
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

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1 INTRODUCTION

1.1 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.

2 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.

3 JUSTIFICATION

3.1 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).

3.2 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.
2. System Administration	Administrators should be able to manage user accounts, monitor system performance, and adjust system settings.
3. Software Compatibility	Ensuring seamless interoperability among Android, iOS, and desktop applications.
4. 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.
5. Usability and Accessibility	Include guides and tutorials for first time users that teach them to use all basic functionality within thirty minutes.

3.3 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.

3.4 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

4 DURATION

4.1 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

4.2 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

5 ASSUMPTIONS, CONSTRAINTS AND RISKS

5.1 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.

5.2 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.

5.3 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.

6 PROJECT ORGANIZATION

6.1 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

6.2 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.

7 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