

# TrailStream

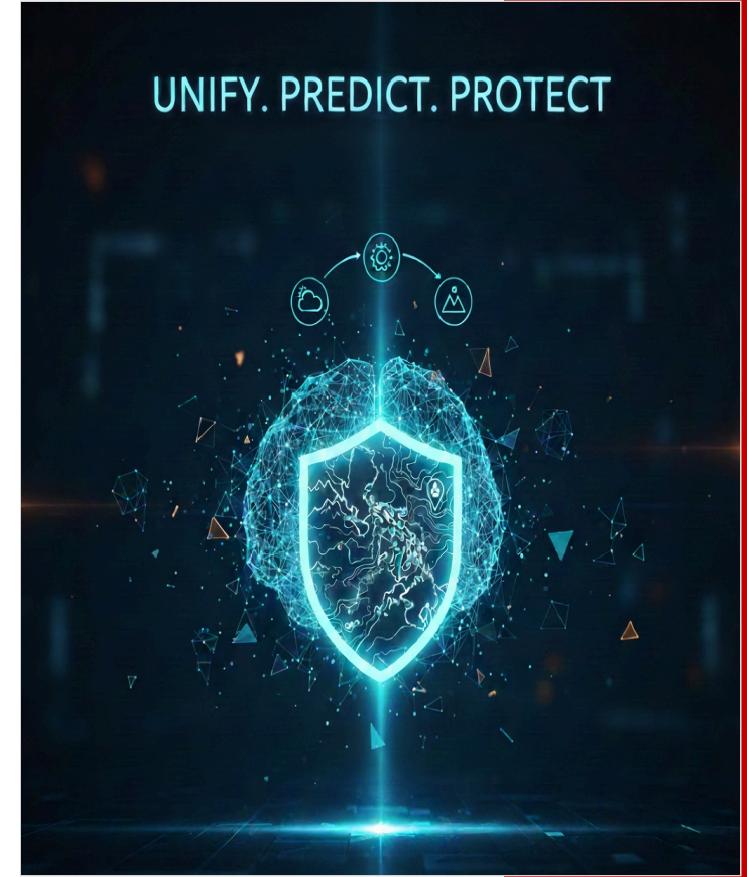
Venture Viability Analysis

MSU-IIT, Iligan City, Lanao del Norte, Philippines

# TrailStream

Mobile app turning weather, tide, and terrain data into real-time safety scores for adventurers.

**MSU-IIT, Iligan City, Lanao del Norte, Philippines**



# Venture Team



**Name: Rose Andrea D. Kisol**  
Major: IT -Database Systems



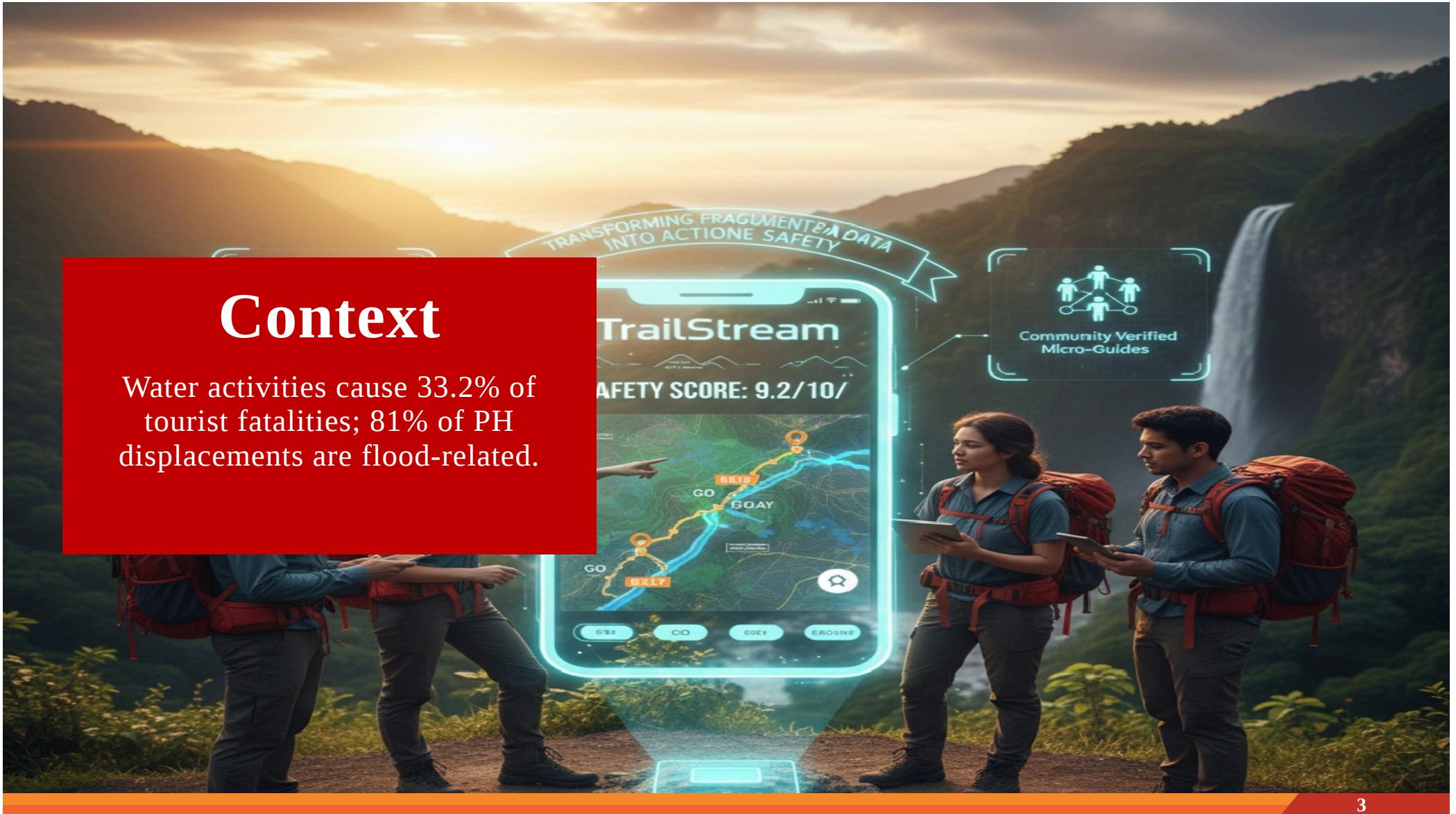
**Name: Geff Kendra Gaviola**  
Major: IT -Database Systems



**Name: Julliane Ouano**  
Major: IT- Database Systems

# Context

Water activities cause 33.2% of tourist fatalities; 81% of PH displacements are flood-related.



# Problem Statement

## Problem

Adventurers in Northern Mindanao risk trips across mixed terrains due to fragmented, unavailable real-time data on floods, tides, and hazards.

## Impact

Adventurers risk injury or death; local businesses lose revenue and face bad reviews; government resources are strained by avoidable SAR operations.



# Problem Statement/Industry

## Problem Being Solved

Safety-conscious adventurers in Northern Mindanao struggle to plan and navigate mixed terrains because real-time hazard data such as flash floods, tides, and landslides is scattered across many sources. This fragmented info forces risky decisions, causes preventable accidents, and increases the burden on SAR teams.

## Supporting Data

Water activities cause 33.2% of tourist fatalities; 81% of PH displacements are flood-related.

**Source:** ScholarWorks@BGSU (Tourist Fatalities), IOM (PH Disaster Displacement), PAGASA & NDRRMC Reports



**Area**  
DeepTech



**Industry**  
Technology & Innovation



**Domain**  
AI & ML

# Problem Analysis



## Affected Stakeholders

Fragmented real-time safety data affects independent adventurers in Northern Mindanao, making trip planning risky. It also impacts tourism businesses, local governments and park rangers handling safety and rescues, and local guides and communities whose reputation and livelihoods rely on safe visitor experiences.



## Impact on Stakeholders

Adventurers risk injuries, fatalities, and anxiety from unpredictable hazards. Local businesses lose revenue and face negative reviews from preventable accidents. Government and park rangers deal with strained resources and higher costs from avoidable SAR operations, affecting overall tourism safety.



## Root Causes

Navigation tools are static and limited to single terrains. They don't integrate real-time factors like weather, tides, or daylight to assess route safety. Local knowledge stays siloed through word-of-mouth instead of being centralized, making it hard for adventurers to access critical safety insights.



## Personal/Team Connect

As residents of Northern Mindanao, we possess a deep passion for our region's unique blend of mountains and coast. We have personally experienced the risks and frustrations of fragmented data when exploring the area. Our team's skills in geo-spatial analysis and mobile development align perfectly with solving this critical local safety gap.

# Target Customer Segments

## Primary

Safety-conscious domestic adventurers (Age 25-40, urban professionals).



## Secondary

selling marketplace listings, permit management software, or advertising to local businesses.

# Customer Segment & Persona

## Primary Segment

Safety-conscious domestic adventurers (Age 25-40, urban professionals).

## Secondary Segment

selling marketplace listings, permit management software, or advertising to local businesses.

Persona



**Shane Daryl C. Maghinay**

Age in years: 25

Location: Suburban

Organizational Role: {Persona's primary role}  
(if applicable)

# Customer Profile



**Education:** Post-graduate

**Gender:** Male

**Occupation:** Works for a private company

**Interests/Hobbies:** Sports and Fitness

**Primary Source of Information:** Social Media

**Shopping Preference:** Hybrid

**Comfort with Technology:** High

**Favourite Social Media:** Facebook

**Favourite Offline Gathering Spots:** Hiking trails, Waterfalls, Beaches

# Jobs-to-be-Done

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## Functional JTBD



Plan multi-terrain trips seamlessly (e.g., waterfall trek to coastal entry); route trips safely around dynamic hazards (flash floods, high tide); access local guidance (permits, guides, safe spots); minimize prep time.

## Emotional JTBD



Feel confident and prepared before starting the adventure; reduce anxiety about unexpected environmental dangers or getting lost; experience relief knowing family/friends are auto-notified if they miss an ETA.

## Social JTBD



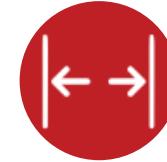
Gain respect from peers for finding and safely navigating unique, non-touristy local spots; be viewed as a reliable and competent adventure planner; contribute validated, trustworthy local knowledge to the community.

# Current Alternatives



## Current Alternatives

Tourists piece together data from multiple apps (AllTrails for trails, weather app for rain, nautical charts/websites for tides); consult local guides/word-of-mouth; use static official warnings (PAGASA); rely on Google Maps for driving only.



## Gaps in Current Alternatives

Current solutions are fragmented and require excessive manual synthesis; static data cannot predict dynamic risk (e.g., rising tide on a trail); official warnings are often non-contextual or difficult to map; and navigation tools are useless offline in remote areas.

# Problem Validation (GOOTB)

## Partial List of Potential Customers/Users Interviewed

**Name:** Shane Maghinay

**Occupation:** Student

**Name:** Eldjezair Alcuizar

**Occupation:** Student

**Name:** Ryan Baguio

**Occupation:** Student

## Problem Validation

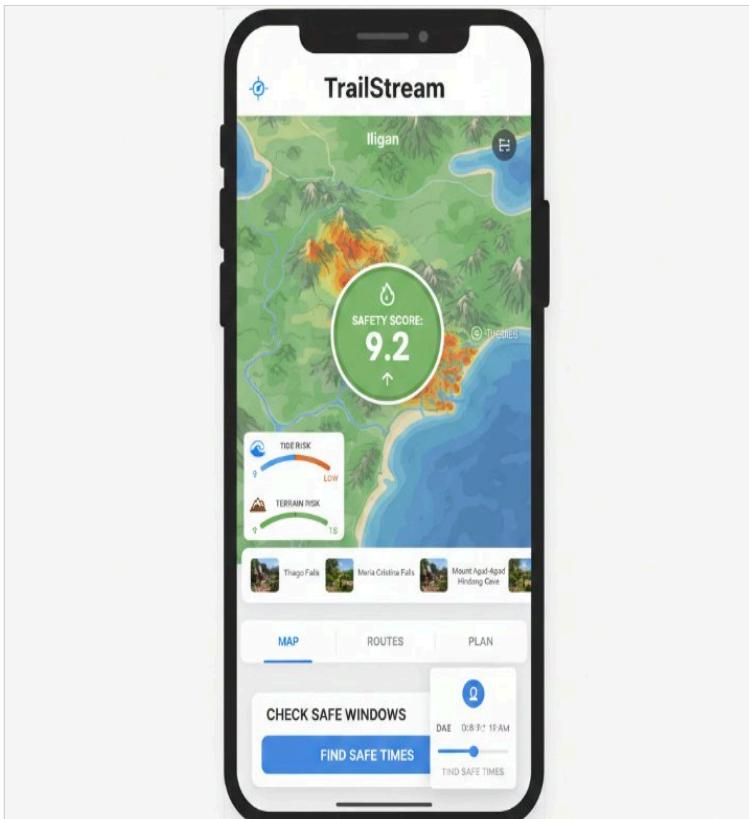
### Total customers/users interviewed:

- In-person: 5
- Virtually: 5

### Total customers/users for whom this problem is important to solve: 8

### Total customers/users who are dissatisfied with the current alternatives: 8

# Our Solution



## Solution

TrailStream: a mobile app providing real-time, per-route safety scores by integrating weather, tide, and elevation data, offering actionable advice like “Go/Delay/Turn Back.”

## Core Technologies/ Methodologies

React Native (or native) for mobile, Mapbox/PostGIS for custom maps, and a proprietary geo-fusion algorithm for real-time risk modeling.

# Solution Design



## Our Solution

TrailStream: a mobile app providing real-time, per-route safety scores by integrating weather, tide, and elevation data, offering actionable advice like “Go/Delay/Turn Back.”



## Key Features

Dynamic Safety Score (real-time risk index); Seamless Offline Maps (blending topo/tide data); Smart SOS & Check-in system; and Context-Aware POIs (waterfall flow/tide windows).



## Uniqueness

Proprietary Geo-Fusion Algorithm (dynamically integrates weather/tide/topo data for predictive safety); and a curated network of localized, community-verified micro-guides and hazard data.

**Solution Format:**  
Digital Products (App)

**Core Technologies/ Methodologies:**  
React Native (or native) for mobile, Mapbox/PostGIS for custom maps, and a proprietary geo-fusion algorithm for real-time risk modeling.

# Solution Benefits



## Functional Benefits

Users eliminate manual cross-referencing (tides, maps, weather). They generate optimal, time-sensitive routes for mixed-terrain treks and access local permits, rentals, and guide bookings in app.



## Emotional Benefits

Users gain peace of mind knowing the route is vetted against dynamic, real-time hazards. They feel assured their family is auto notified if the ETA is missed, leading to reduced anxiety.



## Social Benefits

Users gain peer recognition as reliable adventurers by navigating unique, non-touristy spots safely. They contribute validated, high-quality safety data, establishing authority within the community.



## Macro Benefits

The solution reduces the cost of Search and Rescue (SAR) operations for local governments. It increases safety, promoting responsible tourism growth. Micro-guides foster eco-conscious visitor behavior

# Competitors



## Direct



Google Maps, AllTrails, Gaia GPS, Komoot, PAGASA, Local tourism blogs, social media groups  
AllTrails, Gaia GPS, Komoot, Google Maps.

## Indirect

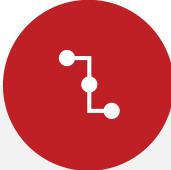


Government Agencies, Local Tour Operators & Guides, Strava  
Specialized Weather/Tide Apps (e.g., Windy, Tides Pro)

## Our UVP

Real-time safety + unified mountain & coast navigation with AR  
and offline maps.

# Competitors



## Direct Competitors

Google Maps, AllTrails, Gaia GPS, Komoot, PAGASA, Local tourism blogs, social media groups



## Indirect Competitors

Government Agencies, Local Tour Operators & Guides, Strava



## Direct Competitors Globally

AllTrails, Gaia GPS, Komoot, Google Maps.



## Indirect Competitors Globally

Specialized Weather/Tide Apps (e.g., Windy, Tides Pro)

# Macro Analysis

## Favourable Trends

AREA	DESCRIPTION
Technology	Advances in mobile tech/GPS enable real-time geo-spatial risk analysis and AR wayfinding.
Social	Rising demand for safe, personalized, experiential adventure tourism drives app demand.

## Unfavourable Trends

AREA	DESCRIPTION
Economy	Economic recession or high inflation reduces consumer discretionary spending on travel/apps.
Legal	New regulations restricting access to public weather/tide APIs or increasing data costs.

### Data Sources:

Macro Trend Analysis based on Wadhwani Module 4 (M4-L2)

# Back-of-the-Envelope Financial Projections



**Currency:** Philippine Peso (PHP)

**Chosen Business Model:** Subscriptions

AREA	YEAR 1	YEAR 2	YEAR 3
<b>Revenues</b>	360000	450000	495000
<b>Total Expenses</b>	325996	372646	410858.5
<b>Profit</b>	34004	77354	84141.5

# Prototype

## Prototype Format

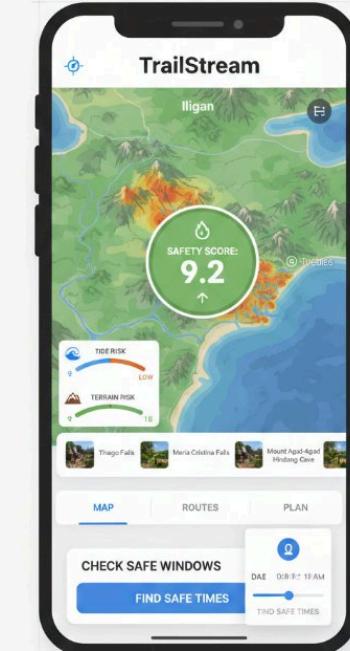
A digital app prototype built in HTML

## Functionality included in the Prototype

App prototype features a real-time Dynamic Safety Score with Go/Delay/Turn Back advice, mixed-terrain route planning, offline maps, hazard-aware POIs, and a basic map-based UI.

## Functionality NOT included in the Prototype

The prototype will exclude real-time data integration, user accounts, GPS tracking, advanced analytics, and full safety-alert automation.



{Upload another picture}

# Prototype Validation

**Number of users engaged with?**

12

**How many people liked or loved the prototype?**

6

**How many people were either neutral or mostly unhappy with the prototype?**

2

## Prototype Feedback

### **What aspects of the prototype did the users LOVE?**

Users loved the clear real-time safety score display, the map showing adventure spots, and the simple flow for checking safe travel windows. They also appreciated how the prototype made environmental risks easy to understand, especially for waterfalls, trails, and coastal routes.

### **What aspects of the prototype were DISLIKED by the users?**

Users felt neutral about the limited interactivity in the HTML prototype. Some disliked that it didn't yet include GPS tracking, live alerts, or real-time tide and rainfall updates, making it feel less complete.

# Competition Analysis

COMPETITOR NAME	TYPE	STRENGTHS	WEAKNESSES
AllTrails	Direct	Global brand with many users	Price is high for local users
PAGASA	Indirect	Trusted source of weather data	Data is raw and not tailored
AllTrails	Direct	High-quality trail info and UX app	Pricey for many users in PH market
Komoot	Direct	Advanced offline maps for explorers	No real-time risk or tide updates

## Our Product/Service will be better than the competitors' solutions because:

Our app offers real-time safety scoring, unlike global trail apps. It provides hyper-local data for Iligan's unique terrains and unifies weather, tide, and hazard data into one easy-to-use platform

# Market Size & GTM

## GTM Channels

### Digital

Instagram, Facebook Ads, TikTok, YouTube, SEO, Google Ads, travel blogs, adventure forums, email marketing, and influencer collaborations.

### Physical

Outdoor event booths, climb meetups, tourism fairs, flyers in gear shops, pop-up displays, trailhead posters, and partnership events with LGUs.

### Market Size

**Globally:**  
Philippines Adventure Tourism Market \$2.14 Billion

**Growth Rate:**  
Adventure Tour Safety Management 10.4% CAGR (2033)

Source: Growth Market Reports,  
Spherical Insights

# Market Size

## Total Addressable Market (TAM)

Philippines Adventure Tourism Market \$2.14 Billion

## Serviceable Available Market (SAM)

Northern Mindanao digital adventurer SAM  $\approx$  \$32.1M

## Serviceable Obtainable Market (SOM)

₱810,000 in the first 2 years of operation

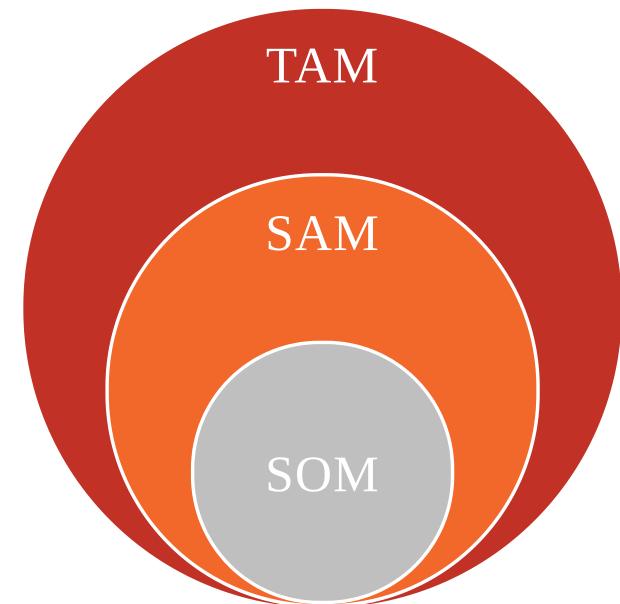
## Assumptions

It focuses on Northern Mindanao, safety-conscious domestic adventurers (25–40, urban professionals), and the digital mobile app market, with P8.1B regional tourism receipts as a proxy.,

100,  
8100

## Sources of Research

Growth Market Reports, Spherical Insights



# Revenue Models / Pricing

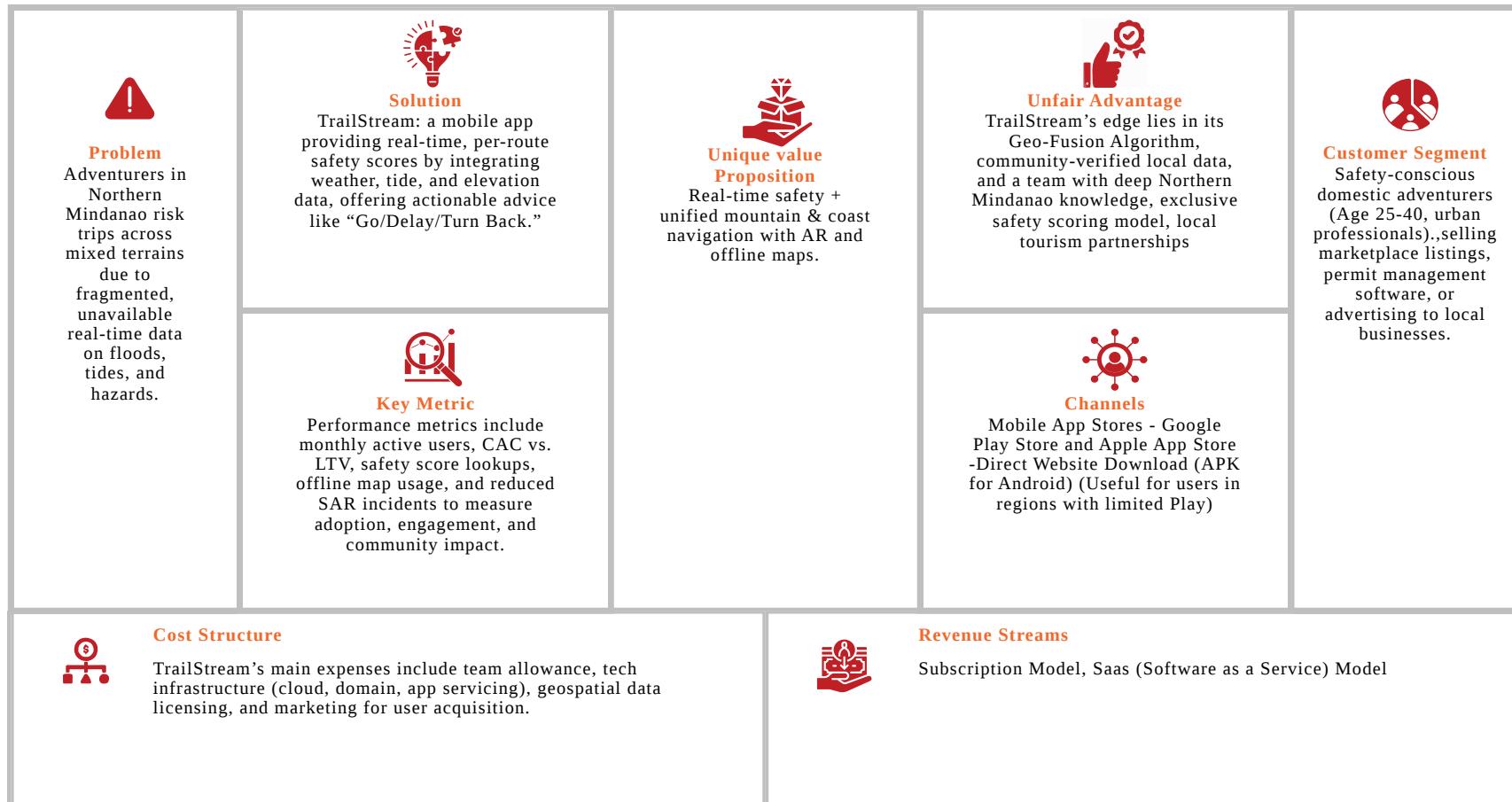
## Revenue Model (Primary)

Subscription Model

## Revenue Model (Secondary)

Saas (Software as a Service)  
Model

# Lean Canvas



# Go-to-Market Approach

## Geographic Focus

Northern Mindanao, Philippines (Region X)

### Digital Marketing Channels

Instagram, Facebook Ads, TikTok, YouTube, SEO, Google Ads, travel blogs, adventure forums, email marketing, and influencer collaborations.

### Physical Marketing Channels

Outdoor event booths, climb meetups, tourism fairs, flyers in gear shops, pop-up displays, trailhead posters, and partnership events with LGUs.

### PRIMARY CUSTOMER SEGMENT

Safety-conscious domestic adventurers (Age 25-40, urban professionals).

### UVP

Real-time safety + unified mountain & coast navigation with AR and offline maps.

### GTM Partners

Adventure influencers, tourism boards, gear shops, local guides, outdoor brands, event organizers, and digital marketing agencies.

### Marketing KPIs

CAC, CLV, conversion rate, churn rate, lead-to-customer ratio, revenue growth, gross margin, user retention, session stickiness, and safety score usage per user.

### Competitors' GTM

AllTrails excels in content marketing, SEO, and social media engagement, Gaia GPS leverages data-driven DTC strategies, while PAGASA focuses on official weather alerts via government channels.

# Sales & Customer Service

## Customer Service

In-app support, email helpdesk, chatbots, social media messaging, FAQs, and optional phone support for premium users.

## Distribution Channels

Mobile App Stores - Google Play Store and Apple App Store -Direct Website Download (APK for Android) (Useful for users in regions with limited Play)

## Digital Sales Channels

App Store, Google Play Store, website-based premium purchases, in-app upgrades, social media shop links (Instagram/Facebook), and partner referral links.

## PRIMARY CUSTOMER SEGMENT

Safety-conscious domestic adventurers (Age 25-40, urban professionals).

## UVP:

Real-time safety + unified mountain & coast navigation with AR and offline maps.

## Physical Sales Channels

Tourism offices, outdoor gear shops, adventure events, climb meetups, travel fairs, and partnerships with local guides and eco-tourism centers.

## Sales KPIs

Monitor revenue growth, premium conversions, CAC, sales funnel completion, active subscribers, and average purchase value.

<https://www.facebook.com/profile.php?id=61585136751551>

**GTM Partners**  
Digital surveys, CSAT, NPS, app store reviews, chatbot feedback; offline FGDs, interviews with guides, and event-based feedback forms.

<https://drive.google.com/drive/folders/1F9c7-AABYSHWdxjroLSXOwczwTqudHG5?usp=sharing>

# Financials

## Revenue Models/Streams

- Subscription Model
- SaaS (Software as a Service) Model

## Pricing

- **Unit of Sale:** Subscription per month
- **Selling price per unit:** ₹100 per month

## First Year Projections

Revenues: 505800

Operating Profits: 175,220

# Revenue Models / Pricing

## Revenue Model (Primary)

Subscription Model

### Unit of Sale

Subscription per month

### Sale Price per Unit

₹100 per month

### Expected units to be sold in Year 1

300 units

### Expected growth in monthly sales

25% (Year over Year)

# Costs & Revenues: Key Assumptions

	Heads	Type of Units	Amount	Planning notes
<b>REVENUES</b>	Selling Price of Subscriptions Average revenue per subscription per month	Amount	100 P100/month subscription fee.	
<b>VARIABLE COSTS</b>	Service Delivery Costs (per subscriber per month)	Amount		
	Server/Hosting costs	Amount		5 Part of our P10/user tech budget.
	Third-Party Licenses/APIs	Amount		2 GCashMaya standard fee is roughly 2-3%.
	Payment Fees	Amount		3 GCashMaya standard fee is roughly 2-3%.
	Content/product creation, if applicable	Amount		0 Your content is user-generated or gathered by founders.
	Customer Support	Amount	0	
<b>FIXED COSTS</b>	Salaries and Overheads (Monthly)	Amount		
	Founder Salaries	Amount	20000	
	Technology Team Salaries (includes R&D)	Amount		0 included in Founder Salaries
	Other Salaries	Amount		0 No other employees yet. Small buffer for paperwork/printing; you work from home/school.
	Rent, Insurance, Legal, Accounting, Travel, and others	Amount	500	
<b>OTHER FIXED COSTS</b>	Marketing / Sales Expenses (Monthly)	Amount		
	Marketing and Sales Team Salaries	Amount	0	
	Marketing & Advertising (incl. payments to marketing agencies)	Amount		2000 our budget for Facebook/IG/TikTok ads.
<b>FORECAST</b>	Growth Forecast	Number		
	Subscribers in Month #1	Number	300	
	Monthly Subscriber Growth Rate (Net, after churn)	Percentage	6	
	Average Subscription Duration in Months	Number	12	
<b>INVESTMENT &amp; TAXES</b>	Investments	Amount		
	Personal Investment (setup costs)	Amount	10000	
	Bank loan	Amount	0	
	Rate of Interest for the bank loan	Annual Percentage Rate	0	
	Income Tax rate	Annual Percentage Rate		We can register as a BMBE (Barangay Micro Business Enterprise), which exempts us from income tax because our assets are below P3 Million. This is standard for student startups.

# Profit & Loss Projections: Summary

Financial Planning and Analysis - Build Your Startup's Financial Plan

Full Screen | Exit

Explorelligan

Home Assumptions P&L Summary P&L Detailed Analysis

PROFIT AND LOSS SUMMARY FOR THE YEAR ↓

Currency : PHP

	Type of Unit	Items
Total Subscribers	Count	5058
<b>Total Revenues</b>	Amount	<b>505800</b>
Cost of Good Sold	Amount	50580
<b>Gross Profits</b>	Amount	<b>455220</b>
Operating Expenses	Amount	270000
<b>Operating Profits</b>	Amount	<b>185220</b>
Interest, Taxes and Setup costs	Amount	10000
<b>Net Income</b>	Amount	<b>175220</b>

REVENUE GROW OVER 12 MONTHS	90%
BREAK-EVEN MONTH#	1
Cash needed until break-even point	0
Customer Lifetime Value (Gross Profits-based)	1080
CAC (based on #subscribers at year-end)	42

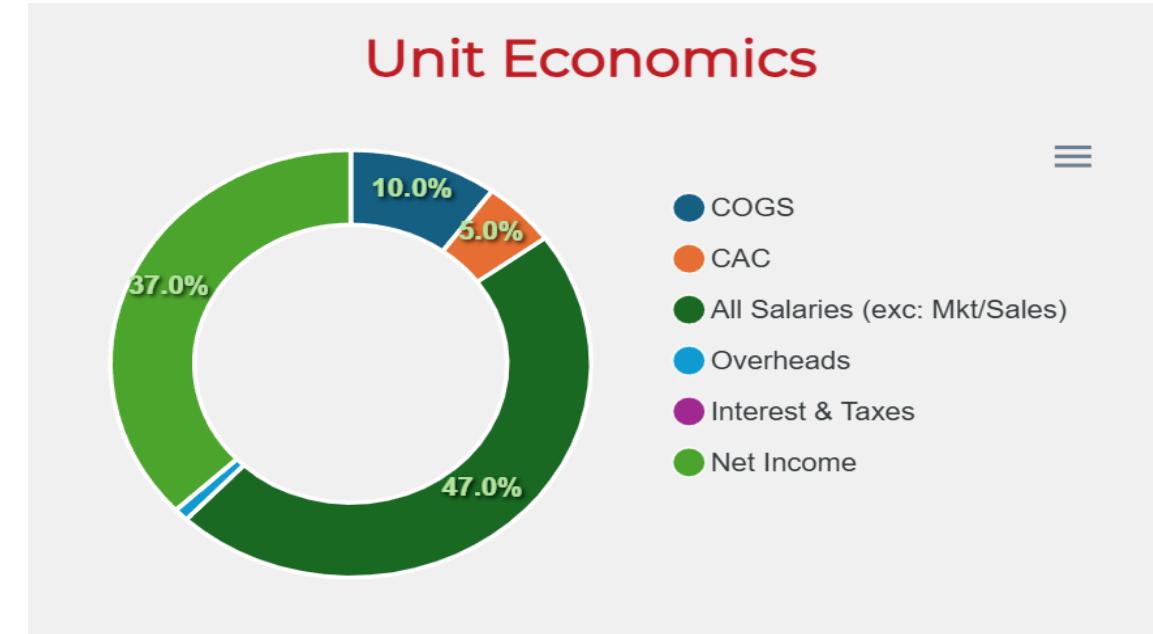
# Performance & Break-Even Analysis

**Year 1 Revenues**  
505800

**Gross Profits for Year 1**  
455220

**Net Profits for Year 1**  
175,220

**Break-even Month**  
Month 1



# Next Steps

## Goals for Months 10-12

Optimize app & expand users

## Goals for Months 4-6

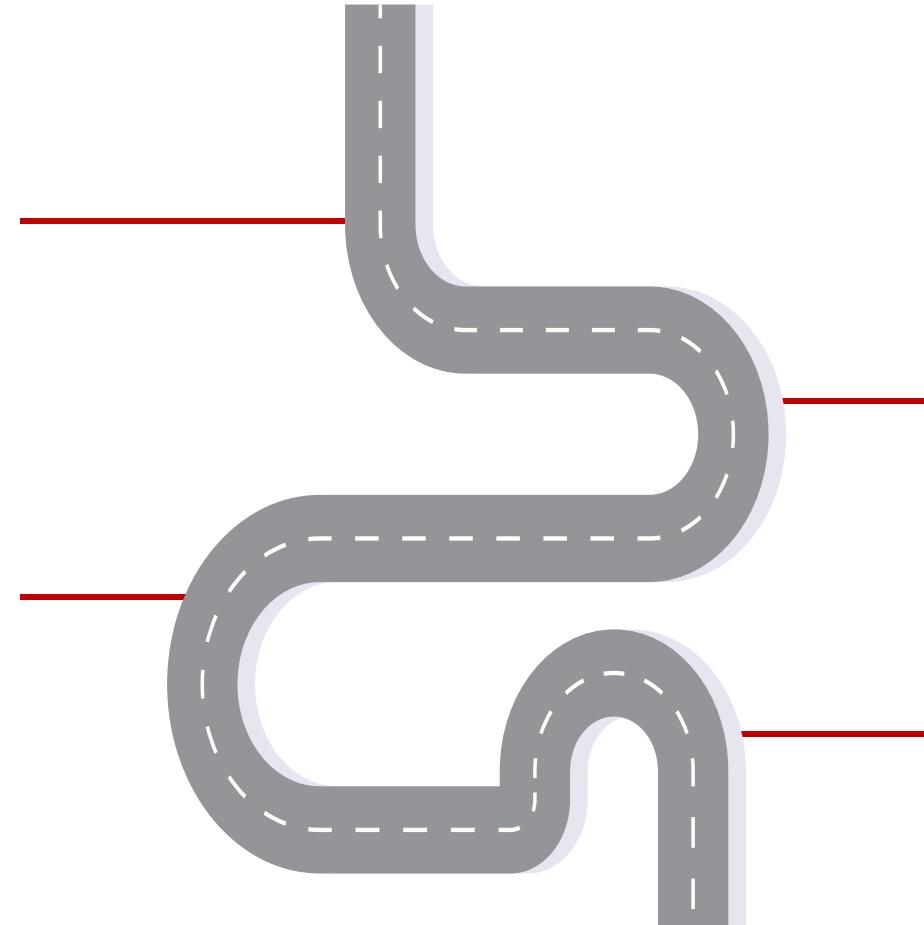
Beta test & add community data

## Goals for Months 7-9

Launch app & gather users

## Goals for Months 1-3

Build MVP & test core features



# Venture Viability Assessment



**Venture Viability Index**  
80%

## Strengths

Our key strength is our Unique Technological Advantage, Clear Dual-Segment Monetization, Strong Local Market Fit & Validation

## Areas of Improvement

TrailStream faces low initial revenue (PHP 810,000/2 yrs) due to ₱100/mo subscriptions, high costs from complex Geo-Fusion Algorithm integration and data licensing, and reliance on PAGASA/LGU partnerships, which may delay early market penetration.

# Next Steps

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TIMELINE	GOALS	TEAM NEEDED	PHYSICAL RESOURCES NEEDED	FUNDS NEEDED
Months 1-3	Build MVP & test core features	4 Devs	PC/Cloud	₹50,000
Months 4-6	Beta test & add community data	4-6 Devs	Devices	₹70,000
Months 7-9	Launch app & gather users	4-6 Devs	Cloud/Prom	₹100,000
Months 10-12	Optimize app & expand users	DataAnalys	Analytics	₹120,000

# Venture Team



**Name:** Rose Andrea D. Kisol

**University/College:** Mindanao State University - Iligan Institute of Technology

**Major:**IT -Database Systems

**Key Skills:** Website Wireframe

**Role in the Venture:** Developer

Keen on continuing with the venture:

**No**



**Name:** Geff Kendra Gaviola

**University/College:** Mindanao State University - Iligan Institute of Technology

**Major:**IT -Database Systems

**Key Skills:** Full Stack Developer

**Role in the Venture:** Developer

Keen on continuing with the venture:

**No**



**Name:** Julliane Ouano

**University/College:** Mindanao State University - Iligan Institute of Technology

**Major:**IT- Database Systems

**Key Skills:** Backend Developer

**Role in the Venture:** Developer

Keen on continuing with the venture:

**No**

## Current Mentors:

none

## Mentors Needed in these Areas:

Tech: Geo-Fusion & data, Sales: LGU/B2B, Finance: SOM/pricing, Marketing

# Venture Summary

## OVERVIEW

We are developing a mobile application that provides safety-conscious adventure tourists with a composite, real-time risk score per-route. Adventure planning is dangerous due to fragmented safety data on flash floods, tides, and weather. Our solution dynamically integrates these critical factors to recommend actionable "Go/Delay/Turn Back" advice. We offer unified mountain and coast navigation with AR and offline maps, ensuring safety and promoting responsible exploration.

## Mission

Our mission is to empower safety-conscious adventure tourists with consolidated, real-time risk intelligence, transforming fragmented data on natural hazards into actionable Go/Delay/Turn Back decisions so they can explore the world's mixed terrains with ultimate confidence and responsibility.

## Social/Economic Relevance

Fragmented safety data on hazards like flash floods and tides leads to preventable accidents and fatalities among adventure tourists. Focusing on this problem saves lives, minimizes the economic cost and strain on emergency services, and fosters responsible tourism by helping urban professionals safely navigate natural environments.



# Thank You!

Our mission is to empower safety-conscious adventure tourists with consolidated, real-time risk intelligence, transforming fragmented data on natural hazards into actionable Go/Delay/Turn Back decisions so they can explore the world's mixed terrains with ultimate confidence and responsibility.

