Project Documentation

ISTE-330 Database Connectivity and Access

Auto Market

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# Introduction

## Overview

The AutoMarket project wants to transform the automotive marketplace through web shops/app platforms. This digital solution aims to make the process of buying and selling vehicles secure, user-friendly, and efficient.

## Purpose and Scope

This paper is the steps it took in making AutoMarket. It's a way to show what we're planning to do and how we're going to do it. It's a guide for us and for the readers who want to understand our work.

## Background

Our team is a mix of sophomore IT students at RIT Croatia. We're working together to make AutoMarket the next big thing.

## References

## Document Overview

Each chapter represents one step we needed to make to develop AutoMarket. From start to finish, we'll talk about all the steps in between and give details on how we're making it happen.

# Problem Description and Solution Architecture

## Problem Description

Now, if you want to buy or sell a car, it can be confusing and complicated. You might have to go to different dealership’s or spend hours scrolling thru websites. We've noticed that sometimes, people decide not to buy due to being scared. Other websites are out there, but they are focused on profit, and not user satisfaction. Our goal with AutoMarket is to make this whole thing as simple as possible. We want you to be able to find/sell a car from home, know exactly what you're getting, and not worry about losing money. Our app will be better because it's going to be really easy to use, super safe, and have everything about every car right there for you.

## Technologies and Architectural Design

[**IMPORTANT:** Capture important software design decisions and describe them – why did you decide to do it this way and what technologies are you going to use. Do not forget to explain the choice of programming language(s) and layers, and rationale for this design of your application. Describe and sketch Software Architecture (picture) – decomposition of the software into layers/modules/units/components and provide detailed software design description for each part (layer). At least several sentences and an architectural design figure (with layers and technologies) with description are expected (**deliverable and milestone #0 and #1**). ]

## Database Layer and Database Connectivity Layer

[**IMPORTANT:** Provide database structure with ERD and database schema as well as data dictionary explanations of entities (tables) and their characteristics/attributes/properties (columns). At least several sentences are expected to describe the model. There should be a physical database model figure for the chosen database with 10-15 tables in a clear relationship, with a description of each database table. The data dictionary is more than welcome – you can do it in the usual table format in Word, where each row represents one attribute from a database table, and you should have it for all attributes and all database tables. Each row should hold information about that attribute, including table name, column name, the data type in the database, short description, constraints (e.g., primary or foreign key) and restrictions (format of the data), and (if unclear) sample data. You should start doing it for the **deliverable and milestone #1** and finish it no later than **deliverable and milestone #2**).]

## Business Layer

[Provide Business Layer description, design and explanation, as well as describe connections to Database Connectivity Layer and Presentation Layer. At least several sentences are expected to describe how the Business Layer will be constructed, what its purpose is, and how it communicates with Database Connectivity Layer (below) and Presentation Layer (above). You should start doing it for **deliverables and milestones #1 or #2** and finish it no later than **deliverable and milestone #3**). ]

## Presentation Layer

[Provide Presentation Layer description, graphical user interface (GUI) design, including structure, layout and explanations, as well as a description of used technologies. At least several sentences are expected to describe how the Presentation Layer will be constructed, what its purpose is, and how it communicates with Business Layer (below) and the users (clients). You can also include all possible actions, menus, and options. You should start by doing some prototypes or wireframes for **deliverables and milestones #1 to #3** and finish it no later than **deliverable and milestone #4**. In the final **deliverable #5** you can even provide some screenshots.

## Areas of particular concern

[In this chapter, you should provide identification of areas of particular note or concerns. It could be about prerequisites (which must be respected) and assumptions, as well as possible risks for your project. Those could be related to an organization, planning, resources, technologies, and availability, as well as team members. You can describe a plan on how to mitigate those risks. You should start doing it for **deliverables and milestones #1 to #3** and finish it no later than **deliverable and milestone #4**.]

# Requirements

[This chapter should be started for the **deliverable and milestone #0**, and some parts (context and functional requirements) should be finished for the **deliverable and milestone #1**. However, some parts of it will be produced and/or changed later in **deliverables and milestones #2, #3, and #4**.]

## Context

[Provide a description of the application in the broader context, how it will work within the environment of other systems (e.g., payment systems if there is some kind u purchasing involved), with explanations as applicable. The context of a system refers to the connections and relationships between the application and its environment. At least several sentences are expected and it relates to **deliverables and milestones from #1 to #5**.]

## Functional Requirements

[**IMPORTANT:** List, name and explain all key functionalities – there should be approx. 15 functional requirements listed. You should provide a table where each requirement is named (short code or name, could combine letters with numbers) and a detailed description, as well as who is responsible or performing the action associated with this functional requirement. You could also use use-cases (diagrams or descriptions), including use-case names, actors, events flow, exceptions, and special requirements. Include user requirements if necessary (users, roles, privileges) and associate with specific functional requirements. This should be started for the **deliverable and milestone #0**, and the proposal msut be agreed upon and finished with **deliverable and milestone #1**. Later, with the approval of the client, it could be revised in **deliverables and milestones #2 - #4**).]

## Other (Non-Functional) Requirements

[Describe the non-behavioral and non-functional requirements, including hardware and software requirements (e.g., platforms needed to support this application), programming interfaces, and any operational requirements (how the system will run and communicate with environment). You could also provide information about application availability (time of day or week), general performance (how fast it should be in client responses), capacity (how many concurrent users or connections it will support), error handling (how is it handled), conventions used, security and similar if necessary. This should be started for the **deliverable and milestone #1**, and it could be revised in **deliverables and milestones #2 - #5**).]

# User Documentation

[Usually, this chapter should be started later, and at least partially filled for the **deliverable and milestone #3**, and should be finished with **deliverable and milestone #4**. However, some parts of can be changed later, even in **deliverable and milestone #5**.]

## Graphical User Interface Design

[You should provide user design and user experience description, as well as a description of used technologies. This should be started for the **deliverable and milestone #3**, and should be finished with **deliverable and milestone #4**.]

## User Manual

[This should provide expected usage of the available functionalities, could be divided per user roles, and should include screenshots with detailed descriptions. This should be started for the **deliverable and milestone #3**, and should be finished with **deliverable and milestone #4**.]

# Installation, Configuration and Acceptance Testing

[Usually, this chapter should be started later, and at least partially filled with **deliverable and milestone #3 or #4**, and should be finished with **deliverable and milestone #5**.]

## Installation

[Provide a technical manual – prerequisites and installation process description details. Should be finished with **deliverable and milestone #5**.]

## Configuration

[Technical manual should also hold configuration detail and default values for this project to work. Should be finished with **deliverable and milestone #5**.]

## Acceptance Testing

[Some acceptance testing should be performed to determine if the requirements are met – you should describe typical usage and tests to be executed for the application. Should be finished with **deliverable and milestone #5**.]

# Final Remarks and Conclusion

[Usually, this chapter should be started later, and at least partially filled with **deliverable and milestone #3 or #4**, and should be finished with **deliverable and milestone #5**. You should summarize the experiences, both in terms of the produced results and work on the project. List all project deliverables, as well as positive (and negative) experiences and concerns. Comment on missing functionalities and possibilities for improvement and extensions. Estimate project effort (person-hours) and how it was distributed in time and per team roles. This chapter can also include a work log summary for all team members (for each day who did what).]