

14. Please list 3 adjectives you feel best represent your experience with the application.

15. What aspects did you like about the application? Please explain.

Please add any additional comments you may have regarding the design and navigation of the application at the bottom of this paper and on the back.

Thank you for your participation in this study.

APPENDIX 4 SESSION SCRIPT

The test will be conducted based on the following script. This script is subject to change prior to the onset of testing.

The Instructions

Hi, _____. My name is _____, and I'll be guiding you through our session today.

Before we start our session, I have some information I want to go over with you. I'm going to be reading from a script to ensure I cover everything and our sessions are consistent.

I'm sure you have an understanding of why I have asked you to participate in this session but, allow me to cover the basis again briefly. We are asking people to try using this application in order to evaluate it's design, navigation, and content. The session should take about a half hour.

I want to make it clear to you that this session is intended to test the application's performance and not your own. You are not personally being evaluated in any way and you can't do anything wrong during this session.

During the session and as you use the app I would like you to be as vocal as possible about the navigational decisions you make and why you made them. Additionally, please try to explain what you are viewing and what you are trying to do. This will help me to better understanding how you are perceiving the app.

Also, please be as critical as possible and don't worry about any negative feedback you give me. Our goal is to improve the app, so your honest reactions will be appreciated.

If you have any questions along the way, feel free to just ask them. I can not help you complete the tasks but, I will answer your questions to the best of my ability. Also, if you need a break at any time just let me know.

This session will consist of some pre-session questions, some tasks based on scenarios for you to attempt, and a post-session questionnaire.

Do you have any questions so far?

The Pre-Session Questionnaire

Before we look at the app, I would like to ask you some questions.

****Ask the pre-session questions****
****Record the information from the participant on the pre-session sheet****

Thank you for taking the time to answer those questions, let's take a look at the application.

Application Main Page Tour

****Open the application but, do not let the participant navigate****

So this is the app we will be focusing for this session. I would like you to tell me what your initial feelings are about the app and tell me what stands out to you about it. Just look around and tell me how you feel about the homepage in general.

You can scroll the app but, please don't click or tap anything yet.

****Record participant's feelings in the notes section on pre-session sheet****

The Scenarios and Tasks

Great, I appreciate your feedback. Now I'm going to be asking you to complete a few tasks based on specific scenarios. I will read them to you then give you the sheet so you can easily reference the tasks.

As we did before, please think out loud voicing your thoughts and feelings as much as possible.

****Read the scenario out loud and the tasks, one at a time****
****Hand the scenario paper to the participant as they attempt the scenario and task****
****Record feedback and completion times in the notes on the pre-questions sheet****

Post-Session Questionnaire

Great job! Thank you so much for working through those tasks.

The final aspect to this session is a quick questionnaire I have for you, focusing on your experience with the application.

Take as much time as you would like.

****Hand the participant the Post-Session Questionnaire****

Wrap Up

Do you have any questions for me now that we have completed the session?

Thank you for participating in this session, your feedback is greatly appreciated.

APPENDIX 5 CONSENT FORM

I agree to participate in the study conducted by Uber Elevate.

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort during the session with the study administrator.

Please sign below to indicate that you have read, and you understand the information on this form and that any questions you might have about the session have been answered.

Date: _____

Please print your name:

Please sign your name:

Thank you!

We appreciate your participation.