Feasibility study

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1 Introduction

The creation of a project involves several aspects, including analyzing the client domain, team competence, technical feasibility, and resources. This study aims to explore these aspects and verify whether the project can be created with available resources and knowledge. The analysis will help identify the abilities of the team, the available technologies, and the resources required for the project's successful completion.

2 Competence of the Team

The team assigned to this project is composed of nine people divided into two main groups. The first group deals with management-related issues and the second one focuses on product development.

The management team includes individuals who have a good understanding of the issues being addressed and also act as consultants. The management team is capable of resolving all issues related to project preparation and completion, including overseeing the smooth running of the project.

The goal of the project is to create a web application, so it is necessary to verify that the technical team has the capability to implement this system. The team consists of people skilled in networking and application deployment, so it should not happen that the application cannot be deployed after successful development. Since the application is divided into client-side and server-side components, we will need to further divide the team and identify capable programmers in each area. The team includes people who can design the system and those who can create user-friendly frontend of the application. There are also people in the team with experience in microservices, so there should be no fatal errors in the design. Therefore, from the technical side, the system should be implementable by our team.

3 Technical Feasibility

The creation of a web application involves the development of both client-side and server-side components. The frontend will be developed using a reactive JavaScript client, which has become a standard in web application development. Reactive JavaScript frameworks have more or less erased the difference between desktop and web applications, so there should be no problem in terms of feasibility. The application will also be divided into microservices, allowing for easy scalability, even with a large number of users or data. Increasing the number of microservices is also not a problem because they communicate with each other via a message broker. NoSQL databases will be used, and in the case of heavy traffic, proprietary databases that can handle several million queries per second (such as RavenDB) could be used. Therefore, from a technological standpoint, implementing the required system should not be a problem.

4 Resources

The final question of feasibility is whether there are options for operating the resulting system. The use of microservices offers several options. During the development of the application, it will be hosted on a home server of one of the developers. At the beginning of production, it is possible to deploy the application to a stronger server using Docker containers. As the number of users grows, individual applications will be divided into dedicated servers and heavily loaded nodes will be duplicated if necessary. The cost of operating such a system will therefore be directly proportional to the traffic in the system and the number of users.

5 Summary

Based on the client's specifications, created prototype of microservices with their communication, the state of the team, and the technical capabilities, this project is feasible, and no problems have been identified that would prevent the creation of the required system. The team is competent, and the project is technically feasible, ensuring that the resulting system can be operated within the available resources. Therefore, the project is ready to move to the next stage of development.