6COSC023W – Project Specifications Design and Prototype

Project Title

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This report is submitted in partial fulfillment of the requirements for the

BSc (Hons) Computer Science degree

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Date

# Purpose of this document

The purpose of this document is to:

* list the Project's overarching aim and main objectives,
* provide a refined list of project requirements classified as functional/non-functional, as well as basic /essential / luxury (or must have, should have, could have, won't have),
* discuss the method for the elicitation of requirements,
* analyse and model requirements using appropriate diagrams

All word counts in this document are approximate and are not intended to be prescriptive.

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# List of figures

Provide a list of figures, linking figure numbers to page numbers. If you can, hyperlink the page numbers/figures.

# 1. Aim and Objectives

*200 words*

The aim of creating the mobile app HiKiddo is to bridge the distance between parents and children, who are often disconnected due to the rapid pace of modern life. This application seeks to use modern technologies to offer families new and exciting ways to connect through their smartphones. It’s about creating a platform that is engaging and simple for people of all ages, promoting regular and meaningful interactions, like voice messages, photo sharing and challenges to enable creativity and soft life skills even when life gets busy.

Project Objectives:

Develop an Intuitive Interface: Build a welcoming and user-friendly interface suitable for adults and children to encourage accessible and frequent interaction.

Enhance Emotional Bonds: Employ features like voice recordings and personalised messages to deepen the emotional connection between family members. users will have the ability to capture and save stories for their family, which can be replayed at any time.

Create a Gallery for Memories: Set up a feature that enables families to upload and preserve significant moments through photos and videos, contributing to an ongoing compilation of family memories.

Implement a Task and Rewards System: Design a feature where parents can assign tasks — like washing dishes, taking out the trash, or engaging in educational activities. These tasks could not only be designed to keep the household organised but also to promote a hands-on learning experience, teaching children essential life skills. As tasks are completed, family members earn points that can lead to rewards decided by their parents.

By achieving these objectives, the HiKiddo app aims to strengthen family bonds and support the emotional development of children worldwide, tackling the challenges posed by limited parental availability in today's demanding work environment.

# 2. Requirements

Introduce the project stakeholders, the methods for the elicitation of the project requirements, how you model your requirements and relevant diagrams.

## 2.1 Stakeholders

*100 words*

Describe people and, if relevant, organisations who will be administrating, using, and in general affected by your software/application. Use a relevant diagram, if necessary.

Initially, it's essential to pinpoint who the stakeholders are. Stakeholders are people or groups affected directly or indirectly by this application. Identifying these stakeholders allows us to use specific methods to accurately determine the application needs, ensuring alignment with the user requirements and enhancing its relevance for the target audience.

A diagram of a company

Description automatically generated

Figure 1 - Stakeholder onion diagram

**Direct Impact**

At the core of the diagram, we have the mobile application representing the project itself.

**Parents and Children:** They are the primary users and are the focus of the app's purpose.

**Developers and Administrator:** These roles are critical to the creation, maintenance, and oversight of the app.

**Supportive stakeholders**

**Investors/Owners:** Could provide financial resources and have a vested interest in the app's success but are not involved in the day-to-day decisions.

**Marketing:** Responsible for promoting the app, essential for market success but not involved in development or usage.

**External Environment**

**Regulatory Bodies:** Ensure that the app complies with legal standards, indirectly influencing its features and operations.

**Third-Party Services Providers:** Offer necessary services that the app depends on, but their influence is more peripheral. Location functionalities and Firebase for database operations serve as examples of such third-party services in this application.

## 2.2 Gathering requirements

*600 words*

It is vital to employ specific techniques to gather requirements more efficiently. To achieve this, in this project, research for similar applications was conducted.

Exploring existing similar applications provided a clear view of what is currently available, establishing the foundational requirements. This approach presents an opportunity to identify unique features that can set apart the application under development.

Below are two family-oriented applications, each with features focused on family use: Life360 and FamilyAlbum.

Life360

Life360's emphasis on family safety through digital and location features is highly relevant to this project. While Life360 offers real-time location tracking and a unique crash detection system, HiKiddo aims to incorporate similar location-based safety features, ensuring parents can monitor their children’s whereabouts for safety purposes. The user-friendly interface and the tutorial guide of Life360 provide valuable insights into designing an intuitive and easy user interface for HiKiddo. The attractive design elements of Life360, such as colour schemes and animations, are aspects HiKiddo will adopt to ensure continuous user engagement.

A screenshot of a family application

Description automatically generated

FamilyAlbum:

FamilyAlbum's objective of sharing and organising family moments resonates with HiKiddo’s aim to strengthen family bonds. HiKiddo plans to take inspiration from FamilyAlbum's photo and video sharing feature but will expand it to include interactive elements like voice recording, creating other ways to interact and create personal and memorable moments.

A screenshot of a social media account

Description automatically generated

Having thoroughly tested and analysed Life360 and FamilyAlbum, I have acquired crucial insights into their functionality, user interface, and design. These insights will be merged with my innovative ideas and personal perspectives to develop a unique and distinctive application.

## 2.3 List of project requirements

*200 words*

List of Functional and Non-Functional requirements of the software/application classifying them as “Essential”, “Desirable” and “Luxury”.

|  |  |
| --- | --- |
| Functional | |
| Requirement | Category |
| Create account | Essential |
| Different user account, users and group host users | Essential |
| Login | Essential |
| Logout | Essential |
| Change password | Essential |
| Sign up | Essential |
| Join Family group | Essential |
| Create Family group | Essential |
| View Family group |  |
| Leave Family group |  |
| Add photo/videos from camera roll |  |
| Add photo/video using the camera |  |
| Record voice |  |
| Add date and title to voice recording |  |
| Delete voice recording |  |
| Host family group user add new challenges |  |
| Host family group user add rewards |  |
| User complete the challeg |  |
|  |  |
|  |  |
|  |  |
|  |  |
| Two-factor autenthication | Desirable |

## 2.4 Analysis and modelling of requirements

*600 words + diagrams*

Use formal analysis and design tools to present a high-level model of your intended application and its context. Useful tools will include but are not exclusive to: Requirements, Context Diagram, Stakeholders, Use Cases, user interface design and storyboards, and any other UML tools that will give a high level view of the system. You may also discuss Data requirements particularly if your application is data intensive, and needs the data to be in a specific format. It is advisable to consider either an ER diagram or Domain Model in these cases.

You *do not need to go to the implementation details* such as low-level class diagrams, sequence diagrams, activity diagrams, etc. These can be included in your final report where you may also discuss any modifications to your initial design and relate them to code samples.

# 3. Prototype

Link to video demonstrating a prototype that should minimally show a sample user interface and example use of the intended final product. Discuss your engagement with creating the design and intended functionality. Here, you can reference your design documents as well as data preparation and planning.

# 4. References

Include a list of cited in your text items (books, papers, websites, etc.). Use Harvard style for the purpose, or any other preferred standard referencing style.

# 5. Bibliography

Include here a list of general reading items (books, papers, websites, etc.). List the items in alphabetical order, using Harvard style to describe them.

# Appendix I

Provide additional material, if appropriate, in separate appendices.

Use one Appendix to provide a link to an on-line video demo of the prototype

Do not include any printed code as an appendix.