



## **Ticket Concert Project**

By

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This project is a part of the System Analysis and Design course

King Mongkut's University of Technology North Bangkok

## 1. System Request

System request – Concert ticket Project

**Project Sponsor:** Marketing

**Business Need:** Generally, in Thailand, there are relatively few websites for purchasing concert tickets. The most well-known platforms include Thaiticketmajor, Event Pop, and The concert. Each of these websites faces various issues such as frequent crashes, slow loading times, and instances where individuals buy a large number of tickets only to resell them at inflated prices. These issues have led to dissatisfaction among users. As a response to these challenges, we have initiated this project to address these problems.

**Business Requirement:** By using our website, customers will be able to do the following:

- Search for concert tickets
- Purchase concert tickets
- Check dates, times, venues, and prices of concerts
- Receive e-tickets to avoid additional printing costs for customers.

**Business Value :** Within 4 years, we believe that we will make a profit

-selling tickets 1,535,000 baht

-Fee 9,000 baht

-Sponsor 325,000 baht

**Tangible:** Increasing profit by 1.5 to 2.5 million per year, after four years of starting the business.

**Intangible:** -Customers are increasingly satisfied.

- The company's reputation is becoming more widely recognized.
- Bringing in more customers than before.
- Attracting a greater number of investors to invest in the company.

## **Special issues or constraints**

Creating a website for purchasing concert tickets can encounter various challenges depending on the complexity and details of the project.

Here are some potential issues that might arise:

-The website might not sell well because there is a new competitor.

- Security and Privacy Concerns

Our website collects customers' personal information such as ID cards, passports, and credit card numbers. The storage of credit card and user personal data must adhere to security standards, such as using HTTPS and encrypting sensitive information, to prevent data breaches and potential hacking incidents. This is crucial for customer security, peace of mind, and our company's credibility.

- Payment System

A secure and convenient online payment system is vital for purchasing concert tickets. Using trusted payment service providers like PayPal, True Money, or other reputable payment processors is essential. The payment system must be properly implemented and thoroughly tested to prevent errors.

- User Experience

The design of our website and user experience significantly impact user satisfaction and usability. We invest heavily in creating a website layout and experience that users will find pleasing and enjoyable to use.

- Cross-Device Compatibility

The website should be designed to be usable on various devices, including computers, tablets, and mobile phones. It should have a responsive design that adapts to different screen sizes and device types, ensuring a consistently pleasant experience for users.

#### - Technical Challenges

Compatibility with different web browsers, loading speed, payment problems, and data overlap issues may arise. For instance, duplicate ticket purchases, simultaneous payment processing delays, and database connectivity issues could occur.

#### - Maintenance and Updates

Regular maintenance and updates are necessary to ensure the website functions correctly over time. Neglecting maintenance can lead to various problems and disruptions in functionality.

#### - Integration with Other System

The website needs to work seamlessly with other systems, such as concert management systems, payment processing systems, or other related platforms. We might encounter challenges in data integration and system interoperability.

By addressing these potential issues and implementing effective solutions, we can create a successful and reliable concert ticket purchasing website that provides a secure, convenient, and enjoyable experience for users.

## 2. Feasibility

### Technical Feasibility

-The total number of team members is 4 people. The total working period is about 4 months. The probability of completing this project is 80%.

### Economic Feasibility

	Year0	Year1	Year2	Year3	Year4	Total
<b>Benefits</b>						
Increased Sales		1,500,000	1,530,000	1,550,000	1,560,000	6,140,000
Reduction in customer complaint		100,000	100,000	100,000	100,000	400,000
Sponsor		50,000	200,000	450,000	600,000	1,300,000
<b>Development costs</b>						
Development Team Salaries	1,200,000	0	0	0	0	1,200,000
Development Training	200,000	0	0	0	0	200,000
Hardware and software upgrades	1,000,000	0	0	0	0	1,000,000
Hardware Repairs	100,000	0	0	0	0	100,000
Software Licensing fees	50,000	0	0	0	0	50,000
Servers software	70,000	0	0	0	0	70,000
Printer	6,000	0	0	0	0	6,000
<b>Operational costs</b>						
Hardware and Software		80,000	80,000	80,000	80,000	320,000
Operational Labor salaries		100,000	120,000	150,000	170,000	540,000
water and electricity bills		50,000	50,000	50,000	50,000	200,000
Security Website fees		10,000	10,000	10,000	10,000	40,000
<b>Marketing cost</b>						
Communications Charges		50,000	50,000	50,000	50,000	200,000
Advertising cost		120,000	140,000	200,000	220,000	680,000
Tax		120,000	140,000	200,000	220,000	680,000
<b>Total benefits</b>		1,650,000	1,830,000	2,100,000	2,260,000	7,840,000
<b>Total Development costs</b>	2,626,000					2,626,000
<b>Total Operational costs</b>		240,000	260,000	290,000	310,000	1,100,000
<b>Total costs</b>	2,626,000	530,000	590,000	740,000	800,000	5,286,000
<b>Total Benefits-Total costs</b>	-2,626,000	1,120,000	1,240,000	1,360,000	1,460,000	2,554,000
<b>Cumulative Net Cash Flow</b>	2,626,000	1,506,000	266,000	-1,094,000	-2,554,000	
<b>ROI</b>						48%
<b>Break Even Point</b>						2.25 year

### Organizational Feasibility

The success of any project heavily depends on effective management and leadership. The client company should have a dedicated team capable of overseeing the development, implementation, and ongoing management of the ticket reservation system and maintaining a ticket reservation system requires financial resources, human resources, and time. The client company must be prepared to allocate the necessary budget, personnel, and time to develop, launch, and maintain the system effectively. This includes hiring or training technical staff, as well as allocating funds for software development, infrastructure, and marketing.

### 3. Project Schedule

The agile approach to SDLC (Software Development Life Cycle) has many advantages that can help the project work efficiently and respond to the changing needs of customers and the business environment.

## **Advantages of using SDLC Agile**

- Flexibility to update requirements Because there may be demands that change all the time, such as increasing or decreasing concert times.
  - Responding to the needs of users can listen to their needs. Which makes it possible to get the right work that meets the needs of the user.
  - The website for concert tickets may involve intricate operations, and employing Agile methodologies enables the capability to continuously adapt to changes.
  - Tested and rated for high and stable performance all the time.

## 4. Functional Requirement

- Can search for desired concerts.
- Edit your account anytime.
- View dates, times, venues, prices, and other special conditions.
- Check seat availability.
- Convenient e-ticket for users.
- Multiple and convenient payment options.

## 5. Non-functional Requirement

### Availability

- It is a system that works 24 hours a day.
- When it comes to the payment process, the system will be more stable. no downtime Because it is a very important step for the user.

### Usability

- The screen is designed to be easy to use. due to the use of contrasting colors Easy-to-read fonts for easy visibility by users and accompanying icons for easy understanding.
- There are languages to support both Thai and English which are international languages.

### Security

- The system is safe in the process of entering the password because there is protection from seeing the password.
- There is an I'm not a robot function to prevent bots from entering the system.

## 6.Requirement

### Interview with individuals

Interviews with people who have experience with pressing concert tickets, online interviews

### first interviewee

#### **Location**

Instagram direct message

#### **Objectives**

- User concert ticket press experience
- Problems while holding concert tickets
- User preferences regarding the concert.
- Payment process

#### **Problem**

- The website crashed .
- There is an issue in the payment process, which is that payment cannot be made.

1. เคยกดบัตรเว็บไหนมาก้าง แล้วชอบเว็บไหนที่สุด เพราะอะไร
2. มีปัญหาอะไรเกิดขึ้นบ้างตอนกดบัตร
3. อยากให้เว็บใช้ตัวแอลซีพีปัญหาตรงไหนบ้าง
4. ปกติใช้เวลาในขั้นตอนชำระเงินประมาณกี่นาที
5. เวลาชำระเงินชอบชำระเงินแบบไหนมากกว่า
6. ชอบดูคอนเสิร์ตประเภทไหน

1. thaiticketmajor, Allticket, the concert ชอบ allticket เพราะเว็บไม่ล่ม ระบบดี
2. เว็บล่ม จ่ายเงินไม่ได้ จ่ายเงินไม่ทัน
3. อยากให้ระบบเว็บไม่ล่มตอนกดบัตร เวลาที่เว็บมีผู้ใช้งานพร้อมกันหลายคน
4. 5 นาที
5. ชำระผ่าน k plus
6. คอนเสิร์ตคิลปินเดปอน ทีปีอบ

## second interviewee

### Location

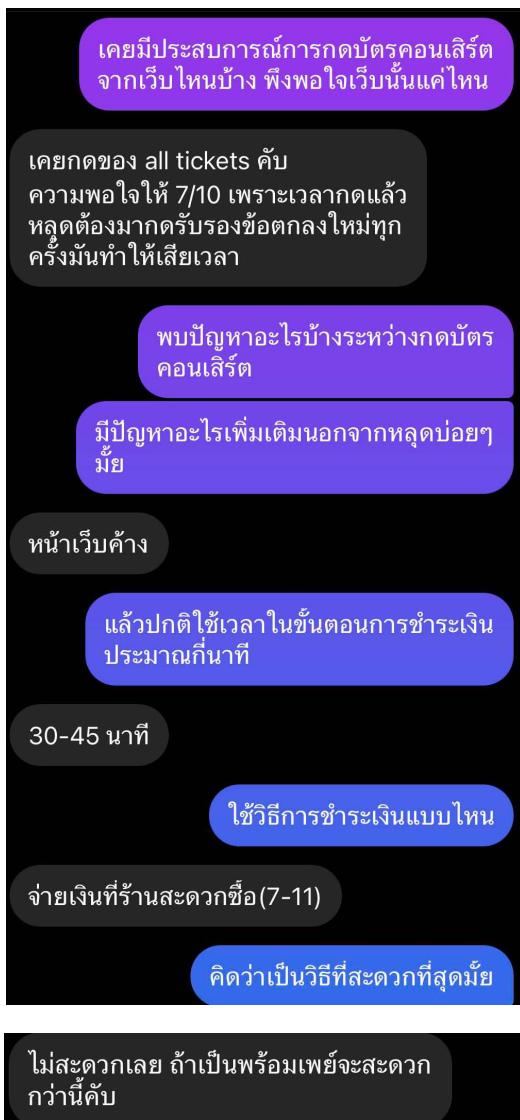
Instagram direct message

### Objectives

- User concert ticket press experience
- Problems while holding concert tickets
- Payment process

### Problem

- Stuck webpage.
- Wasting time due to frequent website crashes.



### third interviewee

#### Location

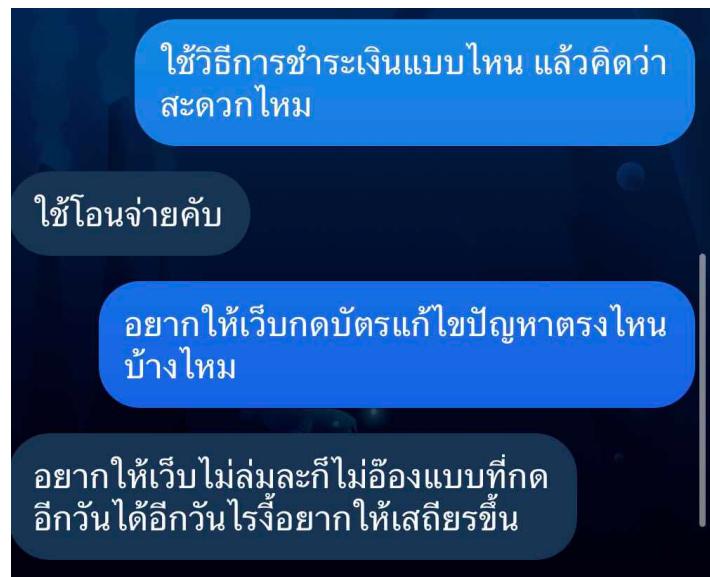
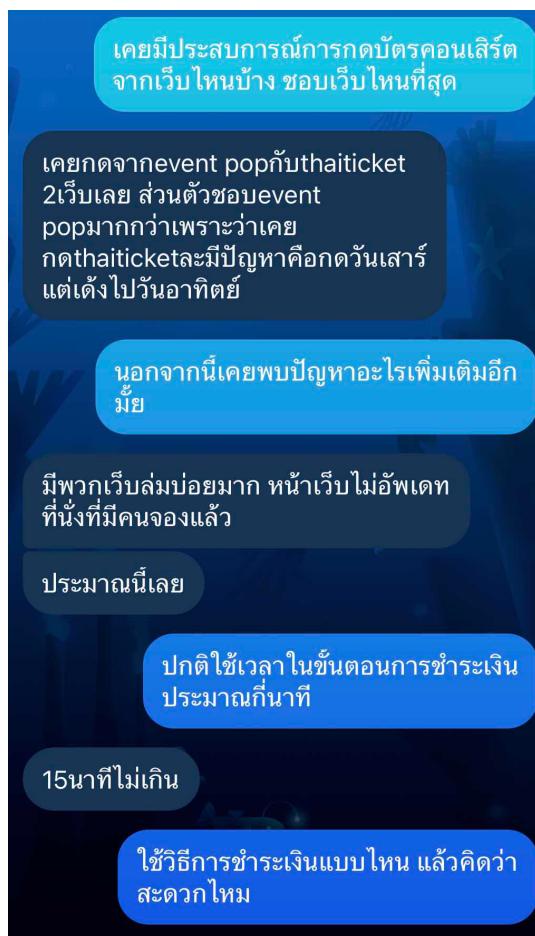
Instagram direct message

#### Objectives

- User concert ticket press experience
- Problems while holding concert tickets
- Payment process

#### Problem

- The website crashed.
- seat not updated.
- Wrong date and time information.



## fourth interviewee

### Location

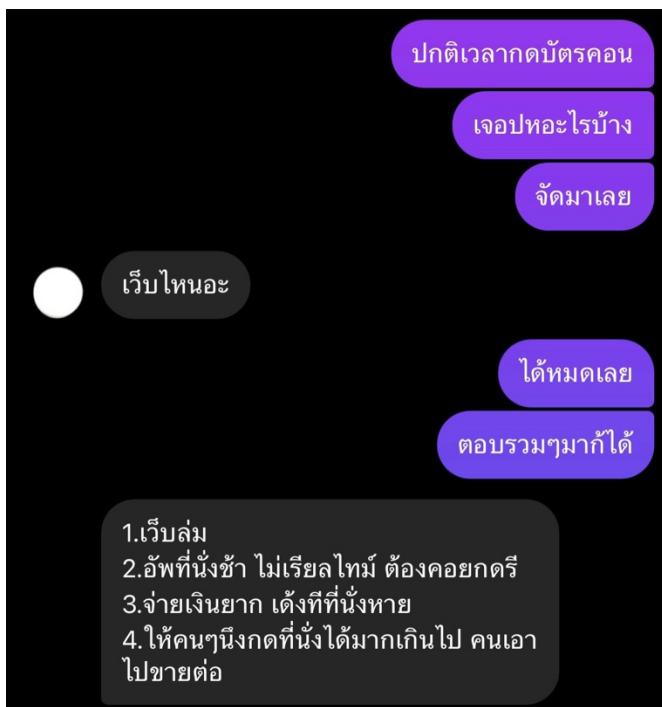
Instagram direct message

### Objectives

- Problems while holding concert tickets

### Problem

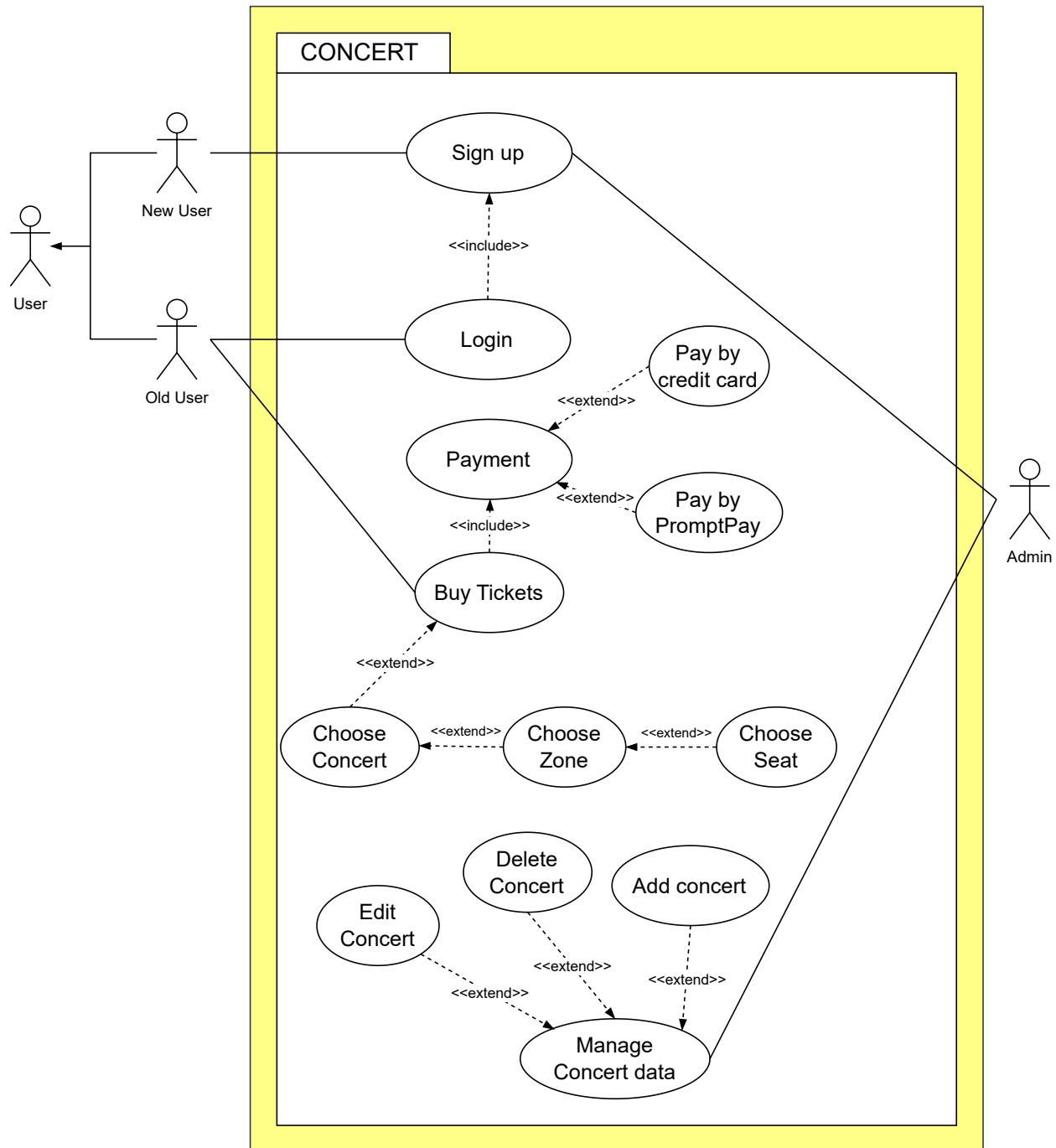
- The website crashed
- Slow seat updates, not real time
- It's hard to pay. If you slip off the pay page, you have to start all over again
- require a person to press not too many concert tickets
- Some websites are also open to foreigners to press concert tickets, making it more competitive



### Summarize the interview results

The most common issues encountered during ticket booking for the concert are website crashes due to a high number of simultaneous users, incorrect data, and an average payment time of around 15 minutes. From this interview, it is clear that we should address the website stability issues, ensure accurate data, and adjust the payment process to be more user-friendly and suitable for general users.

## Use case diagram



## Use case description

### sign up

Use Case Name:	Sign up
Scenario:	Register to collect new user information.
Triggering Event:	This event will happens when the user clicks on the sign up button.
Brief Description:	When user wants to go to the website to buy concert tickets but has never registered, user has to click the sign up button to create a new account to collect user personal information.
Actors:	New user, Admin
Related Use Cases:	-
Stakeholders:	-
Preconditions:	An email that will be used to create this account.
Postconditions:	A new user account has been successfully created. User can select concert and place orders.
Main flow:	<ol style="list-style-type: none"><li>1. User clicks on SIGN UP button.</li><li>2. User enters email and password.</li><li>3. User enters personal information.</li><li>4. User does Captcha verification question.</li><li>5. User confirms the creation of the create account button.</li></ol>
Exception Conditions:	2.1 If email and password confirmation do not match, a new account can not be created.

### login

Use Case Name:	Log in
Scenario:	Log in to use information for purchasing concerts.
Triggering Event:	This event will happens before user enters the website or user wants to purchase a ticket.
Brief Description:	Log in when you want to purchase a concert by entering your email and password.
Actors:	Old user.
Related Use Cases:	include: Sign up
Stakeholders:	-
Preconditions:	You must have an account first.
Postconditions:	User can purchase the ticket.
Main flow:	<ol style="list-style-type: none"><li>1. User enters email and password.</li><li>2. User clicks on LOG IN button.</li></ol>
Exception Conditions:	1.1 If you do not have an account yet, then you should click on Sign up button first.

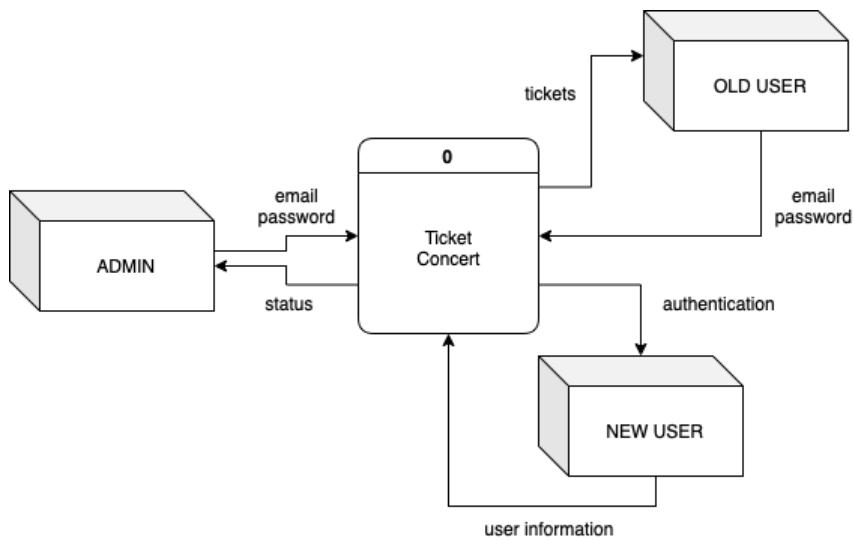
## buy ticket

Use Case Name:	Buy ticket
Scenario:	This event will happen when user has decided to buy a concert and choose the concert they want.
Triggering Event:	After user log in or created account.
Brief Description:	When the user has successfully logged in, let the user select concert, zone, seat, date and time. Then let the user select payment and pay to purchase the ticket.
Actors:	Old user.
Related Use Cases:	include:Add Payment
Stakeholders:	Website owner : to get more sales from users who purchase tickets and advertisements from sponsors. Sponsor : to get more sales from advertisements. Record label : earn money from tickets sold.
Preconditions:	Log in or created account.
Postconditions:	User gets ticket ,E-ticket available and there is a ticket in Purchase history.
Main flow:	<ol style="list-style-type: none"> <li>1.User choose concert by clicks on picture or letter of concert.</li> <li>2.User selects and fills various details of concert such as zone(price) ,seat ,date and time.</li> <li>3.User clicks on BUY NOW button.</li> <li>4.User selects payment method.</li> <li>5.User reads and accepts the terms and conditions by clicks OK.</li> <li>6.User confirms payment</li> <li>7.User pays for the purchase.</li> <li>8.User clicks on E-ticket button for see all ticket details online.</li> </ol>
Exception Conditions:	<ol style="list-style-type: none"> <li>2.1 If user does not select various details of concert information incompletely ,then the ticket will not purchased.</li> <li>2.2 If user selects or fills in the wrong information ,the ticket can not change the details.</li> <li>4.1 If the payment is failed,then user can not purchase ,user must try again or change payment method.</li> <li>5.1 If user does not pay ,then ticket will not available.</li> </ol>

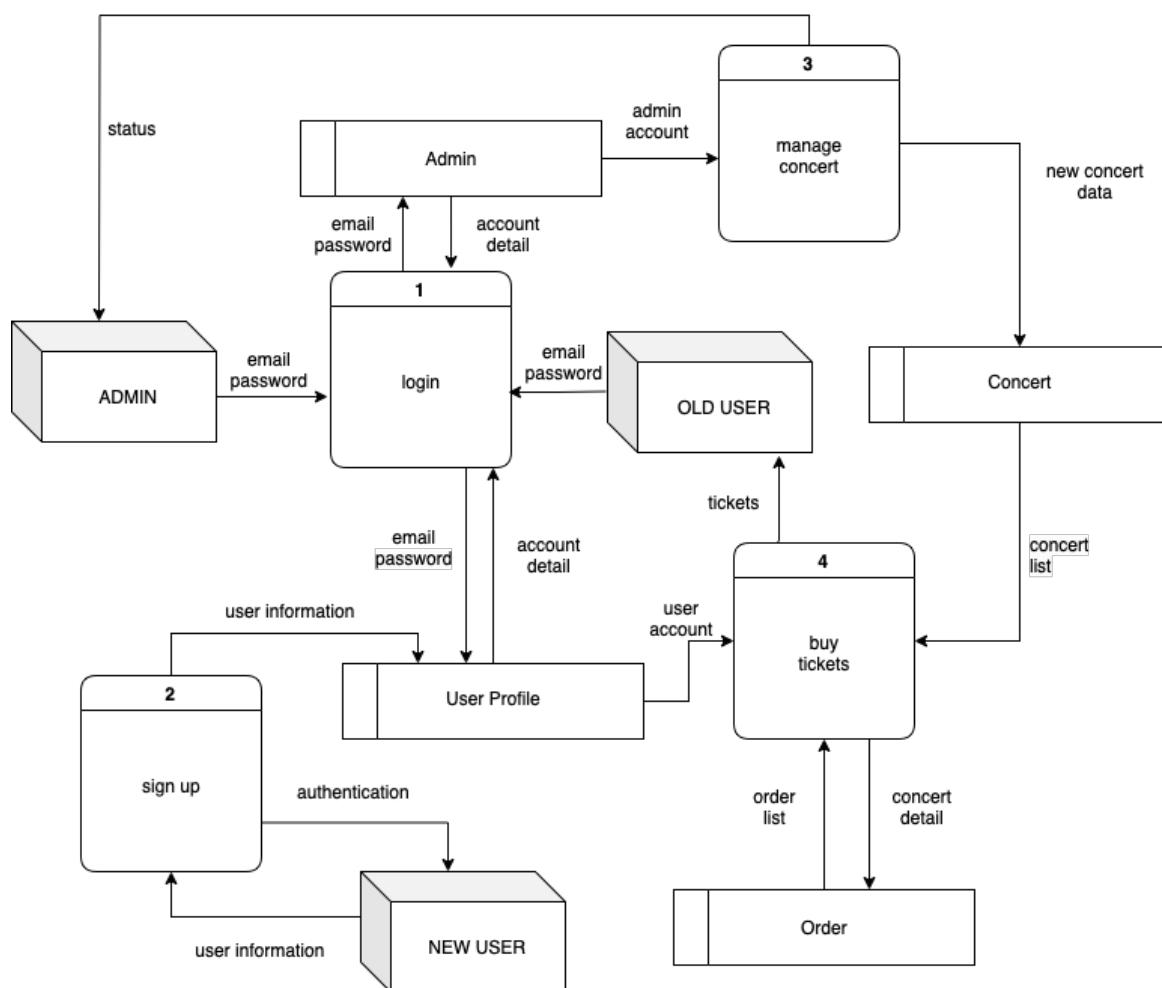
## manage concert data

Use Case Name:	Manage concert data
Scenario:	Admin edit delete and add concert.
Triggering Event:	This event will happen when user bought ticket or website has a new concert ticket to sell.
Brief Description:	When user purchases a concert ticket, admin will update the seats and add concert information when a new concert comes up for sale.
Actors:	Admin.
Related Use Cases:	-
Stakeholders:	-
Preconditions:	Something must change first such as ticket was bought or there is a new concert to sell. Then admin will manage data.
Postconditions:	Concert information is updated and ticket status is edited.
Main flow:	<ol style="list-style-type: none"> <li>1.Admin clicks on ADD CONCERT button for add a new concert.</li> <li>2.Admin adds details and picture.</li> <li>3.Admin clicks on SUBMIT button for complete details.</li> <li>4.Admin clicks on EDIT TICKET button for update ticket detail.</li> </ol>
Exception Conditions:	<ol style="list-style-type: none"> <li>1.1 If website has a new concert ticket to sell ,then admin should click on ADD CONCERT button.</li> <li>2.1 If the seats or the zone are sold out ,then admin should click on EDIT TICKET button.</li> <li>4.1 If ticket sold out ,admin will update ticket status from Available to Sold out.</li> </ol>

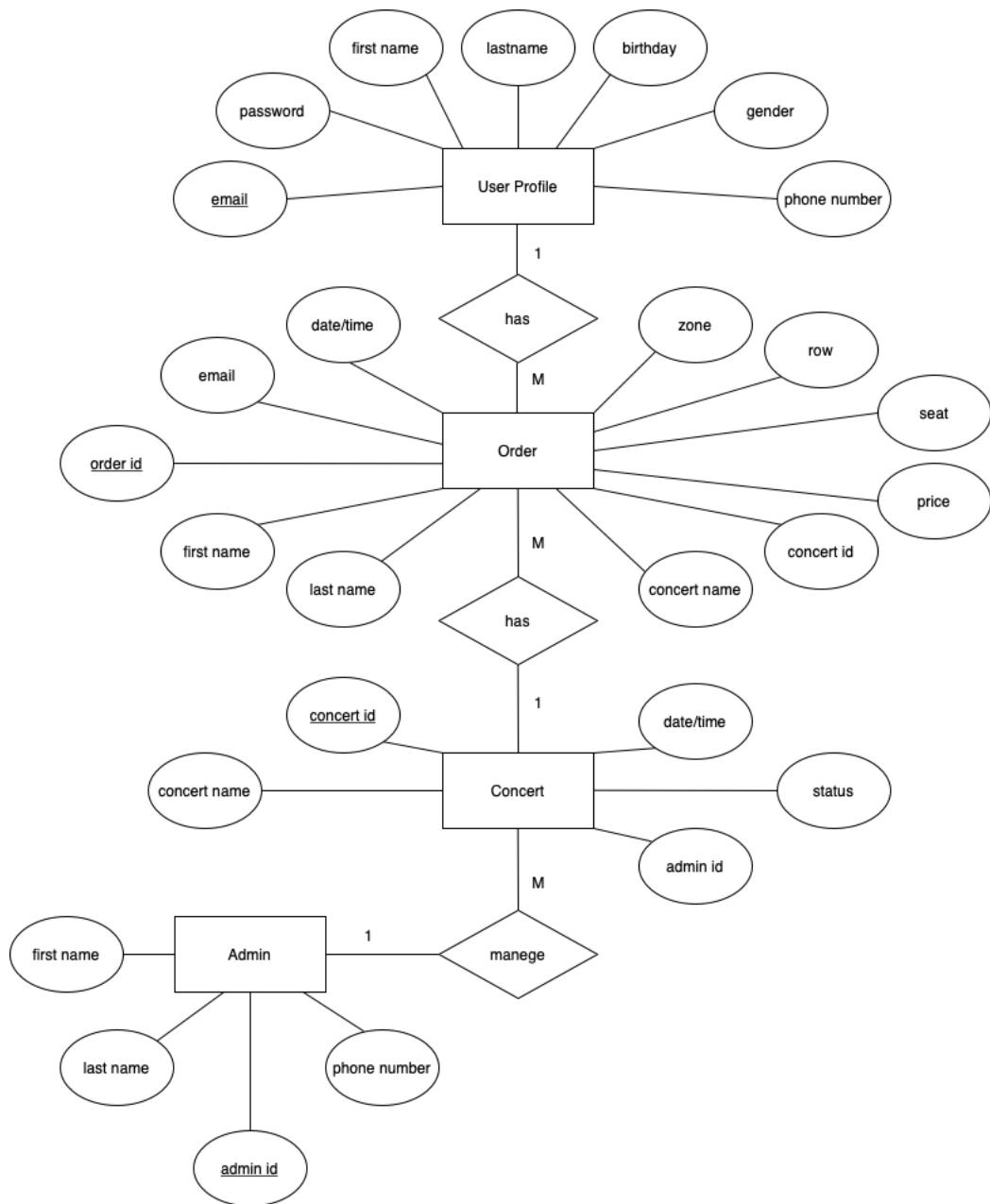
## Context diagram



## DFD level 0



ER diagram



## User Profile Table

All Access Obj... < Admin Concert Order User Profile Relationships

email	password	first name	last name	birthday	gender	phone num	Click to Add
jeno00@gmail.com	66666666	Jeno	Lee	5/23/2000	men	081-666-6666	
leemark_@gmail.com	11111111	Mark	Lee	8/2/1999	men	081-111-1111	
na_jam@gmail.com	77777777	Jaemin	Na	8/12/2000	men	081-777-7777	
real_pcy@gmail.com	22222222	Chan	Park	11/7/1991	men	081-222-2222	
somchai@gmail.com	44444444	Somchai	Deesang	6/22/1992	men	081-444-4444	
somjai@gmail.com	33333333	Somjai	Sangdee	5/17/1998	women	081-333-3333	
zkdn_@gmail.com	55555555	Jongin	Kim	1/14/1996	men	081-555-5555	

All Access Obj... < Admin Concert Order User Profile Relationships

Field Name	Data Type
email	Short Text
password	Short Text
first name	Short Text
last name	Short Text
birthday	Date/Time
gender	Short Text
phone number	Short Text

## Order Table

All Access Obj... < Admin Concert Order User Profile Relationships

order id	email	first name	last name	date/time	zone	row	seat	price	concert id	concert name	Click to Add
0006598012540	zkdn_@gmail.com	Jongin	Kim	9/22/2019 O	stand	012	4800	A002	ExplOration		
1002653980412	somjai@gmail.com	Somjai	Sangdee	9/22/2023 G	I	6	3500	A001	789 The Concert		
1360002254965	leemark_@gmail.com	Mark	Lee	1/22/2019 G	E	7	3500	A006	May Jam		
1520003695784	jeno00@gmail.com	Jeno	Lee	3/11/2023 AL	stand	026	4800	A004	The Dream Show		
3002148759541	somchai@gmail.com	Somchai	Deesang	10/2/2019 C	A	10	4400	A003	The tour		
6985700365485	na_jam@gmail.com	Jaemin	Na	3/11/2023 SA	A	13	6500	A004	The Dream Show		
9874465821090	real_pcy@gmail.com	Chanyeol	Park	8/5/2023 SL	B	8	6500	A007	SC back to back		

All Access Obj... < Admin Concert Order User Profile Relationships

Field Name	Data Type
order id	Short Text
email	Short Text
first name	Short Text
last name	Short Text
date/time	Date/Time
zone	Short Text
row	Short Text
seat	Short Text
price	Short Text
concert id	Short Text
concert name	Short Text

## Admin Table

All Access Obj... < Admin Concert Order User Profile Relationships

Admin id	first name	last name	phone numt	Click to Add
10001	Kran	Jorladon	081-640-1016	
10002	Chalisa	Pinit	081-000-2207	
10003	Pongpat	Paisan	081-090-3215	
10004	Sutthara	Pornlerdsawangsuk	084-251-0676	
10005	Paphawarin	Suchantabut	085-695-2214	
10006	Usanee	Komas	084-636-7851	
10007	Kob	-	081-548-2596	

All Access Obj... < Admin Concert Order User Profile Relationships

Field Name	Data Type
Admin id	Short Text
first name	Short Text
last name	Short Text
phone number	Short Text

## Concert Table

All Access Obj... < Admin Concert Order User Profile Relationships

concert id	concert name	date/time	concert statu	Admin id	Click to Add
A0001	789 The Concert	9/22/2022 1		10002	
A0002	EXplOration	9/22/2019 0		10006	
A0003	The tour	10/2/2019 0		10001	
A0004	The Dream Show	3/11/2023 0		10004	
A0005	Kjoy	6/18/2020 0		10003	
A0006	May Jam	1/22/2019 0		10005	
A0007	SC back to back	8/5/2023 0		10007	

All Access Obj... < Admin Concert Order User Profile Relationships

Field Name	Data Type
concert id	Short Text
concert name	Short Text
date/time	Date/Time
concert status	Short Text
Admin id	Short Text

## Relationships

