



FINTECH HACKATHON

**PENNYWISE: AI-POWERED PERSONAL
FINANCE ASSISTANT FOR UNLOCKING
A SMARTER FUTURE**

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OUR TEAM



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PROJECT

BACKGROUND

01

Managing personal finances is increasingly difficult due to complex services and products.

02

Traditional tools (spreadsheets, basic apps) fail to meet modern needs.

Malaysia

In 2024, personal loans remained the primary cause of bankruptcy among young Malaysians, accounting for **15,413** cases or **49.11%** of total bankruptcies

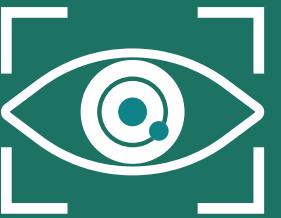
Indonesia

detiknews:
Perompak Taksi Online Minta Tebusan

Rp 70 Juta buat Lunasi Utang Pernikahan

TEMPO:
Gara-gara Utang **Rp 140 Juta**, Warga Tanjung Priok Disekap di Depok hingga Stres Minum Sabun

PROBLEM STATEMENT & OBJECTIVES



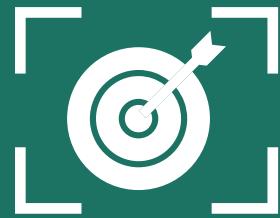
PROBLEM STATEMENT

► Limited Personalization in Existing Tools

Current tools fail to offer real-time personalized insights.

► Fragmentation and Inefficiency

Users must rely on multiple tools for tracking expenses, budgeting, and planning, leading to poor decision-making.



OBJECTIVES

► Develop a Personalized Financial System

Leverage machine learning (Multinomial Naive Bayes) to analyze and improve spending patterns.

► Build a Smart and Secure Finance Platform

Develop an AI-powered tool for easy budgeting and spending tracking, enhanced with real-time feedback, strong security, and user-friendly design.

► Evaluate System Performance

Test for accuracy, usability, and effectiveness in meeting user financial management needs.

LITERATURE REVIEW

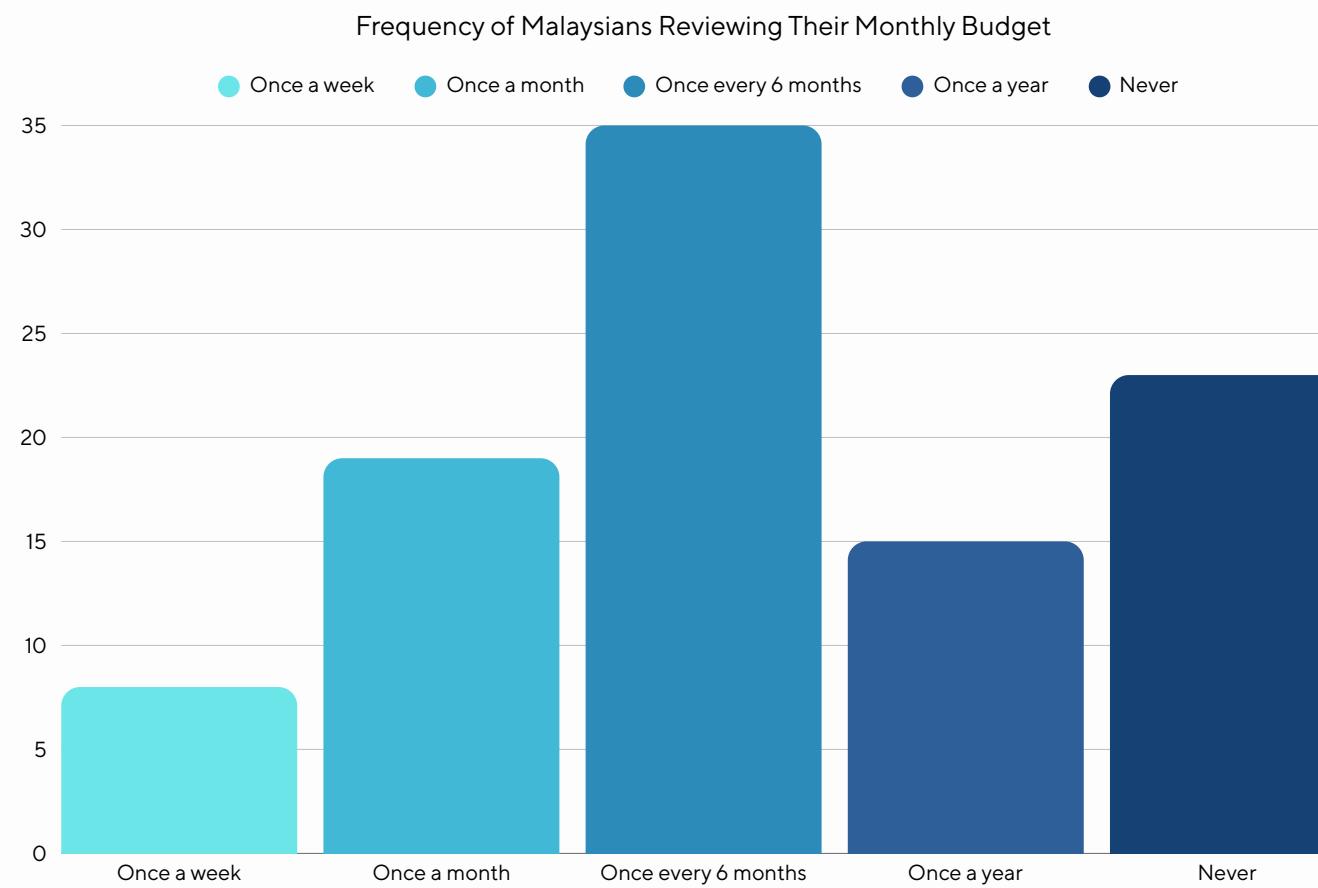
- **Bank Negara Malaysia (BNM)** reports that nearly half of Malaysians find it difficult to raise even RM 1,000 for an emergency, indicating low financial resilience.

47%

**Of Malaysians Unable To Cover
a RM 1,000 Emergency**

1 in 3

**Malaysians admit to spending
more than they earn**



- **Over 60%** of Malaysians do not have a financial plan, leading to unstructured spending and missed savings opportunities (**Financial Education Network, 2023**).

COMPARISON

COMPETITORS

Feature	P+ PENNYWISE	mint	FINKU
Basic Budgeting & Goal Creation	✓	✓	✓
Automated Expense Tracking	✓	✓	✓
Multi-Factor Authentication (MFA) Security	✓	✓	✓
Advanced AI Expense Analysis	✓	✗	✗
Conversational AI Chatbot for Support	✓	✗	✗
Tracks Malaysian Investments & EPF	✓	✓	✗
100% Ad-Free User Experience	✓	✗	✓

SWOT ANALYSIS



Strengths

- Advanced AI Differentiation
- Superior User Experience
- Strong Security Posture



Weaknesses

- New Brand Recognition
- Dependence on Third-Party APIs



Opportunities

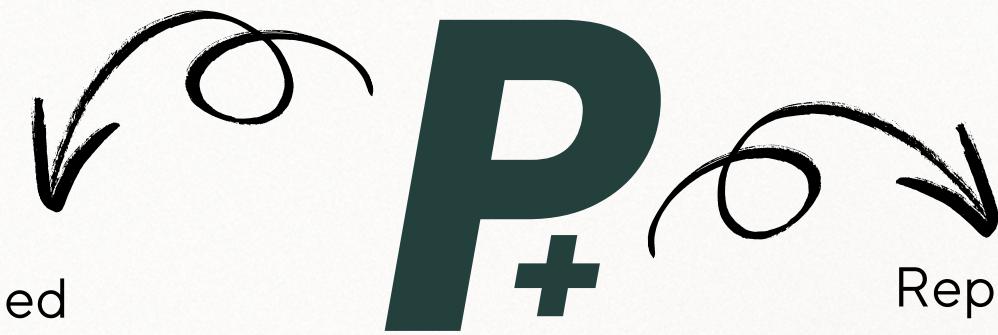
- Growing Market Need
- International Expansion



Threats

- Intense Competition
- Regulatory Changes
- User Apathy

DEMONSTRATION



The name of app called
“PENNYWISE”

Represents addition, increase, and
wealth building

BUSINESS MODEL CANVAS

<p>Key Partners</p> <ul style="list-style-type: none"> Cloud providers (MongoDB & Vercel) AI service providers (Gemini API) Affiliate Partners B2B Sales: Universities and corporations Future: Banks via APIs 	<p>Key Activities</p> <ul style="list-style-type: none"> Continuous development of AI features User research for next feature Data collection for ML models Campus & digital marketing <p>Key Resources</p> <ul style="list-style-type: none"> Development team AI/ML pipeline (Naive Bayes + Gemini API) Survey & user dataset Cloud infrastructure Branding & Marketing content 	<p>Value Propositions</p> <ul style="list-style-type: none"> All-in-one personal finance platform AI personalized advice: AI Chatbot & AI Expense Analysis Secure authentication User-Friendly Design Proven accuracy 	<p>Customer Relationship</p> <ul style="list-style-type: none"> In-app AI chatbot for 24/7 chatbot Notification engagement <p>Channel</p> <ul style="list-style-type: none"> Google & App Store University tech fairs & financial workshop Social Media Campaign (Tiktok, Instagram) 	<p>Customer Segments</p> <ul style="list-style-type: none"> Mass Market: Gen Z & Millennials Initial Go-to-Market Niche: Private University Students Monetization Niche: Premium Subscribers. Future: Bank & Fintech firms
<p>Cost Structure</p> <ul style="list-style-type: none"> Technology Costs (Servers, APIs): RM 6,000 - RM 17,500 Personnel Costs (Team Salaries): RM 25,000 - RM 45,000 Marketing (CAC) (Ads, Events): RM 5,000 - RM 15,000 R&D (AI Improvement): RM 2,000 - RM 5,000 <p>Total Monthly Cost: RM 38,000 - RM 82,500</p>		<p>Revenue Stream</p> <ul style="list-style-type: none"> Subscription: RM19.90 monthly fees from Pennywise Plus premium users. Affiliate & Lead Fees: Commissions from suggesting cheaper products or connecting users to financial services B2B Licensing: Bulk subscription fees from universities and corporations. 		

REVENUE STREAM

RM 19.90 (per user/month) x 12,000 premium users
= RM 238,800 per month

12 (months) x RM 238,800 =

**Annual
Revenue:
RM
2,865,600**

RM 100 (annual license fee) x 6,000 users (e.g., 3
universities with 2,000 students each)

**Annual
Revenue:
RM 600,000**

SCALABILITY & MARKET SIZE

Phased rollout starting with
Private Universities → Malaysia
→ Southeast Asia.

TAM (Southeast Asia)

150 Million Young Adults
Est. Blended ARPU: RM 20/Year
Total: RM 3 billion

SAM (Malaysia)

7.6 Million Gen Z & Millennials
Est. Blended ARPU: RM 30/Year
Total: RM 228 million

SOM (Private Uni)

200,000 Students
Est. Blended ARPU: RM
30/Year
Total: RM 6 million

MARKETING STRATEGI

Digital Ads

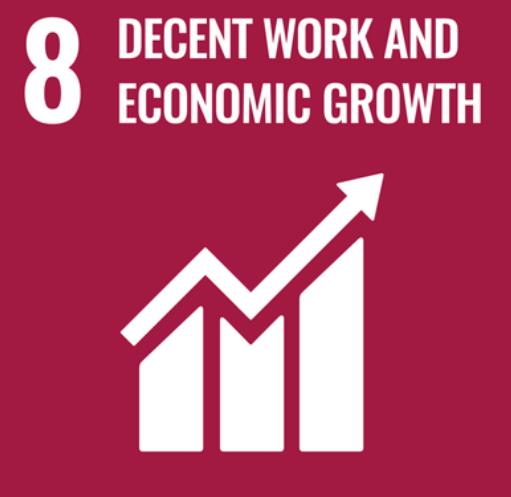
Marketing Content

Campus Activation

Referral Program



SUSTAINABLE DEVELOPMENT GOALS ALIGNMENT



Relevant Target:

8.10 - Expand access to banking and financial services for all.

Why Pennywise fits:

- Helps manage money
- Improves financial guidance using AI.
- Encourages saving, budgeting, and investing habits.
- Supports financial inclusion with a free core platform.



Relevant Target:

10.2 - Promote social and economic inclusion for all.

Why Pennywise fits:

- Everyone can access the tools.
- Empowers low-income users with free features.
- Builds financial services regardless of background.
- Uses AI to give personalized guidance fairly.





FUTURE WORK

Upgrade Machine Learning

- Improve model accuracy and enhance user understanding.

Open Banking Integration

- Connect the app with banks for automated financial tracking.

Add Smarter AI and User Motivation

- Add gamification (e.g., badges, savings challenges)



CONCLUSION

Current finance tools lack personalization, cause friction, and give generic advice.

Pennywise solves this with an AI-powered system (Naive Bayes + Gemini API).

Proven to be reliable, user-friendly, and helpful.

98.75%
accuracy



THANK YOU

ANY QUESTION

Smart Money

Smarter You

