

SaMX

Description

SaMX is a mobile app that acts as a companion for users of Mexico City's subway system. The app allows you to purchase tickets, see real departure and arrival times, provides general information about the subway system and also act as a tool to manage user's prepaid cards. Our app plans to target the millions of users that the CDMX's subway system has every day.

Objectives

Our **client** is Sistema de Transporte Colectivo (STC), a public-decentralized organism that owns and operates the Mexico City's Subway System. They are looking for a team of developers interested in developing a companion application for users of CDMX's subway system. STC also hopes that this team maintains the operation of the service provided by SaMX and they are interested in paying the team if they perform data collection and analysis. The **product owner** is Juan Carlos Rubio Castro, Engineering and Tech Development Director of STC, he is responsible of conducting technological innovation that can benefit the general operation of the subway system.

SaMX **market** are the users of CDMX's subway system that owns a smartphone, are market is composed by CDMX's citizens, tourists and people traveling for job, educational or recreational purposes. Also, another market for us is the STC itself, since they are able to benefit from the data obtained by the app.

The **distribution channels** for SaMX are Google's Play Store and Apple's App Store. At first, the app is going to be developed for Android because it is the biggest market since most of CDMX's subway system are people from the bottom pyramid, people that usually uses Android smartphones. After releasing an Android App, SCT will allow the development of an iOS application.

Scope Definition

Project Justification: STC identifies that its actual operation of the subway system generates crowding and frustration on users because of delays. They also want to provide a friendly way to track your own route from point to point in the subway system. They are looking for a team to develop this app and operate it as a service, also, they are looking for a team capable of performing big data analysis with the information collected through the app, SCT plans to use this information to perform improvements to the general operations of the subway system.

Project Scope: The project consists in creating at first an Android mobile app that acts as a companion tool for the users of CDMX's subway system. The app will allow the users to calculate routes from "station a" to "station b", provide trains arrival and departure time and calculate an estimated time of arrival for users. Also, the app should be able to track the trains and provide in real time the location of everyone of them to perform more accurate time calculations. The user will be able to access information from their subway's card, check current balance, buy tickets and load balance to their card.

Soft deadline for development is 5 months, hard deadline is 6 months. After completing development, the team must be able to perform tests with an initial population of users that will be mostly conformed by STC's employees. STC expects the team to test the app in real use cases, perform data collection and analysis to show what big data analysis can do to improve subway operation. Time for real case tests, debug, data collection, analysis and optimization of the application is considered by STC with a hard deadline of 4 months and will be considered as another project according to their licitation for this app. After this period STC expects to design a business and marketing strategy and start beta tests to gradually increase the number of users, perform stress tests and solve any problem before a final release. STC expects the consumer release of the app and its operation after 12 months of signing contract with the app developers.

Project Deliverables:

- Governmental Policies documentation (NOM, SAT, Transparency and Integrity related documentation)
- Scope statements.
- UI Design & Wire Frames.
- Splash Screen & Other welcome screens if required (login, registration and others).
- App Functionality Development (many milestones as project progress).
- Progress & Issues reports
- Weekly Subway System's information requests
- Alpha and Beta versions.
- Testing (Software assurance test)
- User acceptance and real scenario testing reports
- Stress Tests reports
- Results of Data Collection and Analysis
- Full Software Documentation
- Product Documentation (User guides, manuals, training materials)
- Submitting and publishing on Google Play Store
- Maintenance, Support and Operation

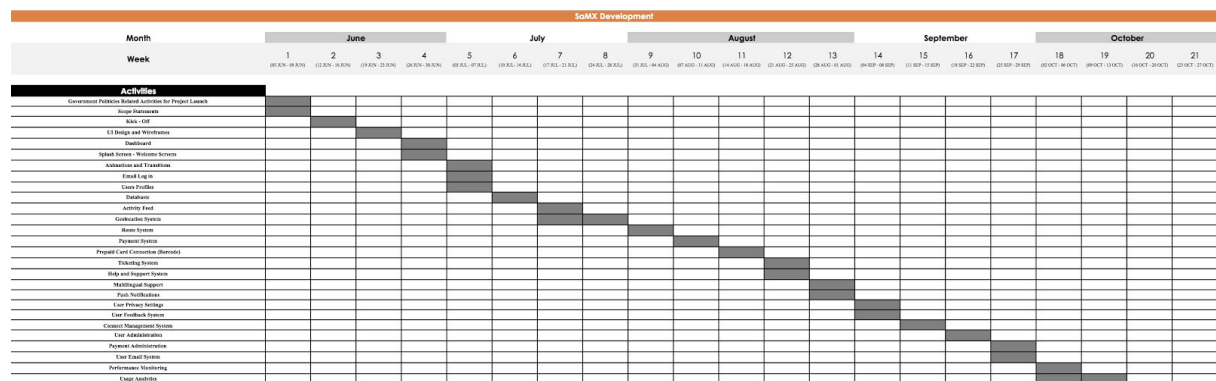
Project Success: The project will be determined successful if STC allows the tests with an initial population of STC's employees, the release and operation of the application.

Team

- 1 Project Manager
- 2 Sr Android Developers (Full Stack Mobile Developers)
- 1 Data Engineer
- 1 Art Director
- 1 Technical Writer
- 1 Legal Assistant for project launch and closing
- 1 Urban Planner

Gantt Diagram

The Gantt Diagram only considers time for development since based on results of the development, as described in the scope, the government will extend our work for another project including the first real tests and the work related with the launch and initial operation of SaMX.



Economic Justification

Investment Cost, based on salaries of team members.

Role	Salary
Legal Consultant	\$ 30'000 MXN
Art Director Consultant	\$ 35'000 MXN
2 Senior Android Developers	\$ 320'000 MXN
Project Manager	\$ 300'000 MXN
Technical Writer	\$ 150'000 MXN

Total Cost: \$ 835'000 MXN

Investment Rate of Return: 10.99%

According to experts in public policy, public investment should pursue a 7 percent real rate of return. According to INEGI and its INPC calculations on May, the expected value of inflation for the next 12 months is 3.99%. Since this is a project that will be funded by the government, we need to consider an Investment Rate of Return of 10.99% obtained from adding the expected inflation for the next 12 months and the public investment expected rate of return.

Net Present Value:

Actual value is \$835'000 MXN (the investment).

Future value is \$926'850 MXN in one year (the time in which the project will start its operation).

Payback Period: 1.25 years

We expect a gain with a social value of \$500'000 MXN per month, so the project will be paid back in a period of 1.25 years, three months after starting operations (the app starts operations after one year started development).

Daily operations of CDMX's subway system cost \$917'000'000 MXN every year. With this project we can expect at least a social value return of 15% after inflation, so the expected return after one year of operation of the app will be around 19.99% of the total cost of subway's operation.