

BUSSIN': A Digital Queue Management and Ticketing Solution for
Mindanao Inter-Provincial Transport

Submitted by: Kim, Andrew Min Yeop P.

Course & Section: BSDS 2-A

Date: January 30, 2026

1. Introduction

Overview

Mindanao is a vast island where economic integration relies heavily on road transport. Major cities—Davao, Cagayan de Oro, General Santos, Butuan, and Zamboanga—are connected by a network of bus routes that serve as the lifeline for trade, tourism, and education. However, despite the high volume of travel, the queueing and ticketing systems across the island remain manual and fragmented.

Relevance & Affected Audience

The problem affects millions of Mindanawons who travel across regions (e.g., Region XI to Region X or XII). Whether it is a student traveling from Cotabato to a university in Davao, or a worker commuting between Tagum and Mati, the lack of a unified booking system creates unnecessary friction. This issue is not isolated to one city but is a systemic failure across the island's major transport terminals.

2. Problem Description

Detailed Explanation

The core issue is the **"First-Come, First-Served" (FCFS)** operational model used by most bus companies across Mindanao. There is no centralized database or booking platform. Passengers must physically go to a terminal to see if a bus is available. This leads to overcrowding at terminals, unpredictable departure times, and physical scrambling for seats when buses arrive.

Observations & Data

The scale of the problem is visible in major hubs. In Davao City alone—which serves as a key transit point for the island—passenger numbers can surge to **50,000–80,000 commuters per day** during peak seasons.

- **Physical Safety:** The absence of a queue system leads to **physical chaos**, where passengers must "wrestle" through crowds to secure a ride home.
- **Inequity:** This system disproportionately affects the physically disadvantaged, such as the elderly, pregnant women, and children, who often **get left behind** because they cannot physically compete for a seat.
- **Inefficiency:** Commuters are forced to wait in inefficient environments where **even being early does not guarantee a seat**.

Limitations

Current bus operations are fragmented. Different companies (Bachelor Express, Yellow Bus, Rural Transit) operate independently without a shared digital infrastructure, making it impossible for a passenger to seamlessly plan a multi-leg trip across the island.

3. Proposed Solution

This project proposes "**BUSSIN'**", a unified digital booking platform designed to serve as a **hassle-free queue alternative** for the entire Mindanao bus network.

Tech-Enabled Solution

BUSSIN' aggregates schedules from various bus operators across Mindanao into one app, shifting the queuing process from physical terminals to a digital interface.

Key Features:

1. **Island-Wide Route Selection:** Users can select routes connecting any major Mindanao province (e.g., Davao to Bukidnon) and view real-time schedules.
2. **Digital Seat Reservation:** The app allows users to **book a digital ticket** and select specific seats in advance, ensuring that a ticket purchased in GenSan guarantees a seat on a bus to Davao.
3. **Cashless & Secure:** To reduce friction at terminals, users can choose digital payment options. The app provides a scannable ticket, eliminating the worry of **missed trips or queue jumpers**.

Target Users

- **Inter-Regional Travelers:** Residents moving between major cities (e.g., CDO to Davao).
- **Seasonal Commuters:** Students and workers returning to provinces during holidays.
- **Tourists:** Visitors exploring Mindanao who currently find the manual bus system confusing and intimidating.

Expected Impact

Implementing BUSSIN' across Mindanao will modernize the island's transport infrastructure. It will reduce congestion at terminals, ensure safety by eliminating crowd "wrestling," and provide dignity to commuters by guaranteeing that a purchased ticket equals a secured seat.

4. Conclusion

The "agawan" culture prevalent in Mindanao's terminals is a solvable logistics problem. By adopting **BUSSIN'**, we move away from an outdated, physical-strength-based system to a modern, digital-first approach. This solution envisions a connected Mindanao where travel between provinces is seamless, safe, and efficient for everyone.

5. References

1. Colina, A. L. I., & MindaNews. (2025, October 16). 80,000 expected to crowd Davao's bus terminal during "Undas." MindaNews.
<https://mindanews.com/top-stories/2025/10/80000-expected-to-crowd-davaos-bus-terminal-during-undas/>
2. Kim, A.M.Y.P. (2026, January 30). *The State of Mindanawon Cross-Provincial Bus Transport*. Student Laboratory Output