Client Interaction Report Set

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Contents

1   Version History

Date	Author	Version	Changes Made	Rationale
08/20/2013	SK	1.0	Original for CS 477; Tailored from ICSM REQ Template	To fit CS 477 Course Content
09/14/2013	Team 1	1.0.1	First version	Project Requirements

2   Client Interaction Report

3   Operational Concept Description

4 Requirements

4.1 Capability Requirements

4.1.1 Platform

1. The application shall be compatible with the iOS and Android mobile platforms.

2. The application shall support a web interface for other mobile devices.

4.1.2 User Accounts

1. If it is a users first-time opening the application, the application shall prompt the user to enter an email address, password, and credit card information.

   (a) If the account is created successfully, the application shall send a confirmation to the users stored email address.

   (b) If the account creation is not successful, the application shall display an error message that prompts the user to reenter their information and will not be logged in.

2. If a returning user opens the application, it shall prompt the user to enter their log-in information.

   (a) If the log-in attempt fails, the application will display an error message that prompts the user to reenter their log-in information.

   (b) If the log-in attempt succeeds, the user will be shown a transit management screen.

4.1.3 Usage

1. If the application loses connectivity, the application shall display an error message.

2. The application shall retrieve the users location at intervals of 120 ± 10 seconds.

3. If the user is within 150 feet of a train-stops geo-location coordinates, the train-stops name, ticket price, and incoming train information shall be displayed on the user interface.

4. If train stop information is being displayed on the applications user interface, the application shall update the train stops incoming train information at intervals of 30 ± 5 seconds.

4.1.4 Payments

1. If the user selects to purchase a ticket, their stored credit card will be charged for the price of the train stops ticket.

   (a) If the card does not process, an error message shall by display and the order shall not be accepted.

   (b) If the transaction succeeds, the application shall create a virtual ticket.

2. If the user selects to use their ticket, the application shall signal the gate up to a maximum of 3 attempts at 20 ± 5 second intervals to open.

   (a) If the application is unsuccessful on the 3rd attempt, an error message shall be displayed.

   (b) Otherwise, the turnstile is unlocked, permitting the user to pass through.

3. The application shall store unused virtual tickets for at least 1 year.

4. The application shall store used virtual tickets for at least 30 days.

5. The application shall allow the user to change their email address.

6. The application shall allow the user to change their password.

7. The application shall allow the user to change their credit card information.

4.2   Level of Service Requirements

LOS Requirements	Desired Level	Accepted Level
LOS-1: Concurrent Users	150000	75000
LOS-2: Start-up and user location time	7 s	15 s
LOS-3: Ticket Purchase Transaction Time	5 s	20 s
LOS-4: Update Account Information Time	10 s	30 s
LOS-5: Tickets stored per User	1500	500
LOS-6: % first-time users able to purchase ticket without outside help	80	75
LOS-7: % first-time users able to use ticket without outside help	85	80
LOS-8: % users that ride metro at least once per week that would rate ease of use at 3 out of 5 or higher	90	80
LOS-9: Average Time for User to Create an Account	45 s	60 s
LOS-10: Failed Ticket Purchases per 1000	0.25	1
LOS-11: Failed Ticket Uses per 1000	0.25	1
LOS-12: Hours per day that app shall purchase tickets	20	19.5
LOS-13: Hours per day that app shall allow use of tickets	20	19.5
LOS-14: # iOS generations app shall support	3	2
LOS-15: # Android generations app shall support	3	2
LOS-16: # versions of app that Metro system shall support	3	2

5   Risk Lists

5.1   Technical Risks

Risk# 1(Last week: N/A)
Weeks Active 1

Risk Description   An unsecure platform might be exploited or easily manip-
ulated (e.g. people finding loopholes to avoid fees), which can result in the LA
Metro losing profits.

Mitigation Action Items   Our groups architect will develop a cryptosystem
for our application that will be tested until it meets the clients requirements
and security standards.

Risk# 3(Last week: N/A)
Weeks Active 1

Risk Description   A technical malfunction of our platform might cause board-
ing delays for passengers and cause inefficiencies in LA Metro operations.

Mitigation Action Items   A back-up system will be designed in a later stage
of the project. Also, we will advise passengers who are particularly sensitive to
delays to have a back-up physical tap card.

Risk# 4(Last week: N/A)
Weeks Active 1

Risk Description   End users (passengers) might not have smartphones that
have the technical capabilities to support our platform.

Mitigation Action Items   A feasibility study will be conducted to verify
compatible phone penetration rates, and if needed, we can tailor our platform
to target only a certain segment of the customer base that has access to the
required technology.

Risk# 8(Last week: N/A)
Weeks Active 1

Risk Description   We will be using PhoneGap to implement the mobile appli-
cation with standard web technologies like HTML/CSS/Javascript which makes
the application subject to device-specific mobile browser display discrepencies.

Mitigation Action Items   Test on a wide variety of devices (different iPhone versions and various Android phones) to ensure the application is rendered properly on all screen sizes and OS versions.

5.2   Requirement Risks

Risk# 2(Last week: N/A)
Weeks Active 1

Risk Description   The LA Metro might not be willing to implement our system or work with our group to test our platform on their systems/hardware.

Mitigation Action Items   Our project manager is currently in talks with the LA Metro authorities, but we could also potentially do a proof of concept using similar hardware/systems.

Risk# 6(Last week: N/A)
Weeks Active 1

Risk Description   After the platform has been implemented and integrated, the LA Metro requirements might change, or the technologies being used in relevant processes might change.

Mitigation Action Items   If we are under a contract/agreement, the team will develop updates/patches that will adapt to new requirements. Otherwise, we will give the LA Metro a copy of our comprehensive documentation for the software so that necessary changes can be handled in-house.

Risk# 5(Last week: N/A)
Weeks Active 1

Risk Description   To get the application fully working and integrated into the LA Metro system, there will be a large set of evolving requirements. Two semesters might not be enough time to complete the project, especially if there are unexpected risks (e.g. another developer completes the same project before we do, bureaucratic risks, etc.)

Mitigation Action Items   We will develop a running list of unexpected risks as they come up and develop strategies to approach them. For example, we would explicitly ask LA Metro for their timeline and ask for an exclusive partnership.

5.3   Human Resources Risks

Risk# 7(Last week: N/A)
Weeks Active 1

Risk Description   Due to rapid formation of teams without proper analysis of required skill sets needed for this project we may lack the technical skills to complete this project in a professionally acceptable manner.

Mitigation Action Items   Identify team member skills and project requirements so we can individually prepare ourselves for technologies that we will be implementing next semester.

Risk# 9(Last week: N/A)
Weeks Active 1

Risk Description   The statically defined list of team roles may not fit our specific project requirements.

Mitigation Action Items   Dynamically reassign team roles as the project and its requirements mature. Also the team shall be aware that responsibilities will be very flexible and we may need to step outside the scope of our assigned position

Risk# 10(Last week: N/A)
Weeks Active 1

Risk Description   The amount of cooperation needed between our team and LA Metro may be more than expected which could make this project unfeasible for them.

Mitigation Action Items   Come up with a plan focused around the idea that LA Metro should have to do as little as possible. Extensive testing should be done internally before our software can be ready for LA Metro. The goal should be to get it right the first time.