## Proposal of Project Angel

Your Personalised Mental Health Application

Presented by CMSC Solution Limited 2024 December 12



#### **EXISTING PROBLEM**

Hong Kong's long psychiatric waiting times and low psychiatrist ratios are contributing to a mental health crisis, **necessitating urgent action to enhance support and reduce stigma**.

### **3** Consecutive Years

Ranking at the bottom of Asia-Pacific region in mental health index

## Only 7 Psychiatrists

are serving an average of 100,000 citizens in Hong Kong.

### 10 Months

Waiting time for psychiatric cases in Hong Kong





"Experience personalised, confidential mental health support anytime with Project Angel — an Al chatbot mobile application refined by psychiatrists and counselors, providing 24/7 assistance for your long-term well-being."

#### PROPOSED SOLUTION

Project Angel is a personalised mental health mobile application, providing 24/7 Al-powered mental health support, alleviating stress from insufficient psychiatrists.



#### **Around the Clock**

Provide 24/7 support and longterm engagement without waiting for a human counsellor.



#### **Al-Powered Personalisation**

Provide tailored interactions using advanced AI, surpassing the generic responses of human-dependent services.



#### **Confidential Environment**

Ensures complete privacy, encouraging users to seek help without the stigma associated with traditional services.

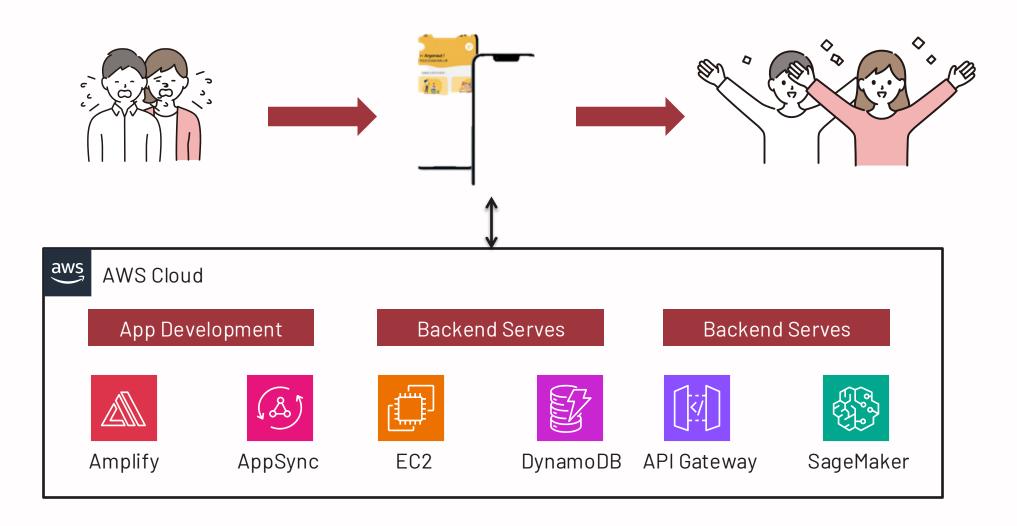


#### **Scalability and Accessibility**

Assist multiple users simultaneously, unlike existing mental health services that rely on limited human resources.

#### PROPOSED SOLUTION

Project Angel is not only your counsellor but also acts as a close friend. It is backed by cloud services for its development and operations.



#### **PROJECT SCOPE**

The project's success hinges on technical feasibility, user willingness for Al support, data availability, regulatory compliance, and strong stakeholder support for funding and resources.

#### (1) General

- a. Project management and documentations
- b. Use case development
- c. Conducting User Acceptance Tests
- d. Marketing promotion

#### (2) Mobile Application

- a. Creation of a multilingual, user-friendly application interface
- b. Integration of a LLM for real-time, personalised counselling
- c. Development of a mental health tracking system for users

#### (3) Large Language Model

- a. One-off fine-tuning a LLM with psychological therapy datasets
- b. Refining the LLM with professional psychologists and counsellors
- c. Ensuring ethical standards and cultural sensitivity in Al interactions

#### (4) Maintenance Support Service

- a. Guarantee of operation for at least one (1) year under Defects Liability Period
- b. Resolution of functional bugs and security vulnerabilities

# **Key Assumptions and Risks**

#### **KEY ASSUMPTIONS**

By establishing these foundational assumptions, the project aims to create a robust framework that supports effective implementation and fosters user trust in Al-driven mental health solutions.

#### **Technical Feasibility**

#### **User Willingness**

#### **Data Availability**

#### Regulatory Compliance









LLM can be effectively fine-tuned for therapeutic conversations while maintaining ethics.

Individuals are open to using AI chatbots for mental health support.

Adequate psychological therapy data is accessible for training.

The project meets all legal requirements related to data privacy, mental health services, and Al deployment.

#### **EXPECTED RISKS**

The project is expected to face various challenges, but overall, we are optimistic about the identified risks and have proposed several solutions to accelerate and mitigate their impact.



**Potential Investors**: Project Angel may attract interest from mental health organisations and institutions seeking to collaborate.

✓ Actively engage with mental health organisations and institutions.



Lack of User Interest in the Product: Insufficient interest from potential users in adopting the mental health application, particularly in engaging with an Al.

✓ Research and understand potential users' needs and concerns regarding an Al-driven mental health application.



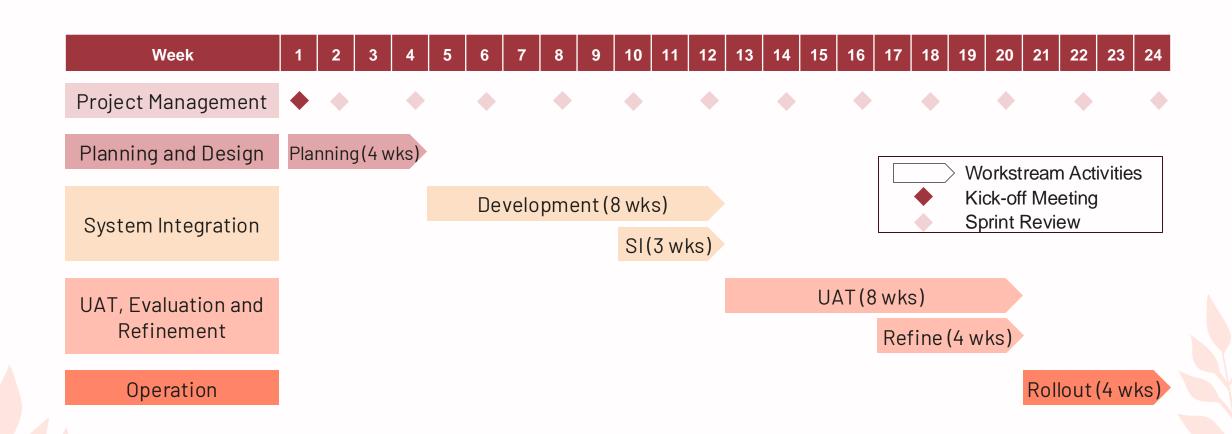
**LLM Hallucination**: Undermine user trust and the effectiveness of the service, potentially leading to negative user experiences and lower adoption rates.

✓ Implement a strategy of extensive fine-tuning and prompt engineering.

# Proposed Schedule and Budget

#### PROPOSED HIGH LEVEL TIMELINE

The project is estimated for a period of 6 months, scheduled from December 2024 to May 2025. Each milestone is expected to be met for the experienced team members.



#### **COST ESTIMATION**

The project is projected to spend 1 million on development, which will be fully covered by the project funding.

Description	Unit Cost (HK\$)	QTY	Total Cost (HK\$)
Personnel			
<ul> <li>300 man-days for Development</li> </ul>	500,000	1	500,000
- 20 man-days for DLP	30,000	1	30,000
Materials			
- Data Acquisition	30,000	1	30,000
Operation			
<ul> <li>One-off LLM fine-tuning</li> </ul>	50,000	1	50,000
<ul> <li>Server hosting per month</li> </ul>	10,000	18	180,000
Miscellaneous			
<ul> <li>Cybersecurity audit</li> </ul>	30,000	1	30,000
<ul> <li>Licences and subscriptions</li> </ul>	20,000	1	20,000
- Psychologist consultancy	70,000	1	70,000
- Marketing and outreach for UAT	30,000	1	30,000
- Contingency fund	60,000	1	60,000
		Net-Total	\$1,000,000

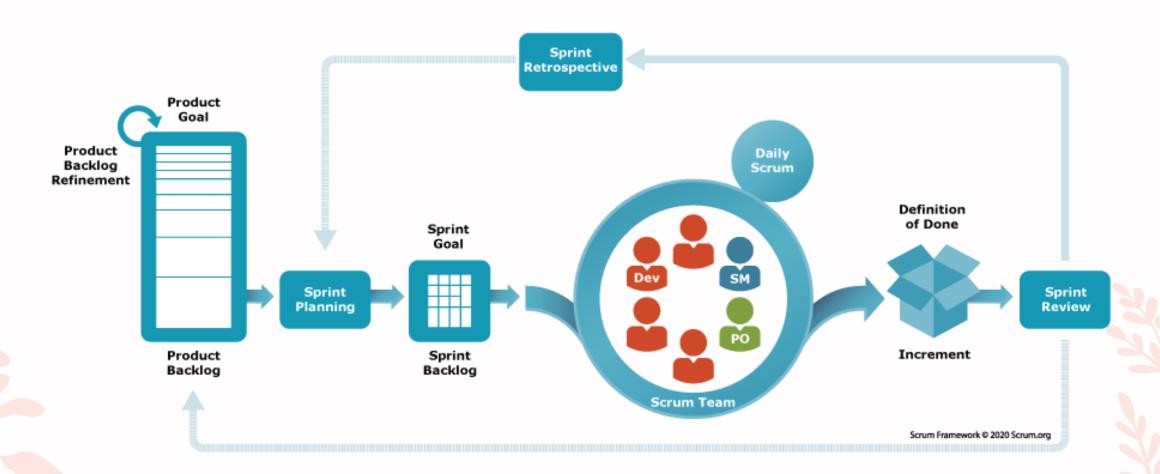
## **Project Approach**





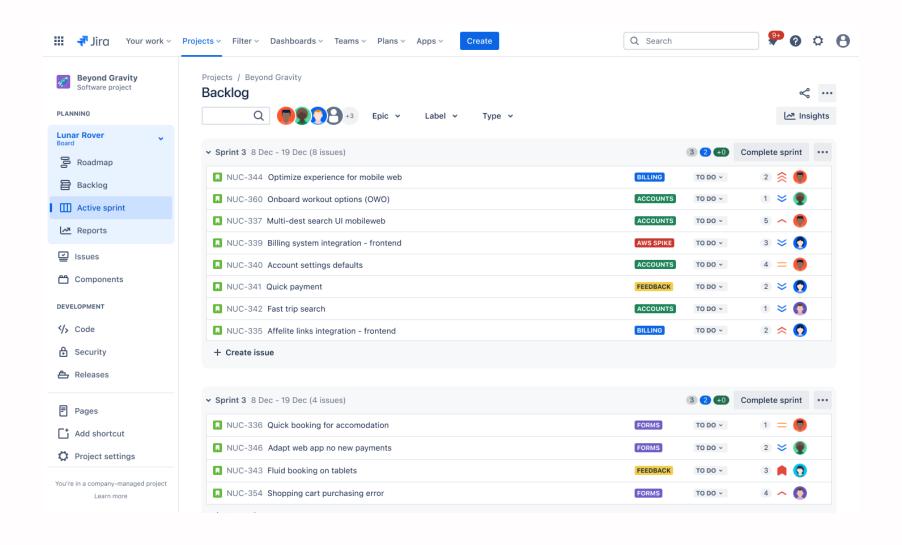
#### IMPLEMENTATION APPROACH

A 2-week sprint will be adopted for development, allowing for more iterative development and continuous improvement based on expert insights. The product backlog, sprint backlog, and (potential) increments are the major artifacts produced in each loop.



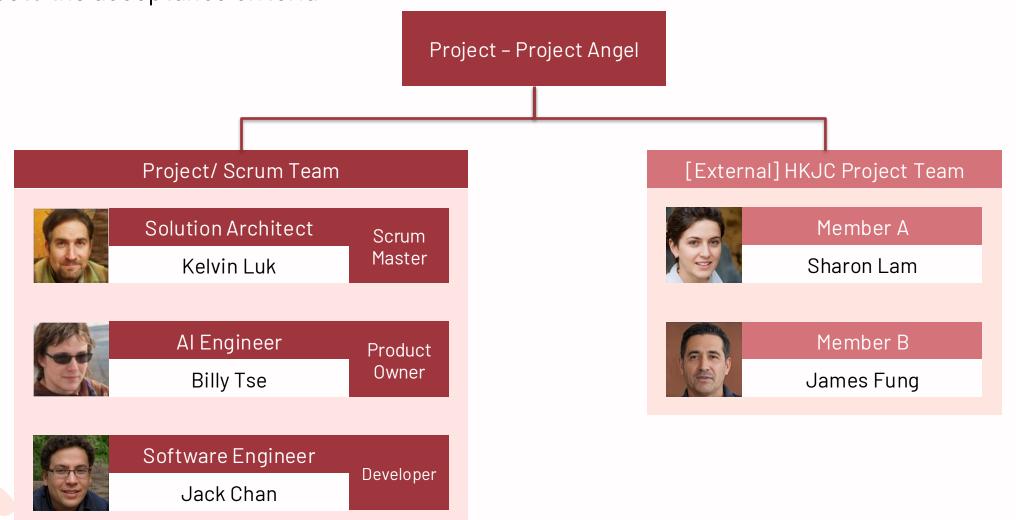
#### **SCRUM ARTIFACTS**

We emphasise transparency, inspection, and adaptation in each Sprint, and Jira is helping us to make this possible.



#### PROPOSED PROJECT/ SCRUM TEAM STRUCTURE

Apart from CMSC Solution Limited, the project involves a project team from HKJC to monitor development progress, provide subject matter expertise, and ensure the project meets the acceptance criteria.



## Thanks!

The project idea is modified from a REAL project "**Project Angel**", with the consent of Billy Tse (a member of the project development team).

CREDITS: Project Ange, Slidesgo, Flaticon, Freepik



Q&A

