Feasibility Study

Introduction to Software Engineering

Fall 2022

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Submission date: 04/11/2022

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Introduction:

The project intended to be built is a child monitoring system. The project clients are parents who will keep an eye on and monitor their child's well-being from a remote location through this system. The system we are designing is a software system that meets the demands of the parents.

Feasibility Study

Scope:

The project will be built on the assumption that the camera is to be installed by the parents. The child monitoring system covers the baby's room and is controlled by the parents. It does not interact with the nanny of the baby, nor does it monitor the baby outside his room. The system provides functionalities such as receiving a real-time video from the monitoring camera, using sensor data to monitor the body temperature of the baby and notify parents if the baby is crying. The remote monitoring system is dependent on the feed from the camera video and sensors in the camera. Additionally, the system will maintain the privacy of the video feed obtained.

The project will use a small timeframe and minimized budget that guarantees delivery of the required qualities. Therefore, the expertise scope of the project is bound to the parents and the system engineers. Mouza being a lawyer could guide the developers on the quality of the privacy guidelines.

Benefits

The principal benefit of the system is that it allows the parents to easily monitor their child. Hence, it saves time and effort. The system is flexible and easy to use. That is, the clients may run the system through their devices using the remote monitoring system. This is simple since the system and the devices are integrated, which offers smooth functionality. Additionally, the system employs alert notifications to inform the parents about the condition of their child, such as the timing of the next meal, or other alerts such as their child's body temperature. Furthermore, our system is a multi-device program that can be operated on various devices, which means that both parents may access the system and monitor their child with total confidence and trust. The system prevents incidents from occurring or, at the very least, ensures the health and well-being of the child.

Technical Feasibility

We will follow the reuse-oriented approach because we can reuse certain previously developed monitoring systems, such as the camera and other sensors in the system, with some additional adjustments based on the client's demands. Moreover, this approach results in a quick delivery technique with little cost and risk.

Resources and Outline

The project will use Git version control through the GitHub hosting service to manage the project development and enhance collaboration among team members. Locally, the project will use the git bash application in Visual Studio Code to interact with the changes made to the project to GitHub. For the system design and implementation, we will use Java programming language and Eclipse IDE.

A human resource of system developers is required to build this system. Besides, the financial cost of the project is mainly invested in system engineers who design and implement the system.

The project has four primary phases. The first phase delivers the feasibility study followed by the requirements document. Once the requirements are clearly defined, the project will move into the design phase. Finally, the proposed design will be implemented to produce a prototype of the system.

Table 1. Tentative Timeline

Feasibility Report	Requirements and Specification	System Design	Prototype implementation and Delivery
04/11/2022	11/11/2022	20/11/2022	05/12/2022

Alternatives & Risks

The major risks are lacking the ability to complete the project before the deadline, and potential security breaches by third parties. Other risks are the sensors providing inaccurate readings and the unavailability of an internet connection. The former results in unnecessary notifications, disturbing the parents, and the latter renders the whole system non-functional. Some customers might not be satisfied with the product. The alternatives are to work on an already existing system by adding or deleting features and hiring experienced programmers from outside the group.