****

**Initial Plan**

**foodo**

**Team 11**

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Change List

* The Executive Summary was updated to mention that our app is a mobile app, and we added our findings of initial plan.
* The Table of Contents font was corrected.
* The Abbreviations section had italics removed.
* Updated change history table.
* Non-Functional Requirements were updated to be more measurable, and some requirements (e.g., scalability) were reduced in scope.
* Requirements list format changed to make them compatible with the suggested format.
* The Context Diagram removed.
* Line height inconsistencies were corrected throughout the document.
* The Gantt Chart and Work Breakdown Structure were updated to reflect the second semester's timeline.
* Milestones & Deliverables section refined.
* Software Development Process Model updated, and 2 new figures were added.
* The risks section was overhauled to reflect realistic project risks. The original risks were removed or revised for clarity and relevance.
* The Discussions section: Legal issues and SEO-related content was removed, including removing 'SEO' from the abbreviations section.
* Changed project web page address.

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Project Details

|  |  |
| --- | --- |
| **Project Name** | **foodo** |
| **Software Name** | **foodo** |
| **Company Name** | **No sponsor company** |
| **Academic Advisor** | **Dr. Serkan Genç** |
| **GitHub URL** | **https://github.com/foodoHub** |
| **WEB page** | **https://foodo.cfd** |

Individual Contributions Overview

|  |  |
| --- | --- |
| **Name, Surname** | **Summary of Contributions to the Initial Plan Document** |
| Alper Çelik | Contributed to the whole document on equal terms as his teammates. |
| Batuhan Duras | Contributed to the whole document on equal terms as his teammates. |
| Baturalp Sönmez | Contributed to the whole document on equal terms as his teammates. |
| Cemal Fırat Dağ | Contributed to the whole document on equal terms as his teammates. |
| Davut Durmaz | Contributed to the whole document on equal terms as his teammates. |

Executive Summary

“foodo” is your Artificial Intelligence (AI) powered cooking assistant, guiding you step-by-step to create delicious meals while connecting you with a community of food lovers. The mobile app has two key objectives: a social network specifically created for food enthusiasts and a smart cooking assistant. Users can share photos of their meals, gain achievements, and follow others with similar food interests through a social network. The meals shared can be cooked by other users with the help of the cooking assistant. On the other side, the cooking assistant provides personalized meal suggestions based on user preferences, available ingredients, and the time available for preparation and helps the user throughout the cooking process. The cooking assistant guides users from simple everyday meals to special occasion dinners. It even sets notifications for timed steps in recipes. Whether you're a beginner learning to cook or an expert, the cooking assistant adapts to your skill level and helps you make the most of your cooking experience.

The Initial Plan document provides a detailed overview of the "foodo" project’s objectives, requirements, and development strategy, outlining the two primary features: an AI-powered cooking assistant and a social platform for food sharing. It specifies key functional and non-functional requirements, like personalized meal suggestions, and social feed integration. The chosen technologies include React Native with TypeScript for IOS and Android development, Spring & Node.js for the backend, AWS for cloud infrastructure, Python for AIOps, and QDrant with LLMs for AI functionality. We are going to use the Waterfall model in the first semester to fit CTIS-411’s document-based structure. In the second semester, we’ll shift to a Scrum-inspired code and fix approach to produce continuous increments. The document concludes that the project is technically feasible and capable of filling a unique gap in the market by offering an engaging and educational platform for users of all skill levels.[[1]](#footnote-1)

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Abbreviations

|  |  |
| --- | --- |
| AI | Artificial Intelligence |
| AWS | Amazon Web Services |
| GCP | Google Cloud Platform |
| GDPR | General Data Protection Regulation |
| GenAI | Generative Artificial Intelligence |
| KVKK | Kullanıcı Verilerini Koruma Kanunu |
| MS | Microsoft |
| SDD | Software Design Document |
| SPMP | Software Project Management Plan |
| SRS | Software Requirements Specification |
| UI | User Interface |
| UML | Unified Modeling Language |
| UX | User Experience |

# Product Purpose

We realized that there is a need for a social network specifically for food enthusiasts and cooking. Along with this, we realized that following recipes can be a challenging thing to do, so we wanted to come up with a more interactive and feasible way of cooking. The purpose of developing this product is to improve the cooking experience with AI guidance and create a social gastronomy community. The product overcomes the problems of traditional cooking methodology. The motivation behind developing “foodo” comes from a common problem we observed in university dormitories: many students struggle to cook for themselves. With this app, we aim to fill that gap by providing an interactive solution that helps users start their cooking journey with confidence. We investigated the market for similar products. There are products such as globally Tasty or locally nefisyemektarifleri.com and Yummly. Tasty only offers popular recipes to users, while Yummly helps users find the recipe they want by giving them predefined multiple options one after another, but this method will confuse someone who is new to cooking. Our product overcomes this limitation of predefined options with the ability to talk to the cooking assistant. Tasty and Yummly offer comprehensive recipes and some customization, but they lack guidance and community engagement.[[2]](#footnote-2)

grafik, yazı tipi, tasarım, tipografi içeren bir resim

Açıklama otomatik olarak oluşturuldu

Figure 1. First Logo Sketch for "foodo"

# Product Requirements

1. **Functional Requirements:**

**FReq1 - User Onboarding:**

The app must provide an intuitive onboarding process to gather initial user preferences, such as dietary restrictions, favorite meals, and cooking skill level.

**Freq2 – AI Cooking Assistant:**

**FReq2.1 - Meal Suggestions:**

Users must be able to interact with the AI assistant via text to receive personalized meal suggestions based on available ingredients, dietary preferences, special occasions (e.g. "romantic dinner" or "birthday party") and cooking time limits.

**FReq2.2 - Step-by-Step Cooking Instructions:**

The AI assistant must provide step-by-step cooking instructions, adjusting the level of detail based on the user's cooking experience. The app must allow users to ask for specific instructions, such as using kitchen appliances (e.g. air fryer).

**Freq3 – Social Features:**

**FReq3.1 - User Profiles and Friend Requests:**

Users must have personal profiles to display their cooking achievements, preferences and posts.

**Freq3.2 – Friend Requests**:

Users must have the ability to send, accept, and manage friend requests.

**FReq3.3 - Posting, Liking, and Commenting:**

Users must be able to post meal images, like and comment on posts, and manage their own posts and comments.

**FReq3.4 - Feed:**

The app must provide two dynamic feeds: one showing posts from friends and another with recommended posts based on user preferences and activity.

**FReq4 - Achievement System:**

Users must be able to earn achievements by cooking recipes and sharing posts.

**FReq5 - Feedback Mechanism:**

Users must be able to give feedback about User Interface (UI), User Experience (UX) and Generative Artificial Intelligence (GenAI) responses.

1. **Nonfunctional Requirements:**

**NFReq1 - Security:**

The app must use Transport Layer Security 1.2 or higher for secure connection. The services must inter-communicate inside a private network. Unnecessary transport layer ports except 443 and 22666 (for SSH) on our servers mustn’t be open.

**NFReq2 - Compatibility:**

The app must use Transport Layer Security for secure connection. The services must inter-communicate inside a private network. Unnecessary transport layer ports on our servers mustn’t be open.

**NFReq3 - Maintainability:**

The app must be compatible with the latest versions of iOS and Android operating systems.

**NFReq4 - User-Centered Design:**

**NFReq4.1 - Attracting UI & UX:**

The app must provide an attractive UI & UX which got inspired from the most popular applications. The developers must update the UI & UX based on feedback.

**NFReq4.2 - Ease of use:**

The app must be easy to use and navigate, allowing users to access features with minimum count of steps. It should provide clear guidance for new users.

# Project Scope

**In Scope**

**Project Planning and Management:**

Preparation of project documentation, including the Initial Plan, Business Model Canvas, Software Requirements Specification (SRS), Software Project Management Plan (SPMP), Software Design Document (SDD), and final reports.

Scheduling, monitoring, and controlling project activities to meet deadlines and quality standards.

**Requirements Gathering:**

Defining functional and non-functional requirements for the AI assistant and social network features.

**Architecture Design:**

Designing the overall system architecture, including backend services, database schemas, AI integration, and mobile app structure.

Selecting appropriate technologies and tools (e.g. React Native, AI platforms, cloud services).

**Software Development:**

Developing the mobile application frontend using React Native, ensuring compatibility with the latest iOS and Android versions. Implementing Backend Services, Application Programming Interfaces, and Databases. Integrating AI functionalities for personalized recipe suggestions and interactive cooking guidance.

**UI & UX Design:**

Designing an attractive and intuitive UI and UX inspired by popular applications.

Iteratively improving UI & UX based on user feedback.

**Testing and Quality Assurance:**

Conducting system integration testing, system testing, and UI & UX to ensure the app meets quality standards.

Ensuring compliance with data privacy regulations (GDPR & KVKK) and data security requirements.

**Deployment and Maintenance:**

Getting the app ready to deploy to the application to app stores (Google Play Store and Apple App Store).

**Reporting**:

Regularly reporting progress to stakeholders, including the project advisor and course coordinator.

**Project Deliverables:**

Initial Plan and Business Model Canvas.

Requirements Prototype, SRS, SPMP, SDD documents.

First Increment Product (prototype).

Continuous Increments (Every 4 weeks, starting from second semester)

Final product (fully functional app).

Presentations and demos.

**Out of Scope**

**Monetization Features:**

Implementation of in-app purchases, subscriptions, or advertisements is excluded.

**Integration with External Services Not Specified:**

Integration with grocery delivery services or other third-party platforms beyond planned services (e.g. Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft (MS) Azure).

**Web Platform Development:**

Development of a web version of the application; the focus is solely on mobile platforms (iOS and Android).

**Localization Beyond Initial Language:**

Support for additional languages other than English is not included.

**Constraints and Limitations**

**Time Constraints:**

The project must be completed by the end of Spring 2025 Semester, following the academic schedule.

**Resource Constraints:**

No budget, relying on free or student versions of software and services.

Team members' availability, balancing project work with other academic responsibilities.

**Technical Constraints:**

Compliance with data privacy laws (GDPR & KVKK).

Dependence on the availability and reliability of selected technologies and platforms.

Table 1. Work Breakdown Structure

A screenshot of a computer

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* 1. Milestones & Deliverables

**Initial Planning (September 16 - October 9, 2024):**

Prepare the Initial Plan Document and Business Model Canvas.

Define project scope, stakeholders, and communication channels.

**Deliverable**: Initial Plan (Due: October 9)

**Requirements Gathering and Specification (October 10 - November 9, 2024):**

Gather functional and non-functional requirements.

Develop Unified Modeling Language (UML) Use Case models and non-functional requirements.

**Deliverable**: SRS Document and Requirements Prototype (Due: November 9)

**Project Management Planning (November 11 - December 4, 2024):**

Prepare the Software Project Management Plan (SPMP).

Define milestones, risk analysis, and task assignments.

**Deliverable**: SPMP Document (Due: December 4)

**Design and First Increment (November 2024 - January 9, 2025):**

Develop the SDD and create UML diagrams for the system architecture.

Complete the first increment of the product, including a working prototype of core features.

**Deliverable 1**: SDD Document (Due: January 8)

**Deliverable 2**: First Increment Presentation (January 9)

**Developing** **Second Increment (January 13 – January 27, 2025):**

Software development for the second increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Second Increment (January 27)

**Developing Third Increment (January 28 – February 24, 2025):**

Software development for the third increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Third Increment (February 24)

**Developing Fourth Increment (February 25 – March 24, 2025):**

Software development for the fourth increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Fourth Increment (March 24)

**Developing Fifth Increment (March 25 – April 21, 2025):**

Software development for the fifth increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Fifth Increment (April 21)

**Developing Sixth Increment (April 22 – May 20, 2025):**

Software development for the sixth increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Sixth Increment (May 20)

**Final Presentation Including preparation (May 2025):**

Preparation of visual documents, videos for final presentation.

Presenting the final product to all stakeholders.

**Deliverable:** Senior Project Poster Presentation (May 2025)

**Developing Final Increment (May 21 – June 9, 2025):**

Software development for the final increment and feedback session with Dr. Serkan Genç (Project Advisor)

**Deliverable:** Final Increment (June 9)

A screenshot of a project

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Figure 2. GANTT Chart

# Software Development Process Model

In the first semester, we will follow a traditional Waterfall model, focusing on a structured process where we produce multiple key documents, such as the Software Requirements Specifications (SRS), Software Project Management Plan (SPMP), and Software Design Document (SDD). By the end of the semester, we aim to deliver a working increment of the product, just as shown in the waterfall diagram (Figure 3). This approach helps us manage initial phases like planning, requirements, and design in a clear, sequential way, ensuring that all stakeholders are aligned on the vision.

We initially chose the Waterfall model because, due to the structure of the CTIS-411 Course, we must consecutively produce documents like the Initial Plan, “Business Model Canvas, and others before the first product increment. This ensures our project will have well-understood requirements from the outset, which is a key feature of the Waterfall methodology. We also incorporate feedback loops after each phase to revisit and refine earlier stages based on new insights, ensuring early risk identification and mitigation.

A diagram of software project management

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Figure 3. SDPM of First Semester

However, in the second semester, we plan to shift to a more agile and dynamic methodology, combining elements of the Scrum framework with a “code and fix” approach. Specifically, we will incorporate key Scrum elements such as a product backlog to prioritize tasks, a sprint cycle for iterative development, planning meetings to set goals and review meetings to assess progress and integrate feedback.[[3]](#footnote-3) This will allow us to leverage continuous feedback into the development process. Our workflow will include a product backlog which is our SRS document, which defines the scope and key tasks that need to be completed. We will hold two weekly meetings: a planning meeting on Monday, where we set goals and tasks for the week, and a review meeting on Friday, where we assess progress, provide feedback, and discuss what needs to be improved or adjusted.

The reason we split these meetings is to give ourselves breathing room between planning and execution, as many of us have part-time jobs, and managing time effectively is crucial. This break between meetings allows team members to focus, avoid burnout, and come back to the table with fresh perspectives. By incorporating both the flexibility of an agile approach and the structure of waterfall principles, we aim to find a balanced, efficient workflow that works with our schedules and still maintains high productivity and quality.

A blue and yellow circle with arrows

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Figure 4. SDPM of Second Semester

# Project Stakeholders and Organization

* 1. Project Stakeholders:

**Project Team Members (Primary Stakeholders):** Cemal Fırat Dağ, Baturalp Sönmez, Batuhan Duras, Alper Çelik, Davut Durmaz

Development team responsible for ideas, design, development, testing, and final delivery of the product. Each team member will contribute to different areas of the project, such as backend development, mobile app development, AI integration, and testing. They are also responsible for ensuring that project milestones are met on time.

**Project Advisor:** Dr. Serkan Genç

Academic advisor, providing guidance and feedback on project development and ensuring that the project meets the academic requirements. Regularly reviews project progress, helps resolve technical challenges, and ensures that the project stays aligned with academic standards. Project advisor will also provide critical feedback during key milestones.

**Course Coordinator:** Dr. Oumout Chouseinoglou

Course instructor and coordinator, ensuring that the project meets course requirements and deadlines.

**End Users (Future Users of the App)**

People who struggle while preparing food and Food Enthusiasts:

Target users who will eventually benefit from the product. Their potential preferences shape the app’s features, interface, and UX. As the main beneficiaries, their feedback will drive future improvements and iterations of the product.

**Potential Investor:** Madlen

Our team member Baturalp Sönmez is an employee of Madlen, and the company might be offering us cloud credits in the future.

**Project Committee:** Lecturers of Information Systems and Technologies department of Bilkent University

Even though we don’t expect any impact which is sourced by the project committee on our project, their decisions might affect our project (e.g. deadlines might be changed by them).

**3rd Party Providers**

AWS, GCP, MS Azure are the cloud services we plan to use. They directly affect our costs.

Zoom, Bilkent mailing system, Discord, WhatsApp, Zoom are the main communication channels we use. Any problem with these services directly impacts our development process.

We plan to use open-source software like PostgreSQL, Redis, QDrant. Any transition from open-source to paid plan or software directly impacts us.

We plan to use GitHub for version control as it has student plan etc. Any change in GitHub pricing directly affects us.

* 1. Project Organization:

**Project Manager:** Batuhan Duras

He leads our team. He is responsible of the project organization, team meetings, and decision making. He monitors the entire process.

**Tech Lead:** Baturalp Sönmez

He is responsible for the technologies we will be developing our product. Our team members will get his advice on technical matters.

**Development Team:** All Team Members

Each team member is responsible for different aspects of the project, such as mobile app development, AI chatbot integration, backend services, and database management.

**Reporting Structure**

The team reports progress to Batuhan Duras (as project manager), who is responsible for summarizing and communicating updates to Dr. Serkan Genç (advisor) and Dr. Oumout Chouseinoglou (course instructor). The feedback from these stakeholders is then relayed to the entire team for any necessary changes or adjustments.

# Project Communication

The foodo project has several communication channels for smooth collaboration and effective interaction with stakeholders. The internal communication is handled via Discord, including resources, useful links, to-do lists, meeting planning, meeting notes and video chat among the developers. We also use WhatsApp, where we have three groups different purposes: one for announcements only, another for informal communication (chit-chat) amongst the developers and the last one for formal communication: planning, coordinating meetings and finally informal discussions of ideas. In this way, conversations could be focused while the structure for official communications would not get blurred.[[4]](#footnote-4) Communications with stakeholders are handled through Zoom for formal meetings and email for updates and reporting of milestones. The stakeholders can view how the project is developing via GitHub. Additionally, GitHub is being used for technical task management as a tool. Meeting notes of both the team and stakeholder meetings are kept constantly in the relevant Discord channels.

Table 2. Project Communication

|  |  |  |
| --- | --- | --- |
| **Channel** | **Purpose** | **Usage Features** |
| Discord | Internal communication for team collaboration and task management | -Resources, useful links, and to-do lists shared among team members  -Meeting planning and notes  -Video chat  -Keeps development tasks organized |
| WhatsApp | Announcements, planning, and informal communication | -Planning and coordination  -Casual discussions and bonding |
| Zoom | Formal meetings with stakeholders | -Used for formal meetings with external stakeholders  -Allows real-time discussions for decision-making |
| Email | Reporting and updates to stakeholders | -Official project updates and milestone reporting  -Formal communication with external stakeholders |
| GitHub | Progress tracking and code/documentation repository | -Tracks progress on deliverables  -Central repository for code and documentation |

# Project Change Control

For managing project changes, we will be utilizing Git for version control and change tracking. Our team will follow a structured process for any project-related changes.

We have created a dedicated [GitHub Organization](https://github.com/foodoHub) for the project named foodoHub, which will serve as the primary platform for version control and collaborative development. All coding and source code for the project will be managed within GitHub repositories under this organization. Each feature and update will be developed, reviewed, and merged through a pull request process, ensuring code quality and peer review at every stage. To maintain a clear development workflow, we will utilize Git branching strategies, such as feature branches, bug fix branches, and release branches, to keep the codebase organized.[[5]](#footnote-5) GitHub Issues and Pull Requests will be utilized to track feature requests, bugs, and discussion points, ensuring that all changes are well-documented and transparent to the entire team.

For project changes regarding documentation, we are also going to utilize GitHub. We have a [project-docs repository](https://github.com/foodoHub/project-docs), this repository contains essential project documents, templates, and deliverables for the team's ongoing work.

After each meeting and session with the team where we work on project documents, we upload the newer versions we created. This change control system serves as a central hub for storing, versioning, and managing all project-related files, ensuring that the team can easily access and collaborate on necessary documentation.[[6]](#footnote-6)

Table 3. GitHub Resources for Project Change Control

|  |  |  |
| --- | --- | --- |
| **Info** | **Description** | **URL** |
| GitHub Organization | Main organization for the project | <https://github.com/foodoHub> |
| Project Docs Repository | Repository for all project-related documents and templates | <https://github.com/foodoHub/project-docs> |
| Web Page | Project's GitHub web page | <https://foodohub.github.io/> |

# Assumptions

**AWS:** We assume AWS will provide reliable cloud functionality. It is critical for hosting and scaling our application.

**Open-Source Software (Redis, PostgreSQL etc.):** We assume that open-source software that we will use such as Redis and PostgreSQL will remain open-source and free to use throughout the development and deployment phases. Since our project depends on these technologies.

**Expo:** We assume that Expo will remain a reliable platform for building and simulating our React Native application, which allows us to streamline development across different devices.

**OpenAI**: We assume OpenAI’s services will remain operational and capable of responding efficiently.

**GitHub:** We rely on GitHub for version control and assume it will continue to serve as a stable platform for managing our codebase and collaboration.

**Google Vertex AI & MS Azure & OpenAI:** We will use their Large Language Model’s. We assume they will give us credit or free limits.

**Discord:** We assume Discord will remain available as our primary tool for internal communication and task management among the development team.

**WhatsApp:** We assume WhatsApp will continue to be used for informal communication, planning, and quick updates among the team members.

**Email Services:** We rely on email for formal communication with stakeholders and assume email services will remain functional for project updates and milestone reporting.

**Team Coordination:** We assume that all of our team members will show up to all of the meetings and do their part of the work regularly.

# Risks

**Project Member Motivation:** There is a medium probability of the risk of the stress caused by balancing the project with our other academic responsibilities and part-time jobs which leads to burnout, may affect our performance and motivation and have a high impact on project timelines and output quality. As our workload (both in school and work) increases daily, it's crucial to maintain a supportive environment where team members feel valued. To address this, we focus on redistributing tasks when necessary, offering flexible deadlines, and being as tolerant as possible to ensure that no single team member is overwhelmed. For example, if a team member has a work task, homework, or cannot attend a scheduled senior project meeting, we aim to be understanding to maintain their motivation for the project. Additionally, we encourage daily interactions through chit-chat in our WhatsApp project group to boost morale and foster a sense of connection.

**Team Collaboration and Coordination:** Effective collaboration and coordination are essential for the success of this project, especially considering that team members are managing other academic and personal commitments. There is a medium probability of risk of Miscommunication and misalignment in task execution which could lead to redundancies or missed objectives, which will disrupt the project's flow and have a high impact by slowing down progress and causing unnecessary friction among team members. To mitigate this risk, communication platforms like Discord and WhatsApp should continue to be used effectively, as already outlined in the project plan. Regular sync meetings—whether daily or weekly—will ensure that everyone is up-to-date and working towards the same goals. These meetings should serve as checkpoints to clear up any misunderstandings, allocate tasks, and track the project’s overall progress. Without proper coordination, the project risks slowing down, which could create frustration among team members and lead to bottlenecks. For example, we created our initial plan with effective coordination; however, if we had done this task individually (without feedback from other team members), our initial plan would not have been coherent.

**Project Delays and Missed Deadlines:** There is a high probability that the risk of missed deadlines or project delays is heightened by the complexity of the project and the external pressures each team member faces, such as academic work or part-time jobs. With a high potential impact, delays in critical milestones can create a cascading effect that disrupts the entire project timeline. Technical challenges, particularly around our AI integration, could extend task durations or disrupt the timeline if not properly managed. To mitigate this risk, we will track our tasks and responsibilities by breaking down large tasks into smaller, more manageable units. Regularly assessing which tasks are most critical and adjusting the timeline when necessary will help ensure that the team stays on track.

**Health Issues**: The low probability of risk of team members experiencing health issues caused by seasonal changes, stress, poor nutrition, and extended screen time—such as flu, mental breakdowns, and obesity—can affect productivity and lead to project delays. With a moderate potential impact, health issues may slow down productivity, but flexible management can help prevent significant delays. To mitigate this, it is important for team members to prioritize their well-being. Additionally, if a team member is experiencing health-related challenges, task redistribution or deadline flexibility may be necessary to ensure their responsibilities are covered without adding extra stress to the team.

**Communication Problems:** Clear and efficient communication is essential for maintaining project momentum, especially when it comes to reaching out to key individuals like Dr. Serkan Genç or coordinating between team members. However, there is a medium probability of risk of communication gaps, which can have a low impact on the project. For instance, difficulties in contacting Dr. Serkan Genç for approvals or feedback could lead to stalled progress, as certain tasks may depend on his input. This could delay decision-making and disrupt the overall timeline. Additionally, if messages or updates shared within the team are misunderstood or go unnoticed, it could lead to misaligned efforts, confusion about priorities, and tasks being duplicated or neglected.

To mitigate this risk, it's important to have clear protocols for communication. For instance, establishing a preferred method and time to reach Dr. Serkan Genç can ensure quicker responses. For internal team interactions, using structured formats for updates (like brief summaries or bullet points) and acknowledging receipt of messages can help reduce misunderstandings. Regularly scheduled touchpoints can also ensure that everyone is on the same page, and if urgent communication is needed, identifying alternate points of contact or backup communication channels (e.g., a phone call if a message is not responded to within a reasonable time) can prevent delays.

**Document Inconsistency:** There is a medium probability of document inconsistency, where team members might accidentally share incorrect, outdated, or incomplete versions of documents, images, figures, or tables. For example, someone could mistakenly send an earlier version of a report or include incorrect data in a presentation. Such issues can lead to confusion, errors in the project deliverables, and potentially cause delays if team members work off the wrong information. The impact of this risk is high, as it can disrupt the workflow and require extra time to correct mistakes, especially during critical phases like finalizing the project report or preparing for presentations.

To mitigate this, it's essential to implement strict version control practices. This could include using cloud-based collaboration tools (e.g., Google Drive, OneDrive) with clearly labeled folders and naming conventions to ensure everyone is working on the latest document version. Regular check-ins to confirm that the correct files are being used and maintaining a single, central repository for final versions can help avoid these issues.[[7]](#footnote-7)

Table 4. Risk Analysis

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Description automatically generated

The risk analysis table quantifies the potential challenges our project may face, using a scoring system based on two key factors: Probability Levels (Low = 1, Medium = 2, High = 3) and Impact Levels (Low = 1, Moderate = 2, High = 3). By multiplying these values, we get a **risk score** that highlights which issues could have the greatest effect on the project's success. The scores are categorized as follows: **1-3 is Low risk**, **4-6 is Moderate risk**, and **7-9 is High risk**. However, the table alone does not outline what actions will be taken to address these risks, so we need to prioritize the risks with higher scores and develop clear strategies for managing them. Below are comments on each specific risk and what actions we plan to take if they arise:

1. **Project Member Motivation**: With a risk score of 6.00 (moderate risk), maintaining team motivation is crucial. If we notice team members showing signs of burnout or stress, we will immediately reassess and redistribute tasks, offer flexible deadlines, and ensure open communication to provide support and keep morale high.
2. **Team Collaboration and Coordination**: This risk also scores 6.00, placing it in the moderate-risk category, indicating that communication breakdowns could disrupt progress significantly. In case of coordination issues, we will organize additional sync meetings to realign goals, clarify tasks, and resolve misunderstandings promptly to keep the project moving smoothly.
3. **Project Delays and Missed Deadlines**: At 9.00, this is a high-risk factor, indicating a high probability of occurrence and serious consequences. If delays start to occur, we will break down larger tasks into smaller, manageable units, adjust timelines as needed, and implement frequent progress reviews to identify and resolve bottlenecks quickly, ensuring the project remains on schedule.
4. **Health Issues**: With a lower score of 2.00 (low risk), health-related issues are less likely but can still cause disruptions. If a team member encounters health problems, we will redistribute their tasks to others temporarily, offer flexible deadlines, and encourage them to take time off to recover without feeling pressured, ensuring that their responsibilities are covered.
5. **Communication Problems**: This has a score of 2.00, placing it in the low-risk category, meaning there is a medium probability of communication issues, but their impact on the project is likely minimal. If we face communication gaps, we will revert to using alternate methods, such as phone calls or quick video meetings, and establish clearer communication protocols to ensure that messages are received and understood.
6. **Document Inconsistency**: Scoring 6.00, this is a moderate-risk issue that can lead to significant workflow disruptions if not managed properly. Should document inconsistencies arise, we will implement stricter version control measures, conduct regular file audits, and ensure that all team members are updated on the correct versions to prevent confusion and errors, particularly during critical project phases.

By understanding these risk scores, we can identify areas that require the most attention and allocate resources to mitigate higher-priority risks effectively. If issues like poor coordination or missed deadlines do arise, having a proactive plan will allow us to adapt quickly and minimize their impact on the project timeline and deliverables.[[8]](#footnote-8)

# Discussions

## Limitations and Constraints

Since all of our team members are working part time jobs It was hard for us to meet. Schedule of each team member was constraining our meeting times. But by looking at our priorities we managed to meet all of us in person multiple times for the initial plan.

## Health and Safety Issues

During the preparation of the initial plan, we experienced health and safety issues such as poor eating habits like excessive fast-food consumption, overuse of caffeine, as well as neck, bone, and muscle pain due to prolonged screen time.[[9]](#footnote-9)

## Legal Issues

We did not encounter any legal issues.

## Economic Issues and Constraints

We had to buy a MS Office subscription (Figure 4) to meet the document formatting rules.

A screenshot of a computer error

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Figure 5. MS Office Subscription Billing

Since we had to work till late hours we had to pay large amounts for coffee.

A screen with a price list

Description automatically generated with medium confidence

Figure 6. Coffee Billing

## Sustainability

During the preparation of the initial plan, we focused on sustainability by using water fountains around campus to fill our water bottles, avoiding paper by relying on digital documents and spreadsheets, and using our own thermos for coffee instead of plastic cups.

## Ethical Issues

While creating the initial plan, we ensured that all challenges, limitations and expected outcomes were reported honestly. There was a focus on transparency in setting achievable goals without overstating our capabilities.

Ensuring that the workload was fairly distributed among all team members during the preparation of the initial plan was key to maintaining ethical collaboration.

We strived to set realistic expectations for our stakeholders, making sure not to over-promise on the deliverables or timelines in the initial plan.

We were mindful of any potential conflicts of interest while designing the project plan. For example, if any team member had a relationship with potential vendors or service providers, we addressed it to avoid bias in decision-making.[[10]](#footnote-10)

## Multidisciplinary Collaboration

We did not take any multidisciplinary collaboration while preparing the Initial Plan.

# Curriculum Vitae

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A close-up of a cv

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A close-up of a resume

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# References

**There are no sources in the current document.**

1. GenAI tool: ChatGPT 4

   Prompt: “Can you please shorten the text without changing the context.”

   Rationale: To make sure that the executive summary is not more than one page. [↑](#footnote-ref-1)
2. GenAI tool: ChatGPT 4

   Prompt: “Can you give similar competitors to our product.”

   Rationale: To learn more about our competitors. [↑](#footnote-ref-2)
3. GenAI tool: ChatGPT 4o

   Prompt: “summarize used scrum elements into one sentence”

   Rationale: To create a sentence that summarizes which scrum elements that are used in our process model. [↑](#footnote-ref-3)
4. GenAI tool: ChatGPT 3.5

   Prompt: “How can we improve our answer about our project communication channels?”

   Rationale: To improve our answer. [↑](#footnote-ref-4)
5. GenAI tool: ChatGPT 4.0

   Prompt “Write a paragraph about using GitHub for version controls

   Rationale: We modified parts of it to better fit our specific project needs. [↑](#footnote-ref-5)
6. GenAI tool: ChatGPT 4.0

   Prompt: “Improve the formality and clarity of this paragraph.

   Rationale: Making it more formal and structured. [↑](#footnote-ref-6)
7. GenAI tool: ChatGPT 4.0

   Prompt “Extend our risk texts and make them more detailed”

   Rationale: To create extended version of the text and improve language [↑](#footnote-ref-7)
8. GenAI tool: ChatGPT 4o

   Prompt “Extend our risk analysis texts and make them more detailed”

   Rationale: To create extended version of the text and improve language [↑](#footnote-ref-8)
9. GenAI tool: ChatGPT 4o

   Prompt “Health and Safety Issues say bad eating fast food, neck pain bone and muscle pain etc. shortly make it more formal”

   Rationale: To make it a formal sentence [↑](#footnote-ref-9)
10. GenAI tool: ChatGPT 4.0

    Prompt “Can you give the Ethical Issues for our project.”

    Rationale: To assess the ethical issues [↑](#footnote-ref-10)