

Utilizing Generative AI Technology for the Development of Cinema Ticketing Information Systems: A Case Study on Lovable.IA Implementation

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Abstract. The development of artificial intelligence has enabled new methods for information system development, such as the use of prompt-based generative platforms like Lovable.IA (a generative AI platform). This research is to create a web-based cinema ticketing information system with Lovable.IA and Supabase as the backend database. The methodology used is a system development approach with six phases: user interface design, movie data input, seat selection, payment integration (QRIS – Quick Response Code Indonesian Standard), admin login, and contact information display. The results show that Lovable.IA supports a rapid and cost-effective system development process that delivers responsive and user-centric interfaces. Supabase was integrated for real-time stable data interaction so that the system can respond to the user's input swiftly. The results of this study suggest that a generative AI-based approach can simplify information system development, particularly for non-technical users. Although there are minor constraints such as daily usage limitations and the requirement for multiple prompts, this method still proves its dominance in developing effective web-based systems. This study contributes to the body of knowledge by advancing the application of generative AI technology in digital information system development, specifically in the education and business domains.

Keywords: Generative AI, Information System, Lovable.IA, Supabase, Cinema Ticketing.

1. Introduction

In the current digital world, IT is an essential tool to support all fields including amusement like cinema industry. Among the applications that still evolve is the system of information on the booking of tickets on line, which allows the user to order tickets, choose seats and pay on line, so that the transaction becomes more efficient and convenient (Siregar & Yuliana, 2021; Prasetyo et al., 2023). However, in practice, obstacles such as long queues at ticket counters, technical glitches in legacy systems, and limited digital access for small businesses lacking in-house development resources (Ferreira et al., 2013; Wandile et al., 2024) are still frequently encountered. Developing such systems also requires specific

technical competencies, both in programming and interface design. Addressing these challenges, new artificial intelligence-based solutions, such as Lovable.IA, have emerged, enabling the automated development of web-based systems simply through text commands (prompts), without the need for manual coding or installation of additional software.

Several previous studies have addressed the development of online ticket sales information systems, including the use of generative technology and automation in the design process. One such study, by Hasbie (2021), designed a PHP-based system for cinema ticket sales, equipped with seat selection features and payment notifications via short message service (SMS). Habibi et al. (2023) explored the use of low-code platforms like Appgyver for concert ticketing systems integrated with digital payment methods. At the international level, Sekhar et al (2021), in the International Journal of Computer Applications, developed a web-based theater ticketing system with a real-time seat reservation approach. Meanwhile, Ferreira et al. (2013), in Procedia Computer Science, evaluated cloud-based ticketing systems in South Asian cinemas and their effectiveness in improving user convenience. In addition, Kamnerddee et al. (2024), in the Journal of Web Engineering, investigated the use of AI-based UI generation tools in web prototyping and concluded that generative AI significantly accelerates design processes and improves interface quality.

This study aims to explore the development process of a cinema ticketing information system using Lovable.IA and to analyze the features produced through prompt-based development. It also seeks to identify the advantages, limitations, and potential for further application of generative AI as a tool for building practical web-based information systems.web.

2. Literature Review

2.1 Information System Concept and Application

An information system may be described as a synergy of technology, people and procedures that are systematically organized to collect, process, store and disseminate pertinent data to an organization to support decision making. As Laudon and Laudon (2020) stated, information systems are integral to the institutions and businesses as they help in enhancing the operational efficiency and also in bringing strategic value. Information systems also enable public service and commercial sectors in other industries to accelerate transactions, reduce manual errors and enhance customer relationships.

Stair and Reynolds (2018) stated that the successful implementation of an information system is not dependent on the most complex hardware or software, but how well the system being developed fits into the user's workflow in the field. Thus, in the design of the system, many factors of convenience for the user, such as the interface appearance, the access speed and the navigation ease, must be taken into account to allow the system to run in a best way and to satisfy the user.

2.2 Utilization of Generative AI in Information System Design

Generative AI technology has been rapidly advancing in recent years, and it is starting to be applied in a wide range of fields, such as information systems development. One approach that's starting to catch on is prompt-based development, where users just type descriptive text commands to create interface elements. Santos et al. (2025) proved that LLMs can speed up and simplify the interface design process for people without technical expertise.

A study by Budiman et al. (2023) that proposed a prototype of an academic system based on generative AI showed that development time can be drastically shortened in comparison

to traditional methods. Besides the efficiency, this method also allows the visual design variations in flexible way. So, applying generative technique to the design of web-based information system is a promising approach to overcome the scarcity of experts in software development.

2.3 Implementation of Lovable.IA and Supabase in System Development

Lovable.IA is an AI-based service that enables users to create web interfaces immediately with text instructions. By specifying how you want it to look or function, the system produces web pages automatically, without manual coding. This technology makes use of large language models (LLMs) that capture user requirements and convert them into visual components that can be used directly. Kamnerddee et al. (2024) suggested that this method can decrease development time by over 60% compared to conventional methods and enables anyone, even non-technical users, to take part in the system design process.

To handle the backend, the system employs Supabase, a real-time communication platform that is open-source and built on PostgreSQL. Supabase has user authentication, file storage, and auto-generated APIs, so it works well with low-code platforms like Lovable. Supabase makes managing databases and integrating systems easier without having to write APIs manually, according to Ayezabu (2022). The synergy of Lovable. IA as an interface generation tool with Supabase as a data storage service, fosters the creation of modular, efficient and easy-to-deploy information systems, particularly for students and novices in the IT domain.

3. Method

3.1 Type and Approach of the Research

This study is categorized as applied research because it is concerned with the application of knowledge to a particular problem, and the problem is to build a web-based information system solution using artificial intelligence technology. The method is a systems development study, where the researchers themselves develop and document a cinema ticket booking information system. According to Pressman and Maxim (2020), this approach is deemed suitable for testing whether a tool or platform can be used to develop software that meets the needs of users in the best possible way.

3.2 Research Location and Period

The investigation was carried out independently via online media, not linked to any institution. The entire system design and development was done online via Lovable.IA and Supabase platforms. This procedure started in May 2025 and took about two weeks, in accordance to a pre-established sequence of activities grounded on system development and documentation.

3.3 Tools and Technologies Used

A few of the essential instruments and technologies utilized in this study are as follows:

- 1) Lovable.IA: an artificial intelligence-based platform that allows the generation of web interfaces from descriptive text prompts.
- 2) Supabase, an open-source database service based on PostgreSQL, was employed to maintain the user information, ticket booking transactions, and payment history.
- 3) Hardware: a standard user laptop with 8 GB RAM and a Chrome browser.
- 4) Supporting software: web browser, stable internet connection, and screenshot tools for documentation.

These technologies were chosen for their many benefits, such as being free, simple to use, and allowing for smooth communication between the web interface and the database system, even for users with minimal programming knowledge (Ayezabu, 2022; Kamnerddee et al., 2024).

3.4 System Development Procedure

The system was developed incrementally with a prompt-based iteration method, which is a text instruction to describe the system features and generate the system through Lovable.IA. Each command has a particular function in the formation of the needed system components. The system development process has six phases:

- 1) Initial Interface Design
The first step is to design the main interface of the system, which includes choosing color schemes and layouts. This is done by means of visual descriptions in the form of text commands to Lovable.IA.
- 2) Adding Movie Content and Showtimes
Then the system is filled with data, such as movie titles, poster images and showtimes. This information is added through text commands specific to the needs of the display.
- 3) Seat Selection and Ticket Prices
The seat selection option gives the user the ability to choose the seats according to his/her preference. Ticket prices are calculated automatically based on the configuration provided through prompts.
- 4) QRIS Payment Integration
At this point, the system shows a barcode as a payment method via digital. All users have to do is scan the QR code to make a payment, and the payment status will be verified later.
- 5) Admin Login and Transaction History Features
The admin login feature was introduced to allow the admin to monitor and manage the transactions more easily. After ticket is issued, transaction details are stored automatically in the history menu.
- 6) Final Display and Contact Information Improvements
The last step was to integrate customer service details including email addresses, social media profiles (such as Instagram) and phone numbers which will be accessible on the system page.

The whole procedure is recorded in screenshots of the Lovable.IA outcomes and includes narratives that explain each step as the implementation analysis.

3.5 System Documentation and Validation Techniques

The information system proposed in this study is a web-based cinema ticket booking application developed with Lovable.IA generative platform and supported by the Supabase database. This application has been created to make the ticket booking easy with a simple and responsive user interface. In addition, the system has several automated features such as selection of movie title, scheduling of show, selection of seats, digital payment through QRIS, and admin access to monitor the transaction. This system development follows a user-centric design philosophy, focusing on users convenience and ease of navigation in the process of completing a transaction (Wandile et al., 2024).

4. Results and Discussion

4.1 General Description of the Developed System

This study produces a cinema ticket booking information system on web using Lovable.IA generative platform with Supabase as its database. The system is designed to make the ticket booking easy for the users by providing simple interface and automated options like choosing movie list, show schedules, seat selection, QRIS based digital payment, and separate admin login access for admin to handle transaction.

During the design process, the system applied user-centered design concept to make the transaction more practical and efficient (Wandile et al., 2024).

4.2 System Implementation Results by Stage

4.2.1 Initial Interface Design

The first step in the system development process was the development of the main interface of the cinema ticket sales system. In this phase, the researchers used text prompts (text commands) submitted to the Lovable.IA platform to create the main page design based on the selected color schemes and visual styles.

Prompt used:

"Saya ingin membuat web penjualan tiket bioskop dengan gaya klasik-modern, warna coklat muda dan biru, berisi data nama-nama film, jadwal tayang, pemilihan nomor kursi, dan laman pembayaran".

English translation:

"I want to make a cinema ticket sales website with a classic-modern design, light brown and blue colors, with information about film names, show times, seat number selection and payment pages."

The result was a homepage with a navigation menu including Home, Movies, Showtimes, and My Ticket. The visual design matched the expected aesthetic and offered clean, user-friendly navigation. This aligns with usability-first design principles as discussed by Kamnerddee et al. (2024). The homepage result is shown in Figure 1.

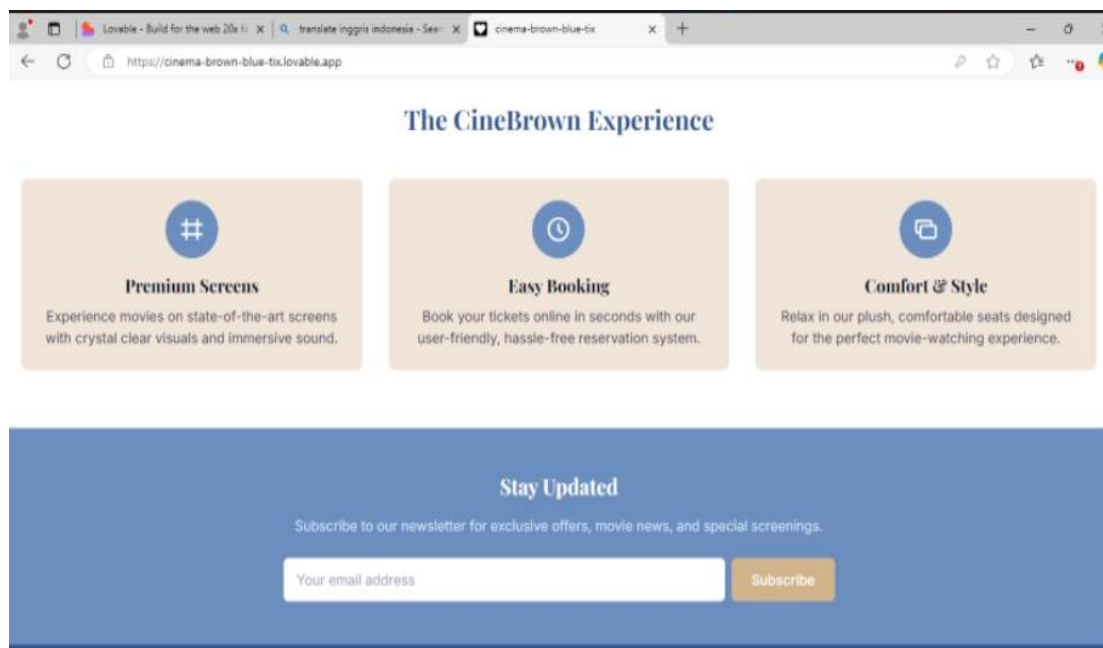


Figure 1. Homepage interface of the cinema ticketing website

4.2.2 Adding Movie Data and Schedule

The next step involved inputting film titles and screening schedules. The prompt directed Lovable.IA to add several movie titles and posters to the system's catalog.

Prompt used:

"Tambahkan judul film Jumbo, Dilan 2000, Penghuni Surga, Gen Z, dan Gunung Malabar. Tambahkan pula beberapa gambar berikut ke dalam poster film-film tersebut".

English translation:

"Add the movie titles Jumbo, Dilan 2000, Penghuni Surga, Gen Z, and Gunung Malabar. Also, insert the following images into the posters of these movies."

The result was an interactive movie catalog complete with posters and titles. This reflects findings by Soares & Viana (2015), who noted that appealing visual content can influence ticket purchase decisions. The result is shown in Figure 2.

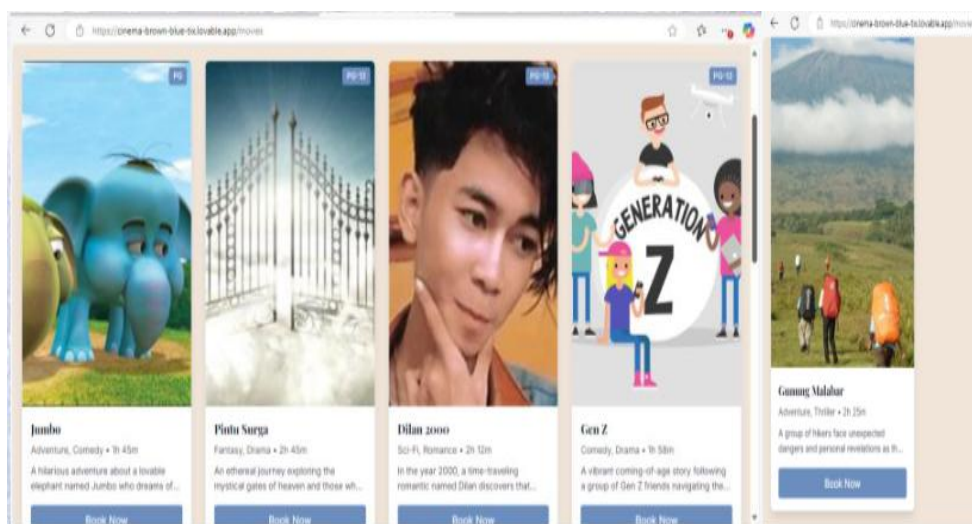


Figure 2. Output of added movie data and screening schedule

4.2.3 Seat Selection and Ticket Pricing

To enhance interactivity, the system was instructed to enable seat selection and display total price calculations based on the number of tickets selected.

Prompt used:

"Tampilkan layout pemilihan kursi berdasarkan jadwal tayang, dan tetapkan harga satu tiket sebesar Rp32.500."

English translation:

"Display the seat selection layout based on the screening schedule, and set the price of one ticket at Rp32,500."

Lovable.IA generated a clickable seating layout. After selecting seats, the system displayed the total cost automatically. This real-time feedback mechanism aligns with best practices in digital reservation systems (Sekhar et al, 2021). The implementation is illustrated in Figure 3.

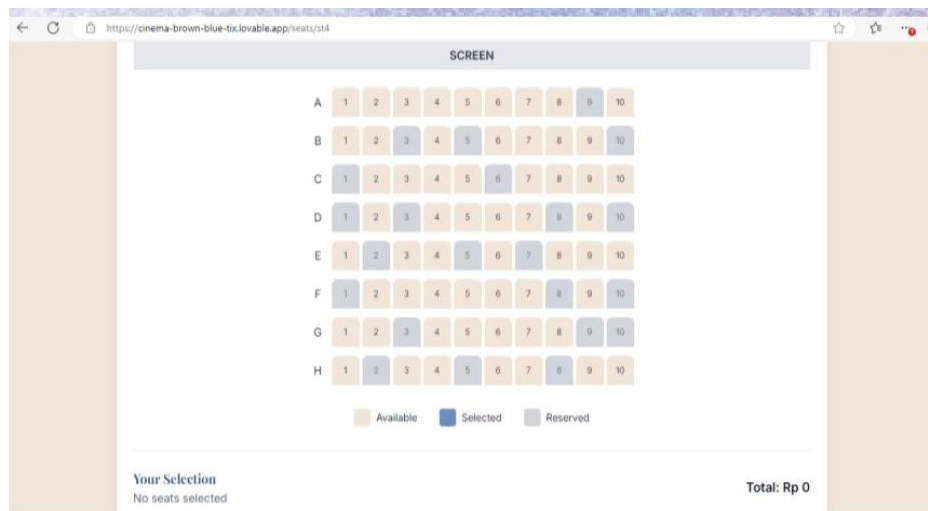


Figure 3. Seat selection and ticket price display

4.2.4 Payment Process and QRIS Integration

The payment process was configured to display a QR code for QRIS payment after seat selection.

Prompt used:

"Ketika saya mengklik proses pembayaran, tampilkan total biaya keseluruhan dan metode pembayaran QRIS dalam bentuk gambar kode batang."

English translation:

"When I click on the payment process, display the total cost and the QRIS payment method in the form of a barcode image."

The system successfully generated a scannable QRIS barcode and updated the status to "successful" after payment. This aligns with findings by Ferreira et al. (2013), who emphasized the role of QR-based payments in streamlining transactions and reducing manual bottlenecks. The result is shown in Figure 4.

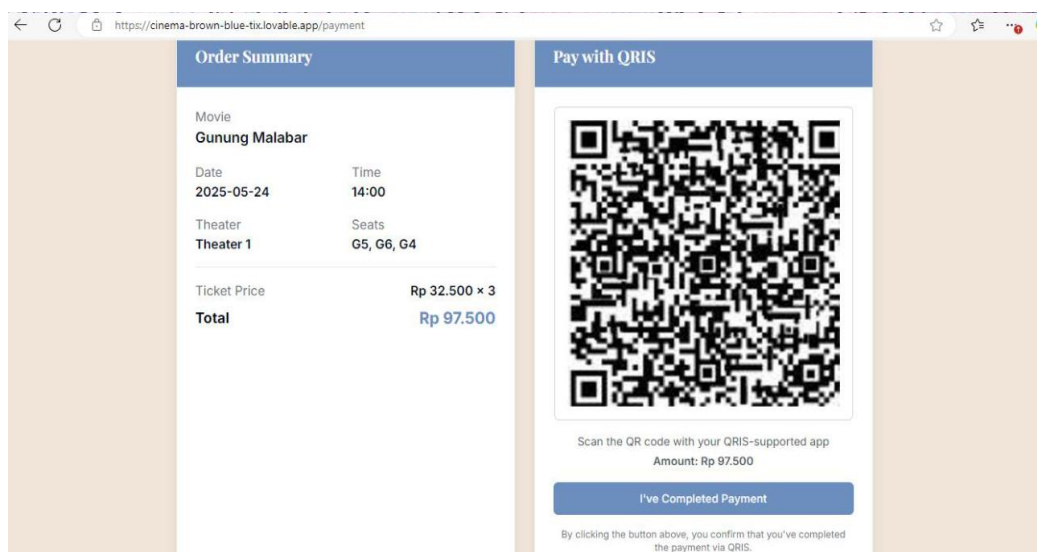


Figure 4. QRIS-based payment interface

4.3 Functional Analysis of the System

Overall, the developed system meets the essential requirements of an online ticketing transaction platform. Each feature functioned as described in the respective prompts, and the entire process—from film selection to payment—was fully integrated. Compared to traditional development methods, the use of Lovable.IA significantly reduced the time required to produce a functional interface due to its code-free prompt-based system. This supports findings by Santos et al. (2025), who reported that prompt-based UI generation can improve development efficiency by up to 60%.

4.4 Development Challenges and Solutions

During the development of the system, the researchers faced several technical issues, such as an interface that was not immediately responsive when the first request was made, and a daily prompt limit on the free version of Lovable.IA. To compensate, the prompt had to be resubmitted, or the researchers had to wait for the daily quota to automatically renew. In addition, certain visual elements needed to be customized to fit the design. These constraints, Budiman et al. (2023) argue, are typical in the application of generative AI-based tools, particularly those still in the development phase.

Nevertheless, the system was built as planned despite these difficulties. The test results demonstrated that all the essential functions were working properly and responded well to the commands.

5. Conclusion

The findings of this research suggest that an AI-based generative platform, such as Lovable.IA, along with Supabase as a database, can be an effective approach to developing a web-based cinema ticket sales information system. The system developed can offer important needed features such as movie selection, showtime scheduling, seat booking, digital payment through QRIS, and admin access to manage transactions. System functional testing also showed that the system was able to meet the design goals and was responsive to instructions. Prompt-based development has been found to speed up the process of designing an interface and to democratize the development of complex digital systems to people without technical expertise. Yet, a few technical limitations still exist, such as daily usage restrictions for the free version and having to repeat a few commands to get the desired design results. These limitations may affect the work efficiency and stability of system output. Further development, research might be towards adding more advanced features, user acceptance testing, or evaluating the performance of systems developed using generative AI against traditionally developed systems. This strategy can be used widely in various applications, such as education, digital business, and web-based public services.

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