Online Parking Information System

Process Modeling and Data Modeling /   
System Proposal / Analysis Phase   
(Homework No.3)

Project team: Team 07

Instructor: Dr. Araz Yusubov

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

| GitHub repository | https://github.com/ADA-SITE-INFT2303-2023-Spring/<name of the repository> |
| --- | --- |
| Version date | Version information |
| 19.04.23 | ERD (without relations) |
| <Date> | <Version description> |

| Other documents in the package | |
| --- | --- |
| File name | Brief description of the document |
| ERD | Entity Relationship Diagram of the system |
| <File name> | <Description of the document> |

| Team member | Contribution to this homework (NOT the project) | Estimated % |
| --- | --- | --- |
| Emil Hajiyev | <Description of the work contributed> | <X>% |
| Lala Mahmudova |  |  |
| Faraz Bagher Nezhad |  |  |
| Orkhan Ismayilov |  |  |
| Jamaladdin Talishinskiy |  |  |

# **Table of Contents**

<Automatically generate here using Microsoft® Word menu References🡪Table of Contents>

# **Introduction**

This is part of the System Proposal for a hypothetical project <System/Project Name (use the name you used in Homework 1/2)> 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.

**<DELETE each and every instructional paragraph between (and including) < and > everywhere in the document[[1]](#footnote-0) and REPLACE ALL of them with your text. Keep the main numbered sections, but feel free to add sub-sections if needed.**

**All consequent homework assignments will be based on this document, so give it enough thought.>**

<Briefly describe the content of the document and work done to prepare it. This document must be submitted in original Microsoft© Word format.>

<While doing analysis and getting better understanding of the system you may need to make changes in the HOMEWORK No.1B/2 document, such as additions/modifications to product functions or use cases. In this case Homework No.1B/2 document should be submitted, too. Edits in these documents should be visible by turning the TRACK CHANGES option on through Review🡪Track Changes menu and version information on the title page should be updated.

**Bonus 1:** Get extra **15%** points for revising and SUBSTANTIALLY improving the Homework 1/2 document.

All Microsoft© Word documents should be submitted as separate files. Any additional files of other types e.g. diagram and charts will usually be inserted to this document as embedded images, but the source files should also be submitted in a SINGLE .zip archive file.>

< **Submit your assignment** through the course website:

* **Use your GitHub** repository to keep all your project files and make sure all team members update it regularly. The teams are expected to submit their homework through Blackboard, at the same time their work must be traceable through the GitHub Classroom.
* **Submit** to the grader the following files before the deadline:
  + Process Modeling and Data Modeling (this document) as **Microsoft© Word document**s**.**
  + For Bonus 1, System Request and Feasibility Study (Homework No.1B) or/and Requirements Determination and Use Case Analysis (Homework No.2) as a **Microsoft© Word document with tracked changes**.
  + Any additional files of other types e.g. diagram and charts will usually be inserted to this document as embedded images or tables. At the same time, the source files e.g. Excel .xlsx files or Diagrams.Net .drawio files should also be submitted inside a **single .ZIP archive** file.
* **Do not forget** to inform your team mates, to avoid multiple submissions.
* **You will be graded** based on your contribution to the team submission, which is to be evaluated for its clarity, technical soundness, thoroughness and coverage, relevance and utilization of resources.

>

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

## **Definitions**

<Every time you come across a project-specific term (which can be interpreted differently e.g. “terminal”), add a short description of it to the table below. Insert here any technical word for which the meaning may not be known. DO NOT assume that the readers have specialized knowledge. Use a table format for these.>

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

<This section is accounting for about 4% of your assignment grade.>

# **Process Modeling**

<This and next section contains all the logical process and data models. Remember this is NOT design. Focus on logical modeling, and do not be distracted by technical implementation details, software packages, etc. >

<Draw the context-level diagram for the system. In this section you will refer to use cases you identified in Homework 2 to create data flow diagram fragments that eventually will be combined into data flow diagrams.

Here and in the following sub-sections list all processes, data flows, data stores and external entities with a short textual description. Indicate related use case number and name in the description.

Discuss the process of validation of data flow diagrams and explain any possible “anomalies”.

<This section is accounting for about 10% of your assignment grade, and the diagrams for about additional 10 %.>

**Bonus 2:** Get extra **10%** points for complementing all process descriptions with UML activity diagrams. For the context-level diagram it must be in a form of a swim lane diagram.>

## **Level 0 diagram**

<Draw Level 0 data flow diagram for the system.>

<This section is accounting for about 10% of your assignment grade, and the diagrams for about additional 20 %.>

## **Level 1 diagrams**

<**Bonus 3:** To get extra **15%** points draw also all Level 1 data flow diagrams. >

# **Data Modeling**

<This section specifies the logical requirements for any information that is to be processed by system. Draw the UML entity relationship diagrams that will be useful here to show complex data relationships.

In this section list all entities with a brief description including all attributes explained. Indicate initial entities and those added later in the process of normalization e.g. intersection entities. Discuss the relationships, including their modality and cardinality.>

<This section is accounting for about 10% of your assignment grade, and the diagrams for about additional 15 %.>

## **CRUD matrix**

<To balance process and data models draw your CRUD matrix in this sub-section. Use the processes from your data flow diagrams on the highest level of detail.>

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

# **References**

<Insert here any document referred to in the document. An example might be articles or Web sites 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 can be done by adding **endnote**s at the exact points of reference in the main text.>

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

1. This template uses some materials by Rochester Institute of Technology Software Engineering Department. [↑](#footnote-ref-0)