*ONLINE VIRTUAL PHONE SYSTEM*

project charter

VERSION 1.6

SEPTEMBER 29, 2023

Team Name: Mango Madness

VERSION HISTORY

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Version #** | **Implemented**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
| 1.1 | Kris Bessason | 09/26/2023 | Tung Nguyen | 09/26/2023 | Added project overview and duration |
| 1.2 | Xiaohong Zhou | 09/26/2023 | Akira Cooper | 09/26/2023 | Added requirements and major deliverables |
| 1.3 | Akira Cooper | 09/27/2023 | Kris Bessason | 09/27/2023 | Revised project overview and added assumptions, constraints and risks |
| 1.4 | Kris Bessason | 09/28/2023 | Tung Nguyen | 09/28/2023 | Edited objectives (SMART goals) |
| 1.5 | Tung Nguyen | 09/29/2023 | Xiaohong Zhou | 09/29/2023 | Finished justification and project organization |
| 1.6 | Akira Cooper | 09/29/2023 | Xiaohong Zhou | 09/29/2023 | Final review |

|  |  |  |
| --- | --- | --- |
| **Name** | **Email** | **Period of being project manager** |
| Akira Cooper | coopera@myumanitoba.ca | Sept 21, 2023 – Sept 29, 2023 |
|  |  |  |
|  |  |  |
|  |  |  |

TABLE OF CONTENTS

[1 Introduction 4](#_Toc144456456)

[1.1 Purpose of Project Charter 4](#_Toc144456457)

[2 project And Product Overview 4](#_Toc144456458)

[3 Justification 4](#_Toc144456459)

[3.1 Business Need 4](#_Toc144456460)

[3.2 Objectives 4](#_Toc144456461)

[3.3 High-Level Requirements 4](#_Toc144456462)

[3.4 Major Deliverables 5](#_Toc144456463)

[3.5 Boundaries 5](#_Toc144456464)

[4 Duration 5](#_Toc144456465)

[4.1 Timeline 5](#_Toc144456466)

[4.2 Executive Milestones 5](#_Toc144456467)

[5 Assumptions, Constraints And Risks 5](#_Toc144456468)

[5.1 Assumptions 5](#_Toc144456469)

[5.2 Constraints 6](#_Toc144456470)

[5.3 Risks 6](#_Toc144456471)

[6 Project Organization 6](#_Toc144456472)

[6.1 Stakeholders (Internal and External) 6](#_Toc144456473)

[6.2 Roles and Responsibilities 6](#_Toc144456474)

[7 project Charter approval 8](#_Toc144456475)

[APPENDIX A: REFERENCES 9](#_Toc144456476)

# Introduction

## Purpose of Project Charter

The Mango Madness project charter documents and tracks the necessary information required by decision maker(s) to approve the project for funding. The project charter should include the needs, scope, justification, and resource commitment as well as the project’s sponsor(s) decision to proceed or not to proceed with the project. It is created during the Initiating Phase of the project.

The intended audience of the Mango Madness project charter is the project sponsor and senior leadership.

# project And Product Overview

The project is an online virtual phone system designed to make and receive phone calls via the internet from a single business phone number. The system will be made available on desktop computers and smartphones. The target audience for this app will be a general userbase; anyone who is tech-literate. The total duration will be 13 months starting September 2023, with an estimated budget of 1.5 million.

# Justification

## Objectives

The objectives of the Mango Madness team are as follows:

* Obtain 5 million worldwide users and 1 million active users within 4 years following the product’s release. We aim to attract at least 110,000 new users per month to meet this target. This will be accomplished by having the marketing team promote the product through the use of Google Ads, SEO, and targeted social media campaigns on Facebook, Instagram, and YouTube.
* Support up to 500,000 simultaneous online users, 1 year after the project is initiated. Development teams will accomplish this goal by making a robust software architecture design and conducting thorough load balancing tests. Accomplishing this goal will be the foundation to achieving a 95% system uptime rate while maintaining sustainable growth and profitability.
* Maintain a monthly user retention rate of at least 85% immediately following the release of the product. The technical support department will achieve this by using a reliable ticket management system and responding to service tickets within 2-3 business days. Also, the marketing team will be responsible for keeping track of the number of user downloads per week and offering discounts on call plans to potential customers when the number of registered users decreases by at least 3%.
* Capture at least 10% of the market for virtual phone software within 2 years following the product’s release. Research teams will accomplish this by conducting polls and surveys to determine an optimal design for the user interface. Development teams will work to implement all the required features, create a user-friendly platform, and maintain a dropped call rate of less than 1% for every 1000 calls (assuming an adequate internet connection).

## High-Level Requirements

The following table presents the requirements that the project’s product, service or result must meet in order for the project objectives to be satisfied.

|  |  |
| --- | --- |
| **Req. #** | **Requirement Description** |
| 1. Online Call Handling and Connectivity | The system must enable users to initiate and receive voice calls over the internet using desktop and mobile devices. |
| 1. System Administration | Administrators should be able to manage user accounts, monitor system performance, and adjust system settings. |
| 1. Software Compatibility | Ensuring seamless interoperability among Android, iOS, and desktop applications. |
| 1. Performance Requirement | Support a high call volume while maintaining a 95% uptime rate. The caller and recipient should be able to establish a connection within 5 seconds. The dropped call rate should remain at less than 1% for every 1000 calls made. |
| 1. Usability and Accessibility | Include guides and tutorials for first time users that teach them to use all basic functionality within thirty minutes. |

## Major Deliverables

The following table presents the major deliverables that the project’s product, service or result must meet in order for the project objectives to be satisfied.

|  |  |
| --- | --- |
| **Major Deliverable** | **Description** |
| Sample UI Model | A visualization of the application’s user interface on both desktop and mobile apps. |
| Prototype | A high-fidelity prototype that allows users to interact with some basic functionalities. |
| Graphical User Interface | A user-friendly interface for administrators to connect to the system in order to monitor and control a network of phones. |
| Software Application | Fully functional software applications designed for Android, iOS, and desktop platforms. |
| User Documentation | Instructions on how to use the app on different platforms and accessibility guides for external users and administrators. |
| Internal Documentation | Documentation that includes system architecture design and internal coding practices. |
| Maintenance Plan | Documentation for maintaining and troubleshooting the system for technical support teams after product is released. |

## Scope

* **Inclusions:**

1. Development of All Required Features
2. Cross-Platform Compatibility
3. User Interface (UI) and User Experience (UX) Design
4. System Maintenance and Updates
5. Marketing and User Acquisition

* **Exclusions (out of scope):**
  1. Exclusion Third-Party Integration
  2. Hardware Development
  3. On-site Training for Users

# Duration

## Timeline

(13 month timeline starting 09/23/2023)

09/23/2023 Project plan initialized

09/29/2023 Begin interviews and surveys for insights on UI design

10/23/2023 Interviews and surveys complete

10/25/2023 Begin draft for architecture design and internal coding practices

11/10/2023 Architecture design and coding practices complete

11/23/2023 Prototype development begins

12/20/2023 Prototype complete

01/04/2024 System development begins

02/24/2024 MVP complete

02/27/2024 Present MVP to client

03/01/2024 Bug fixing begins

04/01/2024 System optimization begins

05/01/2024 Bug fixing complete

06/01/2024 System optimization complete

06/05/2024 Load balancing and cross-platform compatibility tests begin

07/15/2024 Load balancing and cross-platform compatibility tests complete

10/24/2024 Project development completed

## Executive Milestones

The table below lists the high-level Executive Milestones of the project and their estimated completion timeframe.

| **Executive Milestones** | **Estimated Completion Timeframe** |
| --- | --- |
| Project plan finalized and ready to proceed | 2 weeks after project approval |
| Interviews planned and surveys created | 1 week after project plan finalized |
| Interviews and surveys carried out | 2 weeks after interview and survey planning |
| Prototype development begins based on project plan and results of requirement elicitation | 2 weeks after interviews carried out |
| High-Fidelity Prototype completed, prototype experiments begin | 3 weeks after prototype development starts |
| Prototype experiments complete, shareholder consultation on prototype and experiment results | 2 weeks after prototype experiments begin |
| System development begins based on prototype | 2 weeks after shareholder meeting |
| Minimum viable product completed | 11 weeks after system development starts |
| Shareholder consultation and feedback on MVP | 1 week after MVP completed |
| Version 1.0 completed, beta testing begins | 12 weeks after shareholder consultation |
| Project development completed | 8 weeks after beta testing begins |

# Assumptions, Constraints And Risks

## Assumptions

This section identifies the statements believed to be true and from which a conclusion was drawn to define this project charter.

1. The customer will have access to a device that can support the application (such as a smartphone, laptop, or desktop computer).
2. The customer will have a stable internet connection when using the application.
3. The client will spend money to maintain the server’s cost after the project is finished.
4. The client will not require new features or expansion of existing features.
5. A cloud service provider will be used for data storage instead of the client’s on-premises facilities.

## Constraints

This section identifies any limitations that must be taken into consideration prior to the initiation of the project.

1. Budget constraints: The project must prioritize the development of all required features as well as the UI and UX design. Thus, the amount of funds that can be allocated to system maintenance and updates (once the app is in operation) is clearly limited.
2. Technical constraints: Smartphones typically have less processing power than laptops and desktops, so we must keep this in mind when deciding the maximum number of concurrent calls that our application can support for a single user.
3. Security and compliance constraints: Depending on the country and region, there may be regulations that our application must adhere to such as GDPR or HIPAA.
4. Scalability constraints: The server for our application must be built to accommodate growth in terms of the number of users and call volume, without suffering from performance issues.

## Risks

| **Risk** | **Mitigation** |
| --- | --- |
| Production delay due to iOS restrictions | Acquire iOS developer and purchase necessary upgraded hardware for developing and testing. |
| Scope creep | Regularly convene with the stakeholder to confirm all existing features and ensure their expectations are satisfied. |
| Data loss/breach | Train employees on the best security measures to abide by in the workplace. |
| Compromised user accounts | Require 2FA for all users. |

# Project Organization

## Stakeholders (Internal and External)

Internal:

* + Project Sponsor
  + Development Team
  + Project Manager
  + Administrators
  + CEO
  + Research and Development Departments (R&D)
  + Marketing Team
  + Technical Support Department

External:

* + Users
  + Investor
  + Cloud Storage providers

## Roles and Responsibilities

This section describes the key roles supporting the project.

| **Name & Organization** | **Project Role** | **Project Responsibilities** |
| --- | --- | --- |
| Pengfei (TA), University of Manitoba | Project Sponsor | Responsible for acting as the project’s champion and providing direction and support to the team. In the context of this document, this person approves the request for funding, approves the project scope represented in this document, and sets the priority of the project relative to other projects in his/her area of responsibility. |
| Akira Cooper, Mango Madness | Project Manager | Performs the day-to-day management of the project and has specific accountability for managing the project within the approved constraints of scope, quality, time, and cost. Also, he/she is accountable for delivering the specified requirements, deliverables, and ensuring client satisfaction. |
| Product Development Team | Developer | Performs the day-to-day development and maintenance of the project. |
| Product Development Team | Business Analyst | Closes the gap between IT and business to improve efficiency and understanding across both groups. |
| Product Development Team | Quality Assurance Tester | Runs tests whenever there are changes made to the software, so that they can identify bugs that must be fixed by the developers as soon as possible. |

# 

# project Charter approval

The undersigned acknowledge they have reviewed the project charter and authorize and fund the Mango Madness project. Changes to this project charter will be coordinated with and approved by the undersigned or their designated representatives.

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: |  |
| Print Name: |  |  |  |
| Title: |  |  |  |
| Role: |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: |  |
| Print Name: |  |  |  |
| Title: |  |  |  |
| Role: |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: |  |
| Print Name: |  |  |  |
| Title: |  |  |  |
| Role: |  |  |  |

APPENDIX A: REFERENCES

The following table summarizes the documents referenced in this document:

|  |  |  |
| --- | --- | --- |
| **Document Name and Version** | **Description** | **Location** |
| Online virtual phone system | Provided by the client to outline the system requirements and how the product will charge its users. | <https://umanitoba-my.sharepoint.com/:w:/r/personal/shaowei_wang_umanitoba_ca/_layouts/15/Doc.aspx?sourcedoc=%7Bd4288f7e-5fee-4658-a262-f83723584887%7D&action=view&wdLOR=c8FACBCF6-0435-46D6-9921-FD4EEFBB17CE&wdAccPdf=0&wdparaid=58A58022> |