**CS691 - Computer Science, Spring 2020**

**Project Initiation Document**

Project: **Handy Helper**

Project Manager: **Jack Brody**

Start Date: 01/28/2020

Completion Date: 12/18/2020

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**Document Details**

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| --- | --- | --- | --- |
| **Version** | **Modifications** | **Author** | **Date** |
| **1.0** | Project Initiation Document (PID) |  | 02/06/2020 |
| **1.1** | Updated Project Plan |  | 02/20/2020 |
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|  |  |  |  |

**Approvals**

This document requires the following approvals:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Role** | **Signature** | **Date** | **Version** |
| **Prof. Yuri** | Approver |  |  | 1.0 |

**Distribution**

This document has been distributed to:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Date of Issue** | **Version** |
| **Jack Brody** | Project Manager | 02/06/2020 | 1.0 |
| **Yang Zhao** | Project Owner | 02/06/2020 | 1.0 |
| **Abhinav Bhatt** | Lead Business Analyst | 02/06/2020 | 1.0 |
| **Curtis Morgan** | Lead Developer | 02/06/2020 | 1.0 |
| **Marlene Hasslinger** | DBA | 02/06/2020 | 1.0 |
| **Yixuan Ma** | QA/Tester | 02/06/2020 | 1.0 |
| **Venus Thakkar** | Test Manager | 02/13/2020 | 1.1 |

**Document Purpose**

The main aim of creating this document is to record basic information and manage the project, which has a role to clearly define every part of this product. The document will cover the scope, objectives, tasks, roles and responsibilities, costs and deliverables related to “Handy Helper” website.

The PID dictates the following critical aspects:

* Details of the approach to be adopted for the development of the “Handy Helper” project.
* Description of the roles, responsibilities, functions and activities.
* Explanation of the processes.
* Details of the communication plan between team members and the stakeholders.
* Quality records, risks, project controls and exceptions.

The PID document will be referred throughout the development of the project. And the parts of the document can be changed, which means that it will be changed in the PID document if any important decision is made during the development process. Basically, the PID document will be reviewed at the end of the project in order to check whether every task in the project is performed successfully and systematically and whether all deliverables are produced in a timely and effective manner.

**Background to the Proposed Work**

More and more people are working as freelancers today, but there do not yet exist many platforms for people to use in order to offer their expertise/services or to find freelancers to hire them for service tasks, such as mechanical repair, carpentry or plumbing.

The goal of the project “Handy Helper” is to

* Create a platform for people to use to hire skilled laborers (carpenters, plumbers, mechanics, etc.)
* Create a platform for people list their own services, skills and expertise for sale

The result of completing this project successfully is that it will be easier for freelancers to find work, and easier for clients to find somebody to “get the job done”. The consequences of not delivering the project are that people will maybe rather work as contractors or full-time hires than as freelancers. Also, possibly people would use other platforms to find clients to work for as a freelancer/find freelancers through.

**Vision**

As an easy-to-access service-trading platform, our project provides great opportunities for allocating/making the most of idle laborers as well as offers multiple sources for customers searching for the optimal service tailored to their needs.

**Project Objectives**

* Create an intuitive user interface prototype
* Provide functionality for users to register and log in
* Create two views for the application:
  + A view for users to offer their skills/expertise
    - Specify jobs/tasks they can perform
    - Specify their rates (hourly/per job)
    - Specify restrictions for the tasks they can perform
  + A view for users to browse through different skills/fields to find someone that can be hired for a particular job
    - Specify a criteria/job/task they are trying to find a service provider for
    - Specify their budget
    - Sort users according to their distance/ratings/other conditions
    - Specify their location to filter out non-local service providers
    - Book a service provider
    - Cancel a booking with a service provider
    - Rate service providers for the work they performed
    - Review ratings of user providers to make a well-considered choice about who to hire for a particular job
* Provide functionality for users to communicate with each other
* Provide a functionality to report a user for particular reasons

**Project Scope**

Our scope includes the creation of a web platform for users to offer their expertise/skills to potential clients and for clients to find somebody to provide a particular service. The following steps will be taken

Technical:

* Identify the skills of each team member
* Identify roles and responsibilities within the team
* Make a decision regarding the technology stack for the implementation of the application
* Design a user interface following UX best-practices.
* Set up development and testing environments

Functional:

* User will be able to view services that are offered by service providers
* Users will be able to offer their expertise/skills as service providers
* Users will be able to review ratings of service providers to make a well-thought-out choice about who to hire
* User will be able to book service providers for their skills
* Users will be able to rate service providers regarding their performance

**Business Case**

|  |  |
| --- | --- |
| Application Name | Handy Helper |
| Type of Business Model | Brokerage & Advertising |
| Target Audience of Users | Skilled laborers and consumers |
| Value Proposition | Users can hire skilled laborers (carpenters, plumbers, mechanics, etc.) or list their own services for sale. |
| Key Resources | - People offering/accomplishing jobs and tasks for users  - Platform to be able to list and find experienced workers for multiple jobs. |
| How the system is used | Web Application    Users make a profile as either a skilled laborer or a consumer. Their profile will detail their skills and experience, as well as their location and offered services and rates. A user may search for other users based on the type of service they provide.    Users may engage in a chat with one another, proposition one another for services and negotiate a price.    A user’s profile will include ratings and reviews to better offer a picture of his capabilities and reliability. r |
| Revenue generation, Revenue streams | - The app charges a transaction fee when users are hired for services.  - Paid Advertisements on Site |
| Key Partners/Suppliers  (Stakeholders) | Professionals, Clients in need of services |
| Expected Benefits | - To provide quality services which is easy to access and saves the user time.  - To provide a wide range of services to clients in need of help accomplishing different tasks.  - Flexibility for professionals to list their working hours and days of operation. |
| Known Prototypes | [Fiverr](http://fiverr.com), [UpWork](http://upwork.com), [Angielist](https://www.angieslist.com/) |

**Assumptions**

This section includes assumptions made before the requirements specifications have been documented.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assumption** | **Validated by** | **Status** | **Comments** |
| **Participation** | All Team Members | Completed | All team members have decided to commit at least 8 hours/week for this project. |
| **Meetings** | Project Manager | Completed | Project manager will schedule a team meeting once every week. |
| **Teamwork** | Project Manager | In Process | Project manager will assign and keep track on which team member is working on which task |
| **Project Resources** | QA Analyst | In Process | QA analyst will check for updates and update devices every 3 weeks. |
| **Technology** | Business Analyst | In Process | Business Analyst will keep track of the current technology. So, we stay up to date with the market. |

**Constraints**

The constraints that need to be taken into consideration for the development of the project are:

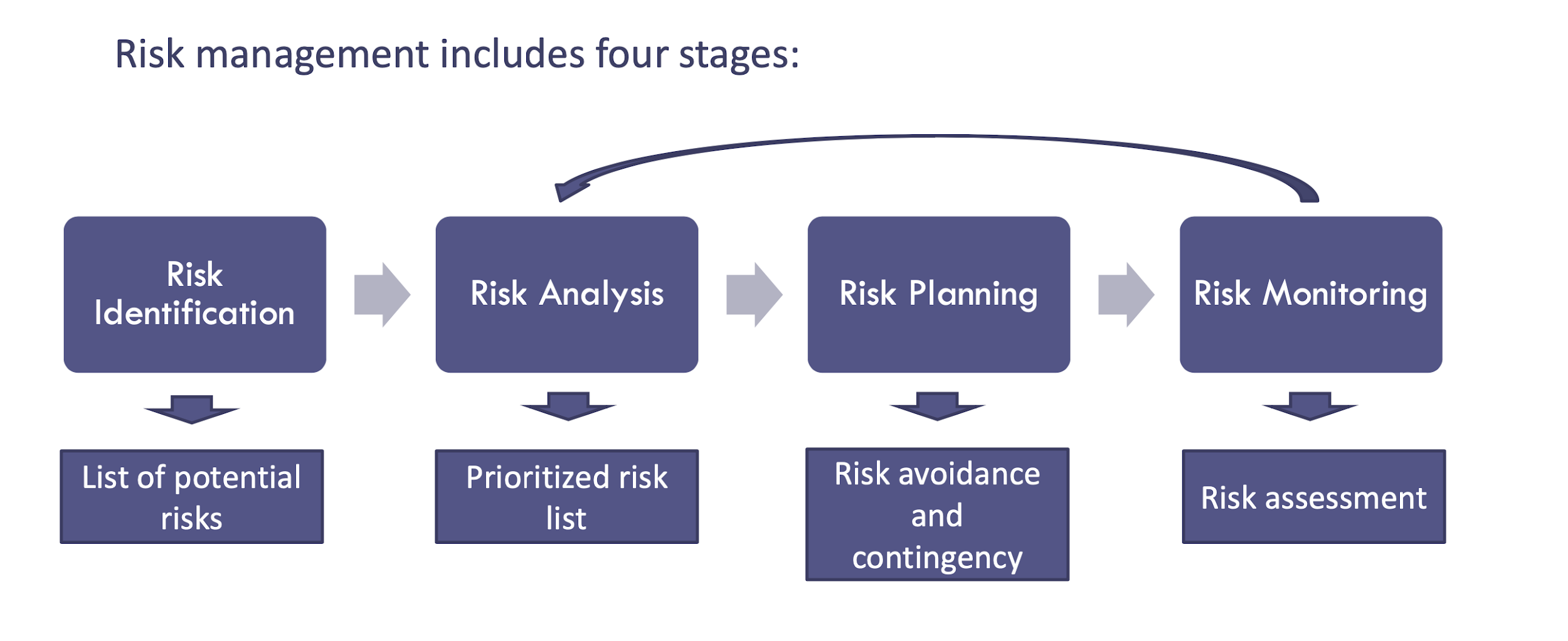
* Availability and sufficiency of skills within the team to implement the application
* Time needs to be taken into consideration, especially since some of the members on the teamwork full-time jobs. Every part of the project should be planned with a completion time in mind. Another thing is that we have to consider the meeting time in the group because everyone has his/her own things.
* Developing an application that is supported in all major browsers including Internet Explorer.

**Risk Management**

This section will include the risk mitigation and management techniques and strategies that will be applied to the project. This may be presented in the following format:

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability** | **Impact** | **Mitigation Method** |
| **Unrealistic requirements and developed functions do not match** | High | The product owner may not be satisfied with the product and keeps changing requirements if seeing original ideas unable to get realized. Unnecessary cost and time will be be wasted on remedial work. | Timely and effective communication between parties throughout the app development.  At the early stage, the product owner needs to provide thoroughly descriptive requirements to the developers and get awareness of what can be done under current technologies. |
| **Human incapabilities** | Medium | Inexperience on required skills will result in a mediocre application.  Lack of specified market knowledge will result in customer targeting failure and profit loss. | Take advantage of business case analysis.  Skill training and peer review.  Professional advertising. |
| **Unrealistic schedule** | Low | Milestones may not be achieved on time and undermine team collaboration and final product quality | Agile team/project management |
|  |  |  |  |

Alongside this, there should be a summary of the most significant risks threatening the project.



Software development involves a myriad of technological advancement and multidisciplinary knowledge, accompanied by various uncertainties and risks concealing possibly anywhere and anytime throughout the project and thus qualifying its performance. Therefore, it’s imperative to take action on risk management which includes risk identification, analysis, planning and monitoring.

The risk identification is to list all plausible risks to the project. Every step along the project proceeding will be scrutinized as to filter out all the possible areas that are vulnerable to certain kinds of risks. A precise description of each risk will be presented formally for a better understanding of nonprofessional interests.

Risk analysis evaluates the risks and prioritizes each risk as “High” or “Medium” depending on its chances of occurrence and all the conceivable cost it could induce. Respective solutions will get adopted in the order of the risks’ severity levels to suppress their possible triggering or destroying, this process known as risk planning.

After corresponding preventative or remedial treatments are carried out, risk monitoring will keep track of their performance (quantifiable measurements will be defined clearly at the stage of planning, whole implementing process will be supervised closely, and detailed outcome will be logged authentically), according to which team members make progressive adjustments and guarantee a prospective result (app executing).

**Deliverables**

|  |  |  |
| --- | --- | --- |
| **No** | **Artifact Name** | **Responsible Party** |
| **1.** | Project Proposal | Project Manager |
| **2.** | PID document | Project Manager & Product Owner |
| **3.** | Project Plan, RACI | Project Manager |
| **4.** | Requirements Types | Lead BA |
| **5.** | Analysis Diagrams | Lead BA |
| **6.** | User Requirements | Product Owner |
| **7.** | RCT | Lead BA |
| **8.** | Functional Requirements | Lead BA |
| **9.** | DB Model & ER Diagrams | DBA |
| **10.** | Architectural Diagrams | Lead Developer |
| **11.** | UML Design Diagrams | Lead Developer |
| **12.** | Test Documentation | Lead QA |
| **13.** | Final Presentation | Project Team |

**Stakeholders**

|  |  |
| --- | --- |
| **Stakeholder** | **Interest** |
| **Project Manager** | Defines the project plan together with the team and monitors everyone’s performances. It will be the project manager’s responsibility to discover roadblocks and issues and discuss with the team how to resolve them. Also, it is the project manager’s responsibility to report meeting minutes to Professor Chernak |
| **Project Team** | Each member of the team will be contributing equally to the deliverables and implementation, and report to the project managers if there are any type of issues or roadblocks that need to be discussed. |
| **End Users** | Person who is using our product and services. |
| **Financial Institution** | Organization to process our card payments and manage refunds. |

**Project Team**

**Team members**

|  |  |
| --- | --- |
| **Yang Zhao** | Product Owner |
| **Abhinav Bhatt** | Lead Business Analyst |
| **Curtis Morgan** | Lead Developer |
| **Marlene Hasslinger** | DBA |
| **Yixuan Ma** | QA/Tester |
| **Jack Brody** | Project Manager |
| **Veenus Thakkar** | Test Manager |

**RACI Table**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Process Area** | **Project Tasks** | Project Manager | Product Owner | Dev Lead | Business Analyst | Test Manager | DBA | Tester |
| Project Management | Develop a project plan | A,R | C | C | C | C | C | C |
| Provide cost estimate | A,R | C | C | C | C | C | C |
| Hire resources | A,R | C | C | C | C | C | C |
| Establish a project portal on SharePoint | A,R | R | I | I | I | I | I |
| Maintain a project risk and issue log | A,R | R | C | C | C | C | C |
| Provide project status reports | A,R | R | I | I | I | I | I |
| Requirements | Perform requirements analysts | A | R | C | R | I | I | I |
| Gather business requirements | R | I | C | R | I | I | I |
| Produce functional requirements | A | I | C | R | C | I | I |
| Design | Produce high-level design specs | A | I | R | C | I | R | I |
| Produce data model | A | I | C | C | I | R | I |
| Produce detailed design specs | A | I | R | C | I | R | I |
| Coding | Establish a code repository | A | I | R | I | I | I | I |
| Develop component code | A | I | R | I | I | I | I |
| Testing | Develop a test plan | A | I | C | C | R | C | R |
| Establish a test repository | A | I | C | I | R | I | R |
| Develop test specifications | A | I | C | I | R | I | R |
| Execute testing, report defects | A | I | I | I | R | I | R |
| Conduct defect review calls | A | I | C | R | R | C | R |
| Produce, deliver defect metrics | A | I | C | R | R | I | R |
| Support test environments | A | I | R | C | C | R | C |
| Deployment | Produce a deployment plan | A | I | R | I | I | R | I |
| Produce deployment procedures | A | I | R | I | I | R | C |
| Deploy software into production | A | I | R | C | C | R | C |

**Project Plan**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Project Phase** | **Activity** | | **Task Owner Name** | **Start Date** | **End Date** |
| **Project Initiation** | Discuss project proposals | | ALL | 28-Jan | 4-Feb |
| Confirm Project Team Roles | | ALL | 28-Jan | 4-Feb |
| Develop two business cases | | Jack Brody | 28-Jan | 4-Feb |
| Develop Project Initiation Document (PID) | | Jack Brody/Yang Zhao | 4-Feb | 11-Feb |
| Produce initial Project Plan, RACI | | Jack Brody | 11-Feb | 18-Feb |
| **MILESTONE 1: INITIAL PROJECT PLAN COMPLETED** | | | | | |
| **Requirements Definition** | Produce BRM diagram, define User Roles | | Abhinav Bhatt | 18-Feb | 25-Feb |
| Produce Context Diagram, Define System Interfaces | | Curtis Morgan | 18-Feb | 25-Feb |
| Define Business/User Requirements | | Abhinav Bhatt | 25-Feb | 3-Mar |
| Agree to System Requirements types | | All | 25-Feb | 3-Mar |
| Define Functional Decomposition | | All | 25-Feb | 3-Mar |
| Produce RCT document | | Abhinav Bhatt | 25-Feb | 3-Mar |
| Decide which features to implement this semester | | All | 3-Mar | 10-Mar |
| Produce analysis diagrams (UML, DFD) | | Abhinav Bhatt | 10-Mar | 17-Mar |
| Define functional requirements (User Stories) | | Abhinav Bhatt | 17-Mar | 24-Mar |
| Update Project Plan with additional requirements tasks | | Jack Brody | 24-Mar | 31-Mar |
| **MILESTONE 2: REQUIREMENTS COMPLETED** | | | | | |
| **Design** | Architecture design (2 diagrams) | | Marlene Hasslinger | 31-Mar | 7-Apr |
| Database Design (ERD, Data Dictionary-Table specifications) | | Marlene Hasslinger | 31-Mar | 7-Apr |
| System Interface Design | | Curtis Morgan | 7-Apr | 14-Apr |
| User interface design | | Curtis Morgan | 7-Apr | 14-Apr |
| **MILESTONE 2: REQUIREMENTS COMPLETED** | | | | | |
| **Code** | GUI & Functionality Detailed Design | | Curtis Morgan | 31-Mar | 7-Apr |
| Coding & Implemenation | | Curtis Morgan | 7-Apr | 14-Apr |
| **MILESTONE 4: CODING COMPLETED** | | | | | |
| **Integration & Testing** | Plan testing, produce a Test Plan document | | ALL | 14-Apr | 21-Apr |
| Evaluate Features to be Tested | | Yixuan Ma | 21-Apr | 28-Apr |
| Design Test Cases | | Yixuan Ma | 21-Apr | 28-Apr |
| Execute Test Cases | | Yixuan Ma | 21-Apr | 28-Apr |
| Anaylze Test Results | | ALL | 10-Apr | 28-Apr |
| **MILESTONE 5: TESTING COMPLETED** | | | | | |
| **Project Presentation** | Prepare Application Demo for the Presentation | | ALL | 28-April | 5-May |

**Project Controls**

* The team will meet weekly on Thursdays to monitor progress and work on issues. The meeting will be either in-person in the library or remote via Skype. Every team member has to be present for the meeting, and if needed additional meetings will take place.
* The Project Manager will report weekly meeting minutes to Professor Chernak and Stakeholders.
* Communication channels for this project are Slack and WhatsApp. The primary means for communicating with stakeholders is Email exchange.
* Google Drive will be used to store and make files available within the team, and to store the official documentation, and a Git repository will be created to manage the source code

**Communication Plan**

This section includes how stakeholders will be communicated with during the project and how frequently.

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholder** | **Frequency** | **Type** | **Purpose** |
| **Professor** | At meetings and deliverables drafts | Email and Slack | To approve deliverables. And give advice and guidance if there is any potential issue |
| **Project Manager** | Daily | In-person meetings, Slack and Skype | To discuss roles and responsibilities of team members. Dividing and prioritizing work. |
| **Project Team** | Daily | In-person meetings, Slack and Skype | To discuss the work in progress and also confirm that the team is meeting weekly requirements. |
| **End User** | Testing phase and after the release. | Online testing session and events | To gather feedback |