

Project Proposal – Internship

Version: 7
Period: Spring 2023



Goal and use of this document

The proposal is used to describe a practical research internship which is carried out in semester 5 of the study program. Through this form the student requests approval for the assignment from the internship coordinator. This document is also used to receive feedback from client and coordinator and should lead to all three parties having one single view of the assignment. The student is responsible for writing the content, based on input of the organization and feedback of the coordinator. This document may be written in Dutch.

Student details

Student number : 4110021
First name + Family name : Hristo Kolev
Location : Eindhoven
Profile Semester 3 : S
Specialisation Semester 4 : ICS
Internship choice : S
Dutch-speaking? : No

Internship period

Start date : 04.09.2023 (official start date: Monday FHICT-week 1)
End date : 26.01.2024 (official end date: Friday FHICT-week 18)

Organisation details

Name : SIS Technology AD
Visiting address : Business Park Varna B1
Zipcode + City + Country : 9000, Varna, Bulgaria
Phone : +35952702100
Website : <https://sistechnology.com/>
Own Company ("Eigen bedrijf")? : No

Company mentor

First name + Family name : Mariela Miteva- De Gruil
Department : Software Development
Position : Manager
Background (highest education) : ICT Software, Technical University-Varna
Phone : +359886066616
Email : mariela@sistechnology.com
Assignment in ASAM? : N

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1. Context & Problem/Opportunity

Below the organization and its activities and structure are described. It must become clear in which part of the organization and activities the problem or opportunity lies and what the reason is for this assignment.

1.1 Context & Background

SIS Technology AD is a software company in Bulgaria. They are distributors of high-quality hardware and representatives of world-famous brands. They are innovators in the development and production of self-service terminals in gas stations and retail outlets. Their mission is to reach more people to share their experience in automating and optimizing business processes. Their software products offer the right solution for every business, providing maximum utility by automating processes and improving results.

These are some of their products:

- Horizon – Human resources management
- McMaster – Accounting system
- ERP Aurora – Enterprise resource planning system
- VAN Master – Mobile commerce
- Nexus – Centralized management of gas stations
- Fiscal Gate – Universal solution for online shops
- Orange – Establishments and restaurants
- AuroraPOS – Small and medium commercial sites
- EVO II – Centralized management of commercial sites
- POS Master – Management of retail sites

1.2 Current situation & Stakeholders

The current situation regarding the activities, problems (or opportunity) is described. The relevant stakeholders within the organization are provide with an explanation why they (possibly) are stakeholders. The scope of the project must become clear at this point.

Currently the company is working with several companies and one of them is Vitaslim Ltd. Vitaslim is a company that have been focused on developing dietary supplements. They are based in France and they are one of the leaders in the industry.

1.3 Problem/opportunity description

The problems/opportunities, possible causes and impact or effects of these problems/opportunities are described. Concrete examples are given and the depth and scope of the situation is made clear. In this section it should become clear what the added value of the internship will be.

I will be part of the software development team. Their goal is to create an web application and ERP software about thier client that will help the managment of their finances, inventory stock, human and time resources in order to run the activity and realize profits, as well as to monitor and manage all processes in their business on a daily basis.

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2. Assignment

2.1 Desired project result

Project goal

Creation of a Web APPLICATION (for the company Vitaslim - the company sponsoring the application) with CRUD operations for registering the visits of the medical representatives. The medical representatives visit doctors in regions around Bulgaria. Bulgaria is divided by Vitaslim into 8 regions. Each visit to the GP is registered and described by city and by doctor.

Activities:

- ☐ All doctors are entered into the system with their names, codes, specialties, work addresses.
- ☐ All data are subject to correction and addition
- ☐ For each visit to the doctors by medical representative, a special type of document is created in which the action of the medical representative is described in detail. He should provide the doctors with advertising materials for drugs and nutritional supplements, and provide drug samples. Makes presentations on new drugs and nutritional supplements.
- ☐ The application should display reports on visits to the Ministry of Health by region and by period
- ☐ Medical representative's visit the doctors by region after being provided with a schedule of visits, which schedule is drawn up by them

Project IT-deliverable

Deliverable	Non-Deliverable (Out of scope)
Research Report	Full built web application
Portfolio	
Project Plan	
Module of the code	

2.2 Research aspects

Research questions

Main Question:

What are the existing web application frameworks and technologies suitable for developing a CRUD-based system for registering visits of medical representatives to doctors?

Sub Questions:

1. What are the essential features and functionalities required in the web application to effectively manage and track visits to doctors in different regions of Bulgaria?
2. What are the best practices and user-friendly interfaces for allowing users to correct and update data in the web application?
3. What are the key components and functionalities required to generate comprehensive reports on visits to the Ministry of Health, categorized by region and time period?
4. What security measures and access control mechanisms should be implemented in the web application to protect sensitive data related to doctors, medical representatives, and visits?
5. How can the web application be optimized for performance, scalability, and reliability to handle a large volume of visit registrations and data management?

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Research approach

Question	Strategies	Methods
What are the existing web application frameworks and technologies suitable for developing a CRUD-based system for registering visits?	<ul style="list-style-type: none"> - Reviewing relevant literature and industry reports - Analyzing popular web application frameworks and technologies - Seeking expert opinions and recommendations. 	<ul style="list-style-type: none"> - Literature review - Comparative analysis of web application frameworks - Surveys or interviews with industry experts.
What are the essential features and functionalities required in the web application?	<ul style="list-style-type: none"> - Analyzing the requirements of medical representatives and doctors - Conducting user research and surveys - Studying similar existing applications. 	<ul style="list-style-type: none"> - User research (interviews, surveys) - Requirement gathering techniques (interviews, focus groups) - Comparative analysis of similar applications.
What are the best practices and user-friendly interfaces for data correction and updates?	<ul style="list-style-type: none"> - Reviewing user interface design guidelines and principles - Conducting user testing and feedback sessions - Analyzing existing applications with similar features. 	<ul style="list-style-type: none"> - User testing and feedback sessions - Comparative analysis of user interface designs - Usability studies and surveys.
What are the key components and functionalities required for generating comprehensive reports?	<ul style="list-style-type: none"> - Analyzing reporting and data visualization tools - Identifying relevant data sources and metrics - Assessing reporting regulations and compliance requirements. 	<ul style="list-style-type: none"> - Comparative analysis of reporting and data visualization tools - Data source identification and integration - Compliance audits and assessments.
What security measures and access control mechanisms should be implemented in the web application?	<ul style="list-style-type: none"> - Conducting a security risk assessment and threat modeling - Exploring authentication and authorization protocols - Assessing data encryption and privacy requirements. 	<ul style="list-style-type: none"> - Security risk assessment and threat modeling - Prototyping and testing authentication and authorization mechanisms - Compliance audits and assessments.
How can the web application be optimized for performance, scalability, and reliability?	<ul style="list-style-type: none"> - Investigating performance optimization techniques and scalability strategies - Analyzing cloud-based hosting and load balancing options - Assessing fault tolerance and disaster recovery plans. 	<ul style="list-style-type: none"> - Performance testing and optimization - Scalability testing and analysis - Cloud hosting and load balancing experiments - Disaster recovery planning and simulations.

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3. Guidance & Expertise

Coach/Mentor

Education: Master degree in Computer Sciences from the Technical University in Varna, 27 years of working experience in software development
Experience in coaching: 1.5 years as CRDO in a team with junior and senior software developers, providing support to junior programmers regarding software techniques, understanding the existing software, code review

There will be 5 hours per week dedicated to guidance.

Expertise / Guidance

The company is developing software solutions for more than 30 years: business applications, POS software. There are 17 programmers who exchange knowledge and support junior developers in any necessary case. The programmers have broad range of backgrounds: seniors with more than 20 years' experience and a lot of programmers with 10+ years. The level of knowledge is maintained by constantly adapting the software to the needs of the customers using contemporary IT techniques and by providing licensed courses related to the position. There are two teams: for business line applications (accounting and HR) and POS (retail software for cash desk, warehouse for supermarkets, gas stations, self-service units etc.) There will be a possibility to communicate and get to know the practices in both teams. I will be assigned to the business line team and my work will be monitored by the team leader and its members with long experience in this field.

4. Personal & Professional goals

Which aspects on personal or professional development will you further develop? Focus on soft-skills. Select a realistic three to five aspects to work on. Use previous feedback received from others (e.g. semester coaches and teachers as input).

Personal goal	Describe what exactly you want to achieve and how to work on this.
Knowledge Transfer	I want to be able to transform the theoretical knowledge about a concept into a complete product. I want to learn and improve my knowledge about the field of work I've chosen
Consistency	I want to be able to be more consistent and keep my work at a high level to ensure the high quality of the product. I will create a per week routine and use it to get a sense of the direction I am heading. I will use the weekly 5 hours of support provided by my mentor to gain insight about the level my overall performance and its consistency.
Time Management	I want to manage time better in order to keep projects going forward and increase my productivity. I will prioritize tasks using software tools and schedule meetings and recode them, so to keep track of time. I will cut down distraction by organizing my workspace(s) to prevent side-tracking and wasting time. This way I will be able to maximize my concentration and productivity while shortening timeframes for projects.

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5. (Optional) other important remarks

This document may leave out some question unanswered, and further research will be conducted during the internship semester. If there are any remark or information that is necessary on Fontys side, please contact me.