**Project Plan**

**Parking Spot System**

*Sioux*

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| **Date : 07/01/2020** |
| **Version : 1.5** |
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| **Author : Group 3** |

#### Version history

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| 0.1 | 07/09/2020 | Filev, Georgi | Testing and Configuration Management | In Progress |
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| 0.3 | 07/09/2020 | Hadjiyankov, Konstantin | Project Organization and part of Finances and Risk | In Progress |
| 0.4 | 07/09/2020 | Yanakieva, Zhaklin | Context and Goals of the project | In Progress |
| 0.5 | 09/09/2020 | Hadzhikolev, Kristian | Strategy and End Products | In Progress |
| 0.6 | 11/09/2020 | Yanakieva, Zhaklin | Scope of the project | In Progress |
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**Distribution**

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# Project assignment

## Context

Sioux Technologies is a company that wants to contribute to a safe, healthy and sustainable world through technological innovation. They find high-tech companies with intention of developing and building smart modules and software with impact and have a distinguishable entrepreneurship and with that the company has a variety of cooperation models. The company has the preference to take financial risks when developing promising knowledge and innovative products for customers. Moreover, Sioux also invests in start-ups and the further development of new companies that are necessary to enrich and future-proof the high-tech ecosystem in which Sioux operates.

## Goal of the project

The company aims to ease their clients when finding a parking spot. The reason behind the project is the desire of the company to make the moving of the car in the parking less stressful and ease its clients by protecting them from wasting their time looking for parking spots.

Sioux see the situation as an opportunity for an improved parking system where there are going to be no issues, such as a mistaken parking spot, or a mistaken car.

This project is advantagable for the company because it improves thе organizational system of the company and is also valuable because by having this software Sioux make the workflow more efficient.

The solution we aim to provide consists of two components: a desktop application for the secretary and a license plate recognition software.

The secretary’s application is going to be used for registering new clients into the database. After successfully logging in, the secretary would input the client’s real name, phone number, license plate and email. The client is then registered and has access to the parking lot (and the scanner can recognize his license plate as an existing client).

The license plate recognition software is connected to a physical scanner in the parking lot and scans the license plates of the vehicles in the parking lot. If a license plate is recognized, the system would send a text message to the client’s phone number with directions for reaching an available parking spot.

## Scope and preconditions

|  |  |
| --- | --- |
| **Inside scope:** | **Outside scope:** |
| 1. Notify the user for a parking spot | 1. Save a parking spot for a specific client |
| 1. Notify the secretary, when a person is leaving the parking | 1. Show that a parking spot is available or not |

## Strategy

The method of approach in this project is the agile framework scrum. It is simple to understand and apply as it ensures good communication between team members as well as good organization. The division of complex tasks into user stories(System requirements) is really beneficial, when it comes to big projects.

## Research questions

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*Describe the research questions that are most relevant to your project. For each research question, describe the approach and/or methodology. Use the Dot Framework to specify strategies and methods - see* [*http://www.ictresearchmethods.nl*](http://www.ictresearchmethods.nl) *for details.*

*Note that research is not only part of the intial phases (like analysis) of the project, but runs throughout the whole project. E.g., in the realization phases, you will probably do research in the Workshop and Lab context.*

*Also realize that during the project your research questions may change, and that new ones will come up. That normal for any project ☺, and is not a problem as long as you involve the right stakeholders, and keep your deliverables updated and in sync.*

*>>*

## End products

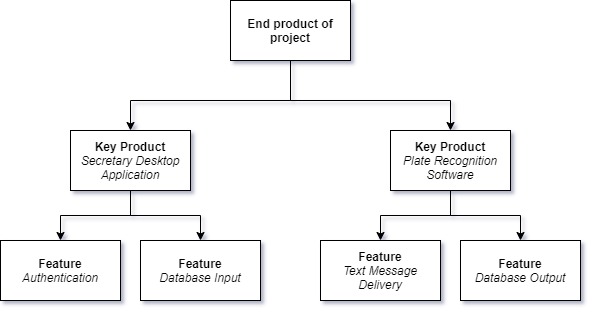
### Project Plan

### Software Solution

### Test Report

### Architecture Document

### Cultural Awareness Report



# Project organisation

## Stakeholders and team members

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Abbreviation** | **Role and functions** | **Availability** |
| *Contact name (and specify further detail as needed, e.g., email or tel nr).*   * *Sioux* | *Abbreviation can help, e.g., when using the name in tools like Jira or MS project.*  *PO* | *See above.*  *-role:stakeholder/PO;*  *functions: sets requirements and project description* | *When is the person available for your project (define this in the way most relevant for your project, e.g., which days are available, the amount of time, or in which phase of the project).*  *-available most of the time for questions via email, meetings take place during the sprints* |
| * *Konstantin* | *Tino* | *-role:product developer/scrum master*  *-functions: communication between PO and the team, follows deadlines, takes part in developing the product* | *-available all the time when team wants to get in touch(e.g. for sharing idea);*  *-During all the group meetings;*  *-sprints meetings* |
| * *Antonio* | *Tonkata* | *-role: product developer*  *-functions: working on the product deliverables, sharing ideas,* | *-available all the time when team wants to get in touch(e.g. for sharing idea);*  *-During all the group meetings;*  *-sprints meetings* |
| * *Kristian* | *Kris* | *-role: product developer/scrum master*  *-functions: communication between PO and the team, follows deadlines, takes part in developing the product* | *-available all the time when team wants to get in touch(e.g. for sharing idea);*  *-During all the group meetings;*  *-sprints meetings* |
| * *Gerorgi* | *Filev* | *-role:: product developer*  *-functions:mostly the software part, following the goals, expressing ideas* | *-available all the time when team wants to get in touch(e.g. for sharing idea);*  *-During all the group meetings;*  *-sprints meetings* |
| * *Zhaklin* | *Jaki* | *-role:: product developer*  *-functions: working on the product deliverables, UI, testing, sharing ideas* | *-available all the time when team wants to get in touch(e.g. for sharing idea);*  *-During all the group meetings;*  *-sprints meetings* |

## Communication

Currently we use MS teams for meetings due to the pandemic, for writing down short ideas or for arranging meetings we use Whatsapp. Our communication with the PO is by emailing them or during sprints.

Our meetings are scheduled twice or even three times a week and the other time we communicate through Whatsapp. We get in touch with our teachers during our lectures/workshops online or at university.

Usually team meetings take as much time as it is needed to make an excellent conclusion when finishing it.

Teacher meetings are used to show our progress, to evaluate the process and to receive feedback from the teacher so to improve things.

# Activities and time plan

## Phases of the project

We will begin our work with problem analysis. After analysing the problem, we will design possible solutions. After agreeing on the most optimal solution, we will begin working and updating the documentation correspondingly. In the end we will perform throughout testing and hand over the finished product along with its documentation, peer and self reviews and personal reflections, and then await for evaluation.

## Time plan and milestones

|  |  |  |  |
| --- | --- | --- | --- |
| **Phasing** | **Effort** | **Start date** | **Finish date** |
| 1. Sprint 0 | Presentation of Final Documentation: SCRUM Board, Project Plan, Activity Diagrams, Wireframe for the secretary app | 31/08/2020 | 18/09/2020 |
| 1. Sprint 1 | Demonstrate of the first Secretary App draft with initial functionalities | 21/09/2020 | 09/10/2020 |
| 1. Sprint 2 | License Plate Recognition Software: First Steps Into Coding the Software | 12/10/2020 | 06/11/2020 |
| 1. Sprint 3 | Refine License Plate Recognition Software: Improve on Existing Code Efficiency | 09/11/2020 | 27/11/2020 |
| 1. Sprint 4 | Draft of Complete End Prodct. Testing Phase | 30/11/2020 | 16/12/2020 |
| 1. Sprint 5 | Complete End Product | 04/01/2021 | 22/01/2021 |

3.3 Bussness process model and notation

This is a graphical representation for specifying business process and how we decide what kind of actions are needed for the completion of the project and whether those solutions are suitable taking under consideration the feedback of the project owners.

Diagram, schematic

Description automatically generated

- Firstly we discuss with each other what needs to be done, thus we come up with a solution about a current problem

- Secondly we talk with the project owners (verbaly or via email) whether they approve our approach, if not then we ask for feedback and we start discussing over again from scratch. However if they approve we continue to step three

- Thirdly we start digging if something else is needed( tool or software) or if the POs give us any advice how we should continue.

* If something else is needed we figure out how to get it as well as implement it afterwards.
* Then when everything is set up correctly with everyone’s approval we are ready to start working.

- What follows is implementation, designing and testing

- If some issues accur during the process we fix them until everything works as supposed to.

* Then a presentation to the POs followes where they give us feedback and check our work
* If project owners like what they see then we continue further on the project work flow. However if they have any recommendations or advices we take them under consideration and how to fix them.

- Next step is going back to the start of the business process when implementing another feature of the project until the project is completely finished and POs have no more tasks.

# Testing strategy and configuration management

## Testing strategy

We will run unit tests on individual parts of the code depending on whether there is an unresolved issue or something we need to test right away. However, our main testing will take place after every big cycle we complete, for instance every completed requirement.

On the other hand, when we assume that our work is almost done, we are definitely going to test the system as a whole. Here our goal would be a hundred percent quality code.

**Features to be tested:**

*Desktop App:*

* Authentication & Authorization
* Database Connectivity
* Information Format Validation
* CRUD functionalities
* Appropriate Design Usage
* Security testing

*License Plate Recognition Software (LPRS):*

* License Plates Recognition
* Text Messaging
* Accurate Navigation
* Scanner Connection
* Load/Stress testing

**Who’s Going to Perform the Testing:**

* We, as a team
* Project Teacher
* Project Owner(s)
* Selected Testing Audience (Random People)

**Testing Approach:**

We are going to create unit tests simultaneously with each new class. We are going to perform design testing, asking random people to perform a variety of different tasks on the application without being familiar with it. This way we would be able to determine whether the design is user friendly enough before presenting it to the PO(s).

**What tests:**

Backend (BE): In the BE, where I am using Spring boot, I decided to make unit tests and integrational tests. The unit tests I made for the models, so as to make sure that each of the properties there are working property. For the controllers I made the integration tests, which are used to check the methods that are implemented there, such as “deleteClient”.

Frontend (FE): In the FE, for which I am using React JS, I used cypress to check if everything works properly. There is a “home-spec” file, where I store all of the cypress tests. This file needs to be run and then, I can see if the tests are successful or not. First of all, I created a test for the connection with the link and if can be visited. Then, tests for the elements, such as buttons and inputs, were made and in the end, the registration and the login were tested

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| Number | User acceptance test criteria | Expected results | Comments |
| 1 | The credentials are put correctly to register a client | The client is registered successfully | The project will not run into production until this is criteria is met. |
| 2 | A client can be deleted from the clients’ table | The client is removed successfully | The project will not run into production until this is criteria is met |
| 3 | A client’ information can be updated | The client’info is updated successfully | The project will not run into production until this is criteria is met |
| 4 | The license plate of a client is recognized | An email/sms is sent to the client with their parking spot | The project will not run into production until this is criteria is met |
| 5 | An appointment can be assigned to a client | A client can have a meeting at a certain timeslot | The project will not run into production until this is criteria is met |

# Finances and risk

## Project budget

Specific budget is not required for our project at this point.

## Risk and mitigation

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| --- | --- | --- | --- | --- |
| **Risk** | **Severity** | **Probability** | **Prevention activities** | **Mitigation activities** |
| 1. A group member is unavailable for team meeting | Low | Medium | Contact all members a reasonable time before the meeting (At least 12 hours before the meeting occurs) | If a group member is missing from a team meeting, he should be informed about what has been discussed and about any decisions that have taken place in his absence. |
| 1. A group member is unavailable for tutor/PO meeting | Medium | Low | Contact all members a reasonable time before the meeting; All members must submit their work into the repository after finishing. | If a group member is missing from an important meeting, inform the other participants of the meeting and present the latest work they have submitted to the repository. |
| 1. Misinterpreting requiremrent | High | High | Contact the PO frequently or ask the teacher; consulting all the members | If particular task was interpret wrong, the team should always ask questions about it and discuss with the group how it should be done. |