OuluEats – Mobile App
Project Plan

Version 0.3

Version history

Version	Date	Description	Done by
0.3	24.4.2023	Cleaned up the document, and removed instruction texts	PG
0.2	19.4.2023	Changes and improvements	PG
0.1	10.4.2023	Changes and improvements	PG
0.0	28.3.2023	Applying TOL Project Plan template version 0.5	PG

Change management

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1 Project Overview and Targets

1.1 Assignment and Purpose

The main goal of the project assignment is to create a map-based application that assists new students to explore the City of Oulu resturants. The app is supposed to help with finding the most important places, and in our case the best and most popular restaurants. The application is designed to provide guidance on locations of Oulu's restaurant offering to help those who are not familiar with the city to know what to try knowing others have found their food good. The app aims to provide a user-friendly user interface that makes it easy and simple for new students to navigate the city and the best places to eat at. The objective with this project is to create a useful tool that can aid new students in acclimating to the new city and its surroundings quickly and efficiently.

The project results are intended to act as a valuable resource for new students that have recently moved to study in Oulu. The map-based application will act as assistant to help students locate all restaurants in Oulu in addition to providing reviews and ratings of them to recognize the best ones. The application can be accessed on mobile devices, making it easy to use on-the-go too. The app will most importantly provide a detailed and user-friendly map of the city that highlights Oulu's restaurants, including their addresses, phone numbers, web page links, opening hours, ratings, reviews, photos, and other helpful information.

To achieve the project goals, the team will undertake activities such as designing the application interface, developing the software plan, creating a prototype implementation, and testing the application to ensure its functionality and usability, as well as conducting research which aims to identify all of the city's restaurants.

The expected benefits include a vastly improved experience for new students arriving in the City of Oulu. The application will help them find the best places to eat at easily, to help with a smooth transition to their new environment. The application will also help the faculty student tutors by providing them with a valuable tool to guide new students and enhance their experience in Oulu.

As mentioned, the project will include research about the restaurants in Oulu. This will help the project team to create a map-based application that includes a list of all restaurants and nice-to-know information regarding them. The design will include a user-friendly interface for the application that allows new students to find the restaurants they want to go to quickly and

easily. The application will be developed following a software plan, after which a prototype will be created, whose functionality and usability will then be tested.

The application will provide all the information in English to answer the needs of international students not knowing Finnish. The team will design the application to work on both iOS and Android operating systems to make it accessible to a wider range of users.

However, the project will not be providing user training. The application will instead be designed to be as intuitive and as easy to use as possible without the need for training. Another exclusion will be complex security issues, as the focus of the project is on creating a functional and user-friendly map-based application not requiring personal information to operate. This does not mean the application will not include security measures, as we are dealing with personal information as well, but the main focus will not be with complex security issues. The project will use common technologies and programming languages to ensure compatibility and scalability in case of further development in the future.

External factors such as time constraints, resource availability, user availability during the evaluation process, and budget constraints could affect the implementation and results of the project. To ensure the project's success, the project team should consider these external factors during the planning and implementation phases. By doing so, the team can adjust their plans accordingly and complete the project within the required timeline and budget while meeting the client's needs.

1.2 Results and Delivery

See appendix 2.

1.3 Dates of Deliveries and Result Reviews

Review	Result/Deliverable	Date	Participants	Issues and Practices
I	Design Documentation	w 38	Client representatives	During Sprint I, review 1st version before the 1st SG (1h). Note, the priorities for the core functionalities of the MVP to be implemented in the Prototype must be agreed.
II	Test Plan	w 42	Client representatives	During Sprint II, review before the 2nd SG (1h)*. The quality criteria must be clear for functional and UX tests.

III	Prototype	w 42	Client representatives	During Sprint II, review before the 2nd SG (1 h) Demo & acceptance criteria provided for the 2nd SG.
IV	Design Documentation	w 48	Client representatives	During Sprint IV, review 2nd version, before the final SG (1h). This review will be combined with review V.
V	Final Application as MVP	w 48	Client representatives	During Sprint IV, review before the final SG (2h). Application & acceptance criteria provided 1-2 days before the review through GitHub. Note, in addition to the acceptance criteria coming from the MVP designed, quality criteria must be considered.
VI	User Guide	w 48	Client representatives	During Sprint IV, review, before the final SG (1 h). This review will be combined with review V.
VII	User Study Report	w 50	SG	c.f SG meetings
VIII	Project Managerial Material	w 50	SG	c.f SG meetings All managerial materials of the project will be send to SG through email as one zip-file after the project has been officially closed together with the closing words by the project manager.

1.4 Acceptance of Delivery and Project Reviews

Review	Date	Acceptance
I	w 39	1st version of the Design documentation based on the review results. Project's status together with the Project Plan to be reviewed and accepted.
II	w 43	Test Plan and Prototype based on the review results. Project's status together with the Mid Report to be reviewed and accepted.
III	w 50	2nd version of the Design documentation, Final Application (MVP) and User Guide based on the review results. User Study Report to be reviewed and accepted. Project's status together with the Final Report to be reviewed and accepted.

1.5 Quality Targets

Results/Deliverables

Result/Deliverable	Quality Target	Measurement
Prototype	Application doable	The client finds the application implementable based on the prototype demonstrating the core functionalities of the application according to the priorities defined by the client in the “Design” task.
Final Application as MVP	Good UX Working	The UX test results are as “expected” or more. Will be defined in “Test planning” task. All the functional bugs have been fixed and retested as “work as expected”. Will be defined in “Test planning” task. Meets “must have” requirements, no major bugs, acceptance testing and objectives completed.

Process

Quality Target	Measurement
Within the limits of the project resources	Resources (workload) will not exceed more than +/- 20h of the planned total for each project member.
Within the schedule	For the schedule the maximum delay is 5 working days.

1.6 Project Success Criteria

Success	Measurement
Acceptable	The project results are met with quality targets set for them and for the process.
Good	In addition to previous, the application includes enough features and works well enough to be used as a demo to make decisions about the future development of the application. Demo scenarios defined to support demo session(s).
Excellent	In addition to previous, a demo video(s) of the application is prepared, and/or the application can be tested in some capacity.

2 Project Phase Plan and Schedule

In this project, we will follow a slightly modified SCRUM approach. There will be 4 sprints, with the first 3 of them lasting for 4 weeks, and the final lasting for 3 weeks.The last week of the project, week 50, is designated mainly for project closing tasks, and thus is not included in a sprint. The Daily Scrum will be implemented as a short group discussion in WhatsApp, as explained further in the document. 1st, 2nd, and 4th Sprint reviews on weeks 38, 42, and 49 will be replaced by Design, Prototype, and Final reviews and SG Meetings marked in the document. The 3rd Sprint reviews will be held accordingly on week 46. The project's phases are specified in the table below:

Phase	Description	Deliverables & Decisions	Milestone
Sprint I	Project start	Project Plan Design Documentation => Project start (official) & Features in the Prototype (& initial features to be implemented in the Final Application	1st SG
Sprint II	Prototype	Test Plan Prototype Mid Report => Project continues & Final features for the MVP	2nd SG
Sprint III	Ready for testing	=> In the SCRUM meeting with the client the application is considered ready for UX testing	
Sprint IV	Testing and accepting	Design Documentation Completed application as MVP User Guide (Demo Steps or Demo Video) User Study Report Final Report => Project results & project closing (official) defined	3rd SG
End	Closing	All defined closing tasks done and project declared officially closed	

3 Project Tasks

See appendix 4.

4 Project Resources and Workload

See appendix 5.

5 Project Facilities

5.1 Working Premises

The project team for the development and implementation of the map-based restaurant application will require a suitable working premises where they can work collaboratively on the project. The working premises will need to be equipped with necessary facilities and resources to support the development of the application.

The project team will work from a reserved office space for the project located in the University of Oulu. The office space is large enough to accommodate the entire project team along with any necessary equipment such as laptops, monitors, and other hardware.The office space also includes meeting rooms equipped with projectors, whiteboards, and teleconferencing equipment to facilitate remote collaboration. These meeting rooms will be used for project planning and collaboration. The working premises will be equipped with adequate lighting, ventilation, and ergonomic furniture to ensure that the project team can work efficiently without any undue physical strain. The working premises will be maintained to ensure that the project team has a safe and comfortable working environment.

Premise	Purpose
Office Room	For the main project office suitable working premises in University of Oulu
Meeting Room	For meetings between the project members only
Teams	For meeting with all internal and external stakeholders
Usability Lab (TOL)	For the UX testing session w 47 (to be booked well beforehand)

5.2 Hardware and Other Equipments

The project team should be equipped with laptops, extra monitors, smatphones, high-speed internet, external HDD, printer, scanner, and comfortable seating arrangement. These hardware and equipment items will be essential for the development and implementation of the map-based restaurant application.

Hardware/equipment	Purpose	Stakeholder
Laptops	Workstation for each team member	Company
Monitors	Workstation for each team member	Company
Smartphones	For testing purpose	Company
High-speed internet	Communication Connectivity	Uni Oulu
External hard drives	For local data backup	Company
Projector	For presentations in the meeting room	Uni Oulu
Whiteboard	For brainstorming and planning in meeting room	Uni Oulu
Video camera	For recording restaurant introductions and UX testing session	Company
Microphone	For audio recording	Company
Headphones	For audio editing	Company
Printer	For document printing	Uni Oulu
Scanner	For document scanning	Uni Oulu
Cloud Server	Hosting the application and database	Company

5.3 Software

The list of software used in the development and implementation of the map-based restaurant application include:

Software	Purpose	Licence
Visual Studio (IDE)	Development	Microsoft, Free
React Native	For mobile app development	Meta, Free
PostgreSQL (google cloud)	Database	Google, Pay per use
Google Maps API	For the map-based functionalities	Google
Git	Version control	Open source
Atlacian Jira	Project Management	Free for 10 users, Monthly subscription only

WhatsApp	Communication within PG	Free
Microsoft Teams	Communication within PG	Free
F-secure protection	Security software	10 Device, 129 Euro
Google Drive	Documentation	Cloud Service, Free
Figma	Design and wireframe	Cloud Service, Free

6 Project Stakeholders and Organisation

In this section we will focus on the project stakeholders and organization, including the roles and responsibilities of the project team members and stakeholders involved in the development of the map-based restaurant application.

6.1 Stakeholders

Organisation	**Expectations/priorities**
Faculty student tutors	The main users of the application who will guide new students to the most important places for a new student in the City of Oulu.
New students	The target audience of the application who will use it to explore the selected restaurants and other places in the city
Project team	The group responsible for the development, testing, and deployment of the application.
Teachers	The group works as the main instructor and evaluator of the project work.
Faculty of ITEE	Real-life project work for the project group, learning outcomes

6.2 Steering Group (SG)

The steering group for this project will consist of representatives from the following departments

Name	Organisation	Role (and expertise)
Representative of student tutors	Faculty student tutors	The client of the project. Client in SCRUM.
Representative of IT department	IT department	The client of the project. Expert on software engineering. Client and Product Owner in SCRUM.
Tonja Molin-Juustila	University of Oulu	The supervisor of the group, university lecturer, expert on project management and UX evaluation

The steering group will meet on a monthly basis to review the progress of the project, discuss any issues or challenges that have arisen, and provide guidance and direction to the project team. The project manager will provide regular updates to the steering group on the project status, including progress reports, risk assessments, and budget updates. The steering group will have the final decision-making authority on all project-related matters.

6.3 Project Group (PG)

The roles and responsibilities of the project team members are as follows:

Role	Responsibilities
Project Manager	Responsible for managing the project schedule, budget, and scope. This includes communicating with stakeholders, identifying and managing risks, and ensuring that the project is completed on time and within the budget.
Scrum Master	Responsible and accountable for establishing Scrum. Ensures that Scrum events (Sprints, Daily Scrums, Sprint Reviews etc.) are held. Improves productivity, enables agility, and acts as coach and mentor.
Mobile App Developer	Responsible for developing the the application. This includes designing and implementing the user interface, implementing the Google Maps API, developing the server-side of the application. This includes designing and implementing the REST API, managing the server, and integrating with the application and database.
Database Developer	Responsible for designing and managing the database. This includes designing the database schema, implementing data models, and managing the database.
Quality Assurance Engineer	Responsible for testing the application. This includes designing and executing test plans, identifying and reporting bugs, and ensuring that the application meets the necessary quality standards.
UI/UX Designer	Responsible for designing the user experience of the application. This includes creating wireframes, prototypes, and user flows, and ensuring that the application is easy to use and navigate

The project team will consist of the following members:

Name	Role and responsibilities (and expertise)
Elmeri Jokinen	Project manager (PM)
Mohammad Azizul Kawser	Scrum Master
Derin Ergönül	Team member responsible for documentation, technical requirement analysis, and testing
Jinyoung Jeon	Team member responsible for Graphical Design, UX testing, and programming
Isaiah Kodjo	Team member responsible for Graphical Design, UX testing, and programming

6.4 Subcontractor(s)

For this project, we do not anticipate the need for any subcontractors. The project team has the necessary skills and expertise to complete all aspects of the project. In the event that a need for subcontracting arises during the project, the steering group will review and approve any proposed subcontractors. Any subcontractors that are engaged will be required to comply with the same project requirements and standards as the project team. The project manager will be responsible for managing any subcontractors that are engaged and ensuring that they deliver their work on time and within budget.

6.5 Supplier(s)

For this project, we do not anticipate the need for any suppliers. All necessary hardware, software, and other equipment have been procured and are owned by the organization. In the event that a need for suppliers arises during the project, the steering group will review and approve any proposed suppliers. Any suppliers that are engaged will be required to comply with the same project requirements and standards as the project team. The project manager will be responsible for managing any suppliers that are engaged and ensuring that they deliver their products or services on time and within budget

6.6 Other Expert(s)

For this project, we do not anticipate the need for any external experts. The project team has the necessary skills and expertise to complete all aspects of the project. In the event that a need for external experts arises during the project, the steering group will review and approve any proposed experts. Any external experts that are engaged will be required to comply with

the same project requirements and standards as the project team. The project manager will be responsible for managing any external experts that are engaged and ensuring that they deliver their work on time and within budget.

7 Communication Plan

7.1 Contact Information

Name	Role	E-mail, mobile, skype, etc.
Lila Hummelin	SG, Client Representative	lila.hummelin@oulu.fi
Essi Lehto	SG, Product Owner, Clien Representative	essi.lehto@oulu.fi
Tonja Molin-Juustila	SG	tonja.molin-juustila@oulu.fi
Elmeri Jokinen	PM	pjokinen18@student.oulu.fi
Mohammad Azizul Kawser	PG, Scrum Master	azizul.kawser@student.oulu.fi
Isaiah Kodjo	PG	jah.kodjo@student.oulu.fi
JinYoung Jeon	PG	jinyoung.jeon@student.oulu.fi
Derin Ergönül	PG	derin.ergonul@student.oulu.fi

7.2 Formal Reports

Report	Stakeholder & Timing	Delivery
Project Plan	SG I	PDF, email
Mid Report	SG II	PDF, email
Final Report	SG III	PDF, email

7.3 Internal Reporting and Communication

Project professionals always monitor and report their working hours (i.e. resources used) for the project. Personal working hours (c.f. weekly hours used in the table below) are typically monitored and reported to the PM on regular basis (e.g. daily or weekly). Then, it becomes

easier to monitor and report the total amount of resources used for the managerial milestone (i.e. project review in the SG meeting) of the project.

Describe the particular forms and practices to be followed in your project when reporting and communicating some specific issues you consider important (e.g. weekly hours used).

What	Who & When	How
Weekly hours used	PM, all PG members, weekly	Resource Usage in Excel
Status of tasks	PM, all PG members, weekly	In Resource Usage file a short explanation of the status of those tasks you are responsible for
Day-to-day issues & questions etc.	PM, all PG members, when necessary	WhatsApp (Daily Scrum)
Longer, weekly issues & questions etc.	PM, all PG members, when necessary	Teams, Weekly PG Meeting
Major, long-span issues & questions etc.	PM, all PG/SG members, when necessary	Sprint Planning, Sprint Review or Sprint Retrospective

7.4 Meetings

7.4.1 SG Meetings

In the first SG meeting, the project plan prepared by the project team is reviewed, and the SG decides that the project is implementable and has a chance to survive, and that the project is planned to do what was actually required by the client. In the meeting, the project plan is accepted, or accepted with changes, and the decision to start the project is made.

In the second, intermediate, SG meeting, the mid report prepared by the project team will be reviewed. The mid report consists of reviews of the project results so far as well as a plan for continuation of the project. In the meeting, the report is likely accepted, or accepted with changes, and a decision on the continuation of the project is made.

In the final SG meeting, the final report prepared by the project team will be reviewed. The results of the project are also reviewed unless they have been reviewed before the meeting (then the results will be accepted based on the review minutes of these reviews). The things learned are also discussed. Finally, the final report is accepted (possibly again with some modifications), and the closing tasks of the project are discussed specifically regarding

project delivery and acceptance. Practices should be clear for declaring the project officially closed.

The official meeting practices and rules are obeyed in SG meetings. The PM calls the SG meeting by sending an invitation. A couple of days before the actual meeting, the meeting invitation & agenda will be sent in addition with other documents needed in the meeting.

The SG Meeting has a quorum if one member of the steering group is present.

Meeting	Timing	How
SG I	w 39	Project Plan & Minutes of the Result Reviews. Meeting face-to-face at University, with possibility to join over Teams.
SG II	w 43	Mid Report & Minutes of the Result Reviews. Meeting face-to-face at University, with possibility to join over Teams.
SG III	w 50	Final Report & Minutes of the Result Reviews & User Study Report (1h extra to the meeting time for the review). Meeting face-to-face at University, with possibility to join over Teams.

7.4.2 Other Regular Meetings

Meeting	Timing	How
Weekly PG Meeting	every week, Monday 10:00	Meeting at Teams
Sprint Planning	w 35, 39, 43, 47	Meeting face-to-face with possibility to join over Teams
Daily Scrum	every day	WhatsApp at 10
Sprint review & retrospective	w 46	Meeting face-to-face with possibility to join over Teams (combined with the final Sprint Planning meeting)

The Weekly Project Group Meeting is a recurring meeting where the project group comes together to discuss the status of the project, review progress, and plan for the upcoming week. The meeting is an important opportunity for team members to synchronize their efforts, collaborate on problem-solving, and ensure that everyone is aligned with the project goals. It is an overview and review of what was done last week, and what will be done this week. The meeting should start with a review of the progress made during the previous week, to ensure that everyone is aware of what has been accomplished and what still needs to be done. The group should also identify challenges, work together to identify and develop

potential solutions to address them. The project plan should be reviewed, to determine whether or not any adjustments are needed, as well as deciding what needs to be accomplished during the upcoming week, to ensure that everyone is aligned with tasks and working towards the same goals. The weekly meeting can also be used to provide feedback and support between group members. During the weekly meetings, the PM and Scrum Master are able to get a better understanding of the project's progess in addition to being able to communicate upcoming deadlines and objectives for the project group.

The Daily Scrum is a short, time-boxed meeting, of no more than 15 minutes, that takes place every day during the Sprint and provides the group with an opportunity to synchronize their work and plan for the day ahead. The Daily Scrum is a brief discussion of day-to-day matters, where each project team member summarizes what they did the previous day, what they will do today, and possible challenges they face. Unlike the Weekly PG Meeting, the Daily Scrum is not a status update for the PM or Scrum Master, but rather a meeting for the team members to share their progress, plan for the day ahead, and identify any obstacles that need to be resolved. The Daily Scrum will be held over WhatsApp. On Monday's the Daily Scrum is replaced by the Weekly PG Meeting.

Sprint Planning is an event where the team will come together at the start of each Sprint to plan and prepare for the upcoming Sprint. In Sprint Planning, the team sets objectives and defines the work to be done during the Sprint. First practice for a Sprint Planning is to determine the Sprint goal, which will provide the team with a shared understanding of the end goals, and help prioritize the work that needs to be done. A Sprint Backlog, which is a list of the tasks that the team intends to complete during the Sprint, is also be created. In a Sprint Backlog the most important tasks are should be prioritized and listed first. The project team should also estimate the time and effort needed for each task as well as identify any dependencies between them. Lastly, a Sprint Plan is created. The Sprint Plan outlines how the team will work together to achieve the set Sprint goal. It should include a schedule for daily Scrum meetings, Sprint reviews, and Sprint retrospectives, as well as any other activities that the team needs to complete during the occurring Sprint.

Sprint review and retrospective are events that take place at the end of every Sprint. The Sprint review allows the team to present the work they have completed during the Sprint. During the review, the team demonstrates the features that were completed during the Sprint to the relevant stakeholders, and explains how these features contribute to the overall project goals. Feedback should be gathered from the stakeholders to inform future sprints. This helps to ensure that the project remains aligned with the stakeholder needs and that the team is working on the most valuable and relevant features. After the Sprint review, the team

should hold a Sprint retrospective. The Sprint retrospective is a time to reflect on the Sprint as a whole, and identify areas for improvement, to increase quality and effectiveness. The retrospective should start with an open discussion of what went well and what did not during the Sprint. Sharing thoughs and ideas is encourages to promote a culture of continuous improvement and toe ensure that the team is working together to identify and address areas for improvement. Identifying areas for improvement is important so that an action plan can be developed for addressing these areas in future Sprints.

8 Important Standards and Practices

Laws and Regulations:

- Personal data privacy standards require that any personal data received from users be protected and utilized solely to develop the application. Without the user's permission, the data should not be shared with any third party.

- Copyright: All images and videos included in the program must be either free of copyright or have permission from the owners. Or else, it may result in legal troubles.

- The program must be used by all users, including those with disabilities, according to accessibility law. To guarantee that the information is accessible, the app should adhere to the WCAG standards.

Topic	Description
Project management	The TOL handbook will be used for project management to make sure that all tasks and deliverables are correctly documented and tracked.
Documenting results	The quality manual of the client will be used.
Filing	To help team members identify the most recent version of a file and understand its contents, consistent naming conventions are used, including a descriptive title, date, and version number. Frequent communication, notifications ensure that all team members stick to the established processes, saving time and reducing the possibility of errors or miscommunication.
Version control and management	All project documents, including version numbers and recorded modifications, are saved in a shared repository. To keep an accurate record of changes, the team adheres to best practices for version control. Members are constantly in contact with one another.

Backups	Backups on a regular basis, a secure storage system, testing backups to see if they work right, and keeping the storage system updated, cleaning unnecessary documents regularly are all in the plan.
Paper copies	Paper copies of certain files may be needed for the project on an as-needed basis, such as for the final design documentation, user guide, or meeting minutes. The printed versions should be the final approved versions and managed by the project manager or team member. They should be labeled clearly, stored securely.
UX testing	Test #1: User Interface (UI) Testing • Method: In-person moderated testing • Records: Audio and video recordings of the test session • Observations: Made by at least one student and written up right after the test (same day) • Target Group: Existing users of mobile restaurant applications • Number of Test Users: 7 Test #2: Navigation Testing • Method: Remote moderated testing using screen sharing software • Records: Audio and video recordings of the test session • Observations: Made by at least one student and written up right after the test (same day) • Target Group: Existing users of mobile restaurant applications • Number of Test Users: 7 Test #3: Review System Testing • Method: Remote moderated testing using screen sharing software • Records: Audio and video recordings of the test session • Observations: Made by at least one student and written up right after the test (same day) • Target Group: Users who frequently read and leave reviews for restaurants on their mobile devices • Number of Test Users: 7
SCRUM	In this project the Scrum approach will be slightly modified - the features requested by the client together with the priorities are kept. - **Sprint Backlogs** will be prepared together with the client at the beginning of each sprint - instead of Burndown Chart the **Resource Usage** template will be used (appendix 5). - the client is willing to participate the **Sprint Planning meetings** at the beginning of sprints II-IV and the **Sprint Review and Retrospective meeting** after sprint III - Project manager will book these meetings with the client as early as possible - Daily Scrum will be organized via **WhatsApp** discussions each day
Handing over	The project materials, including the source code, documentation, and any other deliverables, will be given over to the client at the end. A powerful handover strategy will be designed to ensure that the client may continue to develop and maintain the application once the project is concluded.

9 Risk Management

See appendix 6.

Appendices

1. Project assignment
2. Results and Delivery
3. Schedule
4. Tasks
5. Resource Usage
6. Risk Management Plan