

SmartTickets: AI-Driven Smart Ticket Distribution Solution

*Mr LAM Yu, BSc (Hons) in Information and Communications Technology,
Department of Digital Innovation and Technology
Supervisor: Dr CHEONG Kai Yuen, Head of Department*

1. Research background

With the rise of online ticketing platforms, scalpers are increasingly hoarding and reselling tickets, using automated tools or bulk purchasing to profit, e.g. the controversy over the ticket sales of YOASOBI's Hong Kong concert. It went on sale and sold out quickly. This not only harms the rights of fans and violates laws. Therefore, utilizing AI and automatically detect scalper behavior can effectively enhance the management efficiency of ticketing platforms and reduce the impact of scalpers on the market.



2. Objectives

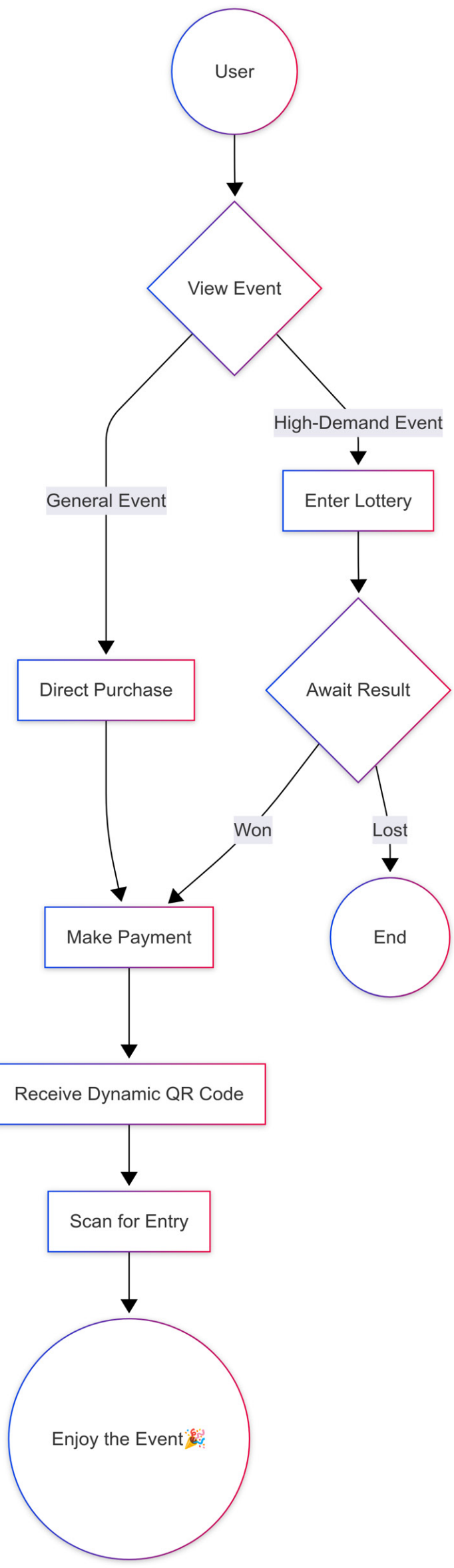
- Develop an efficient online ticketing system: Build a fully functional platform that supports event publishing, user registration, ticket booking and secure payment.
- Integrate machine learning to detect scalpers: Use machine learning models to analyze user data and automatically identify potential scalper accounts to maintain market fairness.
- Implement a fair lottery ticket purchasing mechanism: Design and implement a transparent lottery system for high-demand events to ensure that all users have equal opportunities to purchase tickets.

4. Expected Findings & Results

This system is expected to achieve a fair and efficient ticketing ecosystem. The core results are demonstrated through the following features:

Anti-Scalping Security Mechanisms

- AI Scalper Detection:** Real-time analysis of registration, login, and purchase behavior to flag suspicious accounts.
- Dynamic QR Code:** Ticket QR codes refresh every 60 seconds to prevent screenshot abuse.
- Real-Name Registration:** Lottery entry and ticket purchases are tied to verified user identities.
- Purchase Limits:** Restricts the number of tickets a single account can purchase for high-demand events.



風險級別	操作
高風險 風險分數: 76.0%	查看 刪除
高風險 風險分數: 66.0%	查看 刪除
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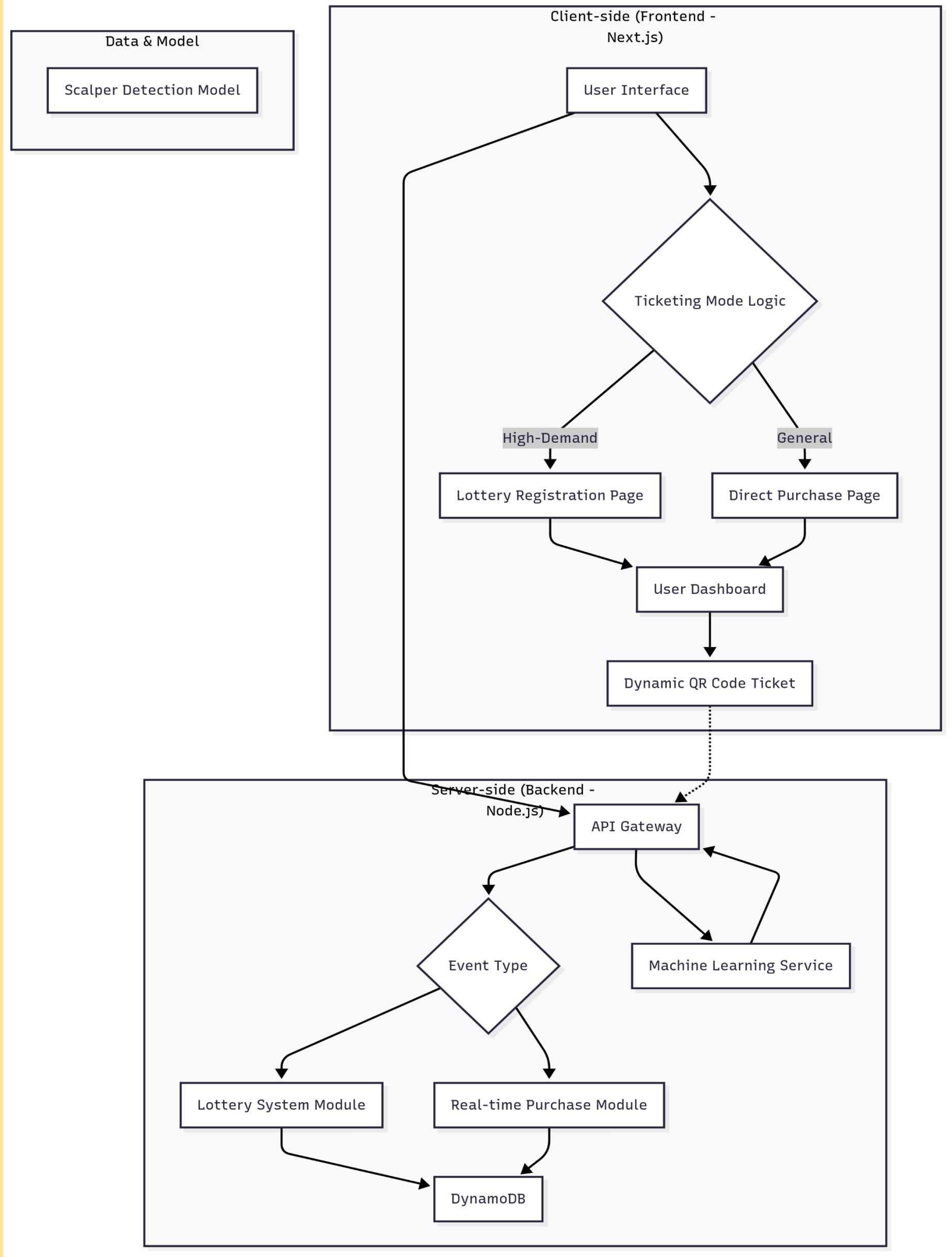


5. Conclusion

This project delivers an intelligent ticketing system that effectively counters scalping by integrating machine learning, a fair lottery, and dynamic QR codes. The system ensures fairness for fans and enhances security, providing an innovative, automated solution for the modern ticketing industry.

3. Methodology

This project adopts agile development methods and combines modern web technologies with machine learning models for development.



Development Process:

System Design: Plan the system architecture, database model, and APIs.

Core Development: Use Next.js to develop frontend and backend features, including event creation, lottery system, and payment processing.

Model Integration: Train a classification model on user behavior data to identify and flag potential scalper accounts in real-time.

Security Enhancement: Develop dynamic QR codes that refresh periodically to invalidate static screenshots.

Testing & Deployment: Conduct unit and integration testing to ensure system stability, followed by deployment to a cloud platform.