Online Taxi Sharing System

System Request and Feasibility Study / Planning Phase   
(Homework No.1B)

Project team: Team 01

Instructor: Dr. Araz Yusubov

Submitted in partial fulfillment of the requirements of the INFT 2303: Systems Analysis and Design course project

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| GitHub repository | https://github.com/ADA-SITE-INFT2303-2023-Spring/sys-dev-project-team-01 |
| Version date | Version information |
| 19.02.2023 | Initial draft |
| 05.03.2023 | Final draft |

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| --- | --- | --- |
| Team member | Contribution to this homework (NOT the project) | Estimated % |
| Senan Mardanli | Introduction + references | 25% |
| Nargiz Bayramova | Feasibility analysis | 25% |
| Nigar Salayeva | Overall description (50%) | 25% |
| Anar Bayramov | Overall description (50%) | 25% |

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# Introduction

This is part of the System Proposal for a hypothetical project Schedule for Taxi submitted for partial fulfillment of the requirements of the Systems Analysis and Design course in the School of Information Technologies and Engineering at ADA University, Baku, Azerbaijan.

First of all, we would like to start listing our individual System requests here and describe which factors we have examined to choose the main project for our team.

* Online search for craftsmen (UstaTap.az)
* Alert system for incoming earthquake (QuickAlert)
* Online taxi sharing system (TravelBuddy)
* Finding suitable professor system (MyProfessor)

Let's start with the online method for finding craftsmen. The idea was abandoned for a number of reasons, the first of which being that it had previously been published in Azerbaijan. Additional concerns were the unclear aspect of the project's scope and the high risks associated with its achievement given it is already existing in Baku.

On the other hand, the earthquake alert system was outpacing our understanding of technology and other related topics. That is why we also dropped this project.

Lastly, Finding suitable professor system. We got rid of this system because we believed it would be immoral to use it with our professors at our institution, and because a comparable system, called Blackboard, is already in use.

Eventually, the online taxi sharing system proved to be the best option for our project. Indeed, the cause is rather straightforward. It had a very obvious issue that we were able to concentrate on, creating a mechanism to address in Azerbaijan. With the use of this technology, we will be able to lessen traffic and crowding in Baku's busiest areas and assist passengers in finding cabs much more quickly and affordably. Furthermore, everyone who signs up for the service will have access to it as both a driver and a passenger. The user will let other users know where he is and where he's going, as well as that he's seeking a travel companion.

## Definitions

|  |  |
| --- | --- |
| Term | Definition |
| <Term> | <Detailed term definition> |

# Overall Description

* System name:

**Online Taxi Sharing System**

* Business need

People who live far from the city center use taxis with a fee of 1 manat to get to the city faster and more easily. These operative taxis can be found in many regions of the city. But these taxis cause a number of problems because they work without a schedule and arbitrarily. More than necessary, taxis are waiting there, occupying the second and third lines and it causes congestion. Or the complete opposite happens; passengers are

waiting for a taxi for a long time. Also, they become an obstacle to the smooth movement of buses because the taxis all stand together at the bus stops. And the most ridiculous thing is the conflict between them over the passenger.

* Explain what the system will, and, if necessary, will NOT do/ Business Requirements

A system should be created for both passengers and drivers. Passengers and drivers must register to use the system. Everyone who uses the system must have their own personal account to identify and show their location in the system.

Anyone who registers with the system can use the system both as a driver and as a passenger. User reports where he is and where he will go in the application and informs other users that he is looking for a travel buddy.

Let's give an example: I go from Bina to Koroglu subway and open the application and report this, so people going to Koroglu can go with me at a more affordable price (1 AZN). (I want to inform that the normal taxi price is 7-8 AZN) In the system, taxi drivers will be able to see where other drivers are and where passengers are. Passengers will also be able to see the nearest drivers.. As a result, there will be no need to wait for a driver or a passenger. Also, the system will automatically queue registered drivers to avoid congestion. There will be no conflict between taxi drivers due to a certain row, nor will they obstruct other drivers.

* Describe the application of the system being specified, including relevant benefits, objectives, and goals / Business value

Goals:

* congestion on the roads will be reduced
* taxis will not be an obstacle to buses at the bus stop
* time saver: both drivers and passengers will not wait as much as before
* there will be a certain order, so conflicts between drivers will end
* Special issues or constraints:

If the system is created, the work will be official and the drivers must pay taxes, there is a possibility of tax evasion. Also, elderly people may find it difficult to use the system.

* The factors that affect the system and its requirements:

Product Perspective

     There are many taxi companies such as Bolt, Uber and ect. These taxi companies have their own systems, in which the location of both the driver and the passenger can be easily seen in their system.  Both systems show how far the driver is and how long it will take. Both card and cash payment are valid in both systems. The difference is that in the system we will create, both drivers will be able to use it as passengers, and passengers will be able to use it as a driver, and at the same time, the driver will be able to take not only one person, but several people, as a result  the prices will be more reasonable. There is one more difference that the drivers themselves choose and mark the destination, and the passengers find the drivers according to their destination.

## Product Functions

<Provide a summary of the major functions that the system will perform. Sometimes the function summary that is necessary for this part can be taken directly from the section of the higher-level specification (if one exists) that allocates particular functions to the product.

For clarity:

* The functions should be organized in a way that makes the list of functions understandable to the customer or to anyone else reading the document for the first time
* Textual or graphic methods can be used to show the different functions and their relationships. Such a diagram is NOT intended to show a design of a product but simply shows the logical relationships among variables

**This is the main content of section 2.** This describes the functionality of the system in the language of the customer. What specifically does the system have to do? Drawings are good, but remember this is a description of what the system needs to do, NOT how you are going to build it. (That comes in the design document).>

## User Characteristics

<Describe those general characteristics of the intended users of the product including educational level, experience, and technical expertise. DO NOT state specific requirements but rather provide the reasons why certain specific requirements maybe specified in subsequent documents.

What is it about your potential user base that will impact the design? Their experience and comfort with technology will drive user interface design. Other characteristics might actually influence internal design of the system.

For example:

The target user must:

• Have basic experience using computers and browsing the internet. Has filled out online forms or surveys and may have purchased or sold a product

• Have a computer with access to the internet

• Be willing to share information such as home address and contact information >

<This section is accounting for about 10% of your assignment grade.>

## Constraints

<Provide a general description of any other items that will limit the developer's options. This section captures non-functional requirements in the customer’s language. A more formal presentation of these will occur later.>

<This section is accounting for about 7% of your assignment grade.>

## Assumptions and Dependencies

<List each of the factors that affect the requirements stated in the document. These factors are NOT design constraints on the system but are, rather, any changes to them that can affect the requirements. For example, an assumption might be that a specific operating system would be available on the hardware designated for the product. If, in fact, the operating system were not available, the document would then have to change accordingly.

This section is catch-all for everything else that might influence the design of the system and that did not fit in any of the categories above.>

<This section is accounting for about 6% of your assignment grade.>

# Feasibility Analysis

**Technical Feasibility**

The Taxi Sharing system is technically feasible and offers advanced utility, however, there are also some inevitable technical viability issues to be considered. Following are potential risks:

**Risk probability** of population being familiar with taxi sharing applications is considered as medium:

* Even though there is no exact same application existing in our country right now, the IT department is well-versed enough and has extensive understanding of the real-time location tracking and online pay-per-use applications.
* Although the technology required to build the system is not yet available, it can potentially be implemented by using existing resources as well.
* Users might have already experienced slightly similar applications (Uber, Bolt, Yango etc.), but this taxi sharing system varies in practical-use and user-friendly interface, user adoption and satisfaction.
* Project team requires experts with extensive knowledge from the IT department to build secure and scalable systems, and to take advance notice of potential challenges and issues.

**Project size** – low risk:

* 7-10 people will be assigned to be project moderators.
* Since this project is a newly implemented system in the marketplace, and there’s no predictable competitiveness in the field, that's why there’s no competition due to the complete project.

**Compatibility** – Since, this kind of taxi sharing system is newly initiated, competitiveness risk is considered as low with other products of the company in terms of technological framework.

**Economic Feasibility**

**Organizational Feasibility**

Since the project's primary focus is to bring sustainable transportation solutions for urban centers, the main purpose will attract the target market, and yes, it’s directly aligned with business.

This taxi sharing system is considered to be effectively affiliated with business; by offering streamlined income gate, raising consumer involvement and satisfaction, and complementing the company's core purpose and objectives, it can enable a company in accomplishing its goals.

The success of a taxi sharing system mainly depends on the quality of available technology and user experience it provides, which impacts user adoption and satisfaction as well. Because of the user-friendly interface, a substantial percentage of people will be adopted to the system and business will enhance the chances of success for the taxi sharing system, which also has the power to establish and maintain existing systems.

# References

<Insert here any document referred to in the document. An example might be articles or Websites that you consulted during the literature search. This is not just a list of used materials, so do not forget to clearly MARK the exact points(s) of reference in the main text.>

<This section is accounting for about 5% of your assignment grade.>