Group5 Software Engineer 350

Group Members:

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Project Title

E-Ticketing Movie Reservation

2) Project Description

This Project is aimed to the customers to facilitate to book tickets for movies online, so it can be booked from anywhere and anytime.

E-ticketing system is made for the customers anytime and anywhere. Customers can select seats and get information for the movies online. The user will be easily able to access about movie related information like movie trailer, movie date, time and eat number.

Admin can use the system to insert and delete data like movie description, time table, and trailer and can update the webpage. Also, can check the statistics information from the system.

3) Stack Holders

- User
- Developer
- Managers
- Clients
- Maintenance Team
- Support Team
- Marketing Team
- Advertising Team

4) Sub-System

Watch Trailer

Select Movie

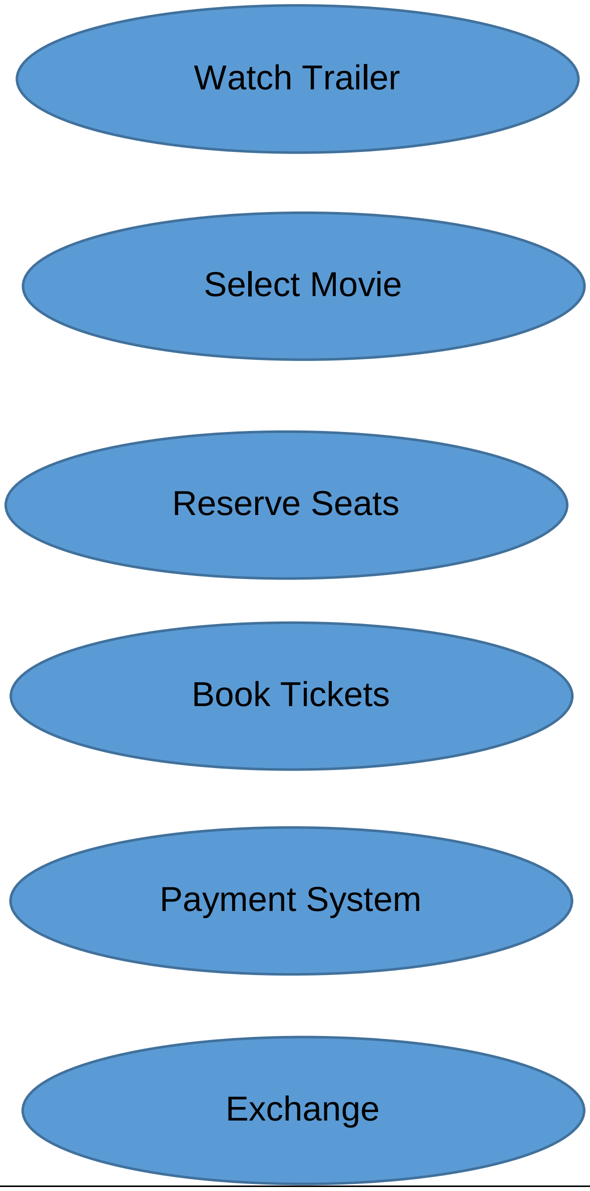
Reserve Seats

Book Tickets

Payment System

Exchange

5 a) Use Case Diagram



Watch Trailer

Select Movie

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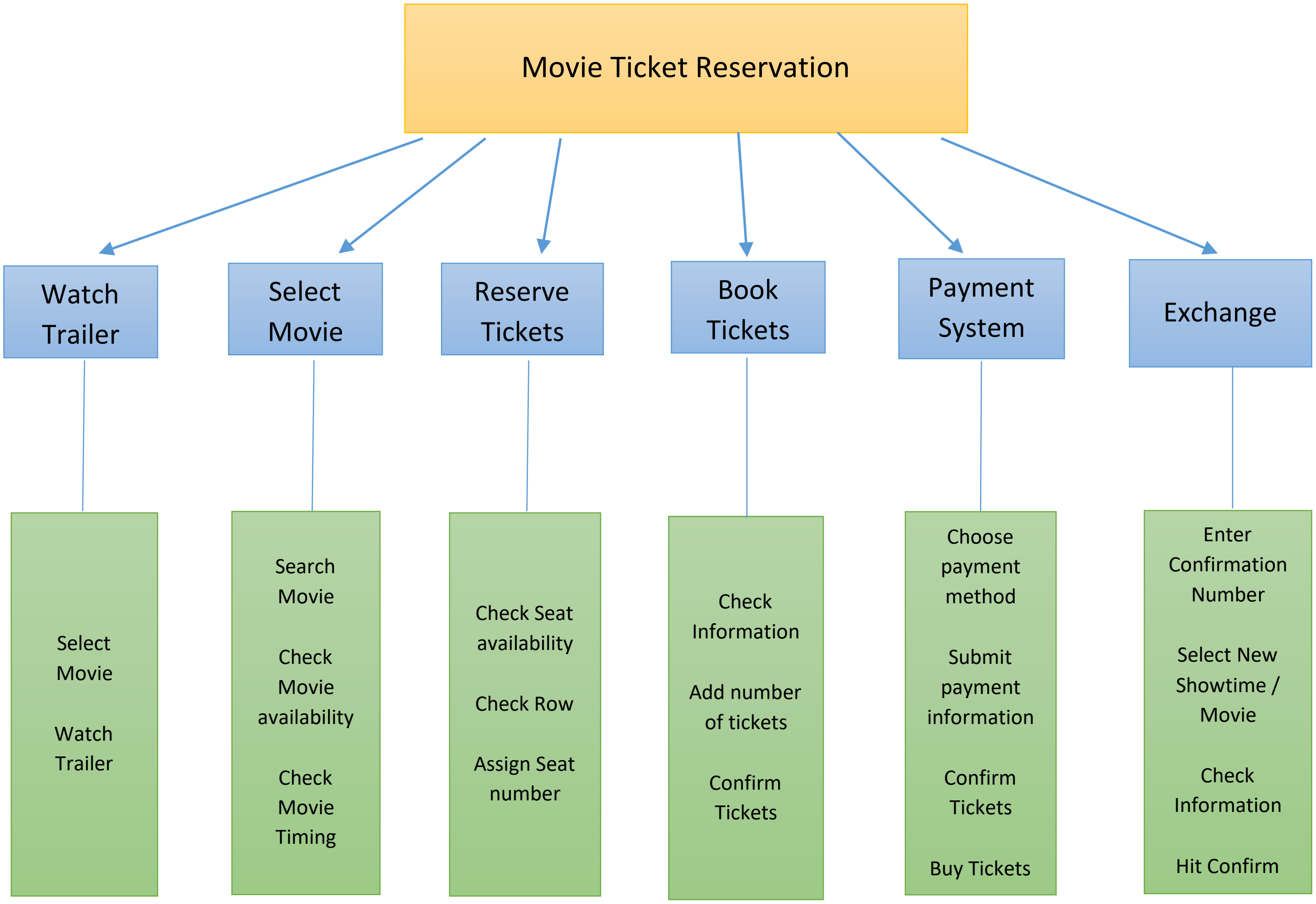
5 b) Block diagram



6) Identify Interfaces

NAME	TYPE	LENGTH
First Name	Varchar	20
Last Name	Varchar	20
Email	Varchar	30
Phone #	Varchar	xxx-xxx-xxxx
Number of Tickets	Integer	5
Billing Address	Varchar	30
Billing Zip Code	Varchar	7
Name on the Card	Varchar	20
Credit Card #	Char	15
Credit Card Expiry	Date	xx-xx-xxxx
CVV	Integer	3
Age	Integer	3
Price	Float	xxxxx-xx

7) Functional Requirements

1. Watch Trailer

- Select Movie – Select the movie from the list or search.
- Hit Watch Trailer – Select the movie and hit watch trailer button.

2. Select Movie

- Search Movie – Search Movie name in the list.
- Check movie availability – check movie availability and show availability.
- Check movie time availability – check the selected movie show time.

3. Reserve Seats

- Check Seat availability – Select movie show time, check seat availability
- Check Row – Check row to select the seats
- Assign number of seats – Select the number of seats required.

4. Book Tickets

- Check Information – Review the information you entered.
- Add number of tickets – Add the number of tickets
- Confirm tickets – Hit Confirm

5. Payment System

- Choose payment method – Choose the payment method Cash / Credit / Debit
- Submit the information of ticket – Fill all the information of the payment method
- Confirm payment – Buy the tickets and print confirmation page

6. Exchange

- Enter confirmation number – Enter the receipt or confirmation number
- Select new show time / movie – Search for new movie or show time
- Review – check the information if correct

- Confirm – Hit CONFIRM

8) Non-functional Requirements

A. Timing

Respond within 30 secs or less than a minute to user input

B. Reliability

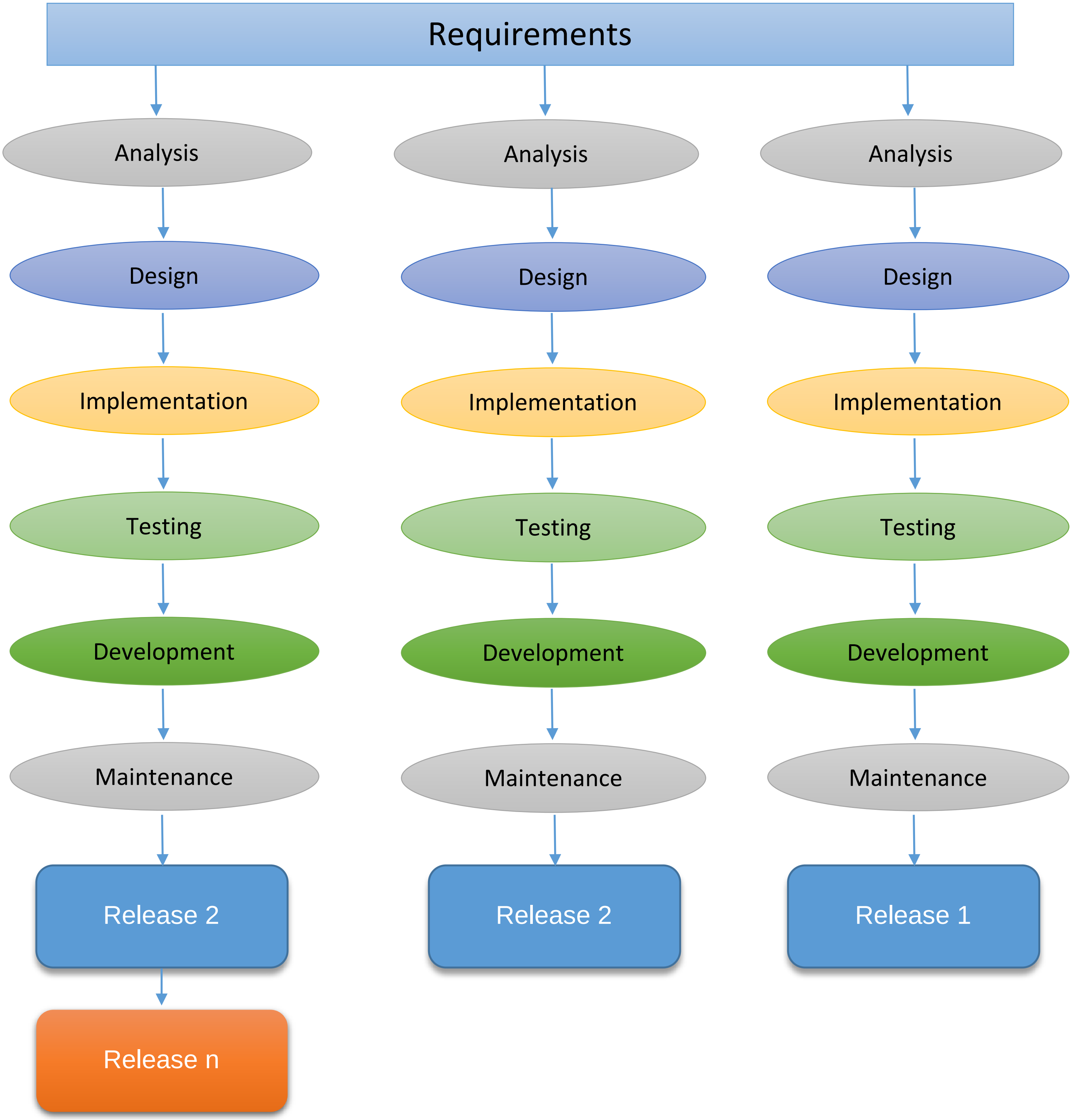
System may go down once every month and come back within 15 minutes (correct)

C. Size

System originally sized to 1000 clients and expandable to 2000 with no major modifications (correct)

9) Process, Model, Justify

Since this is an online business project / model, it is constantly changing and upgrading. Since we want it to be easy to maintain we have to use the incremental model.



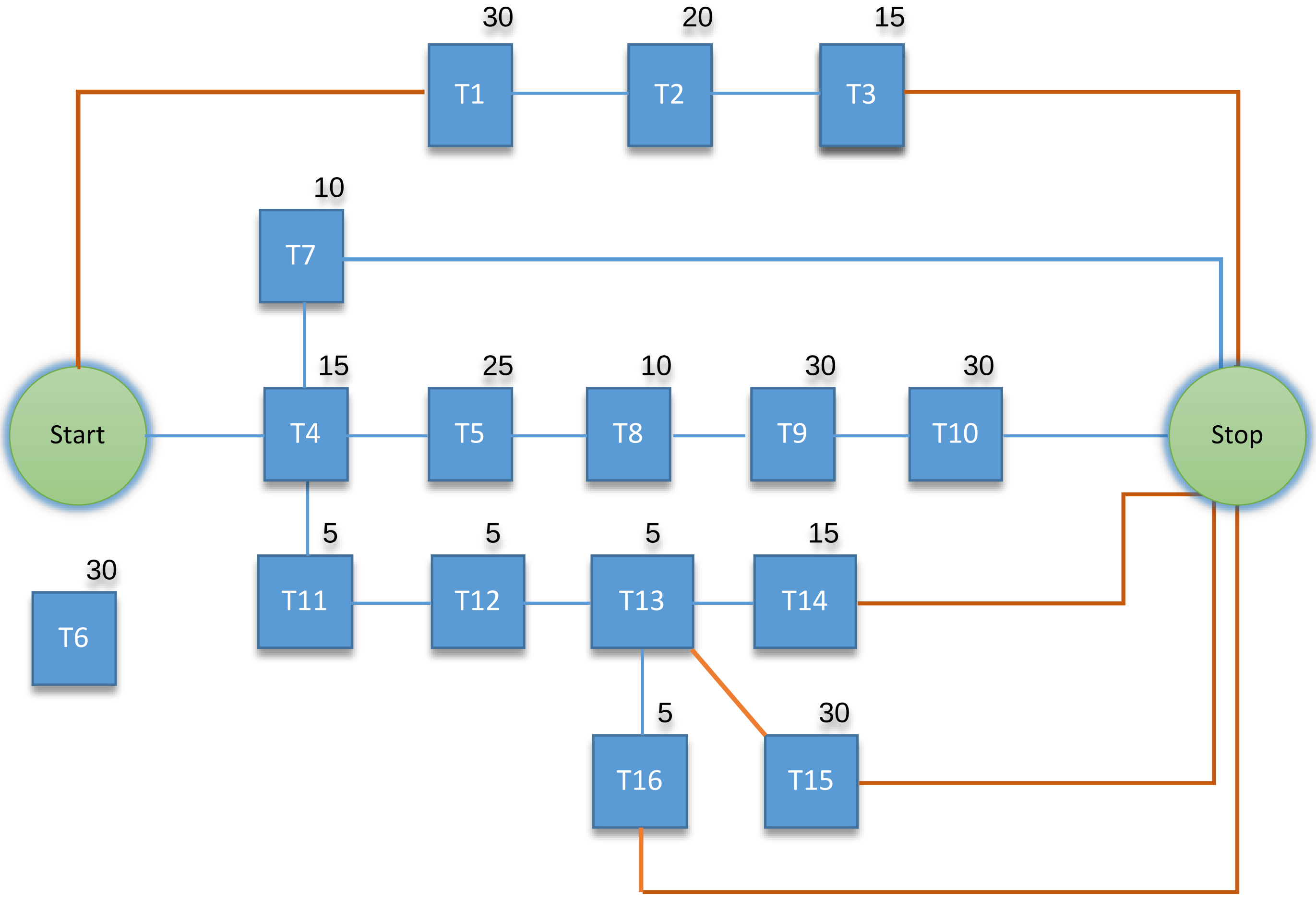
INCREMENTAL MODEL

10) Security and Safety Concern

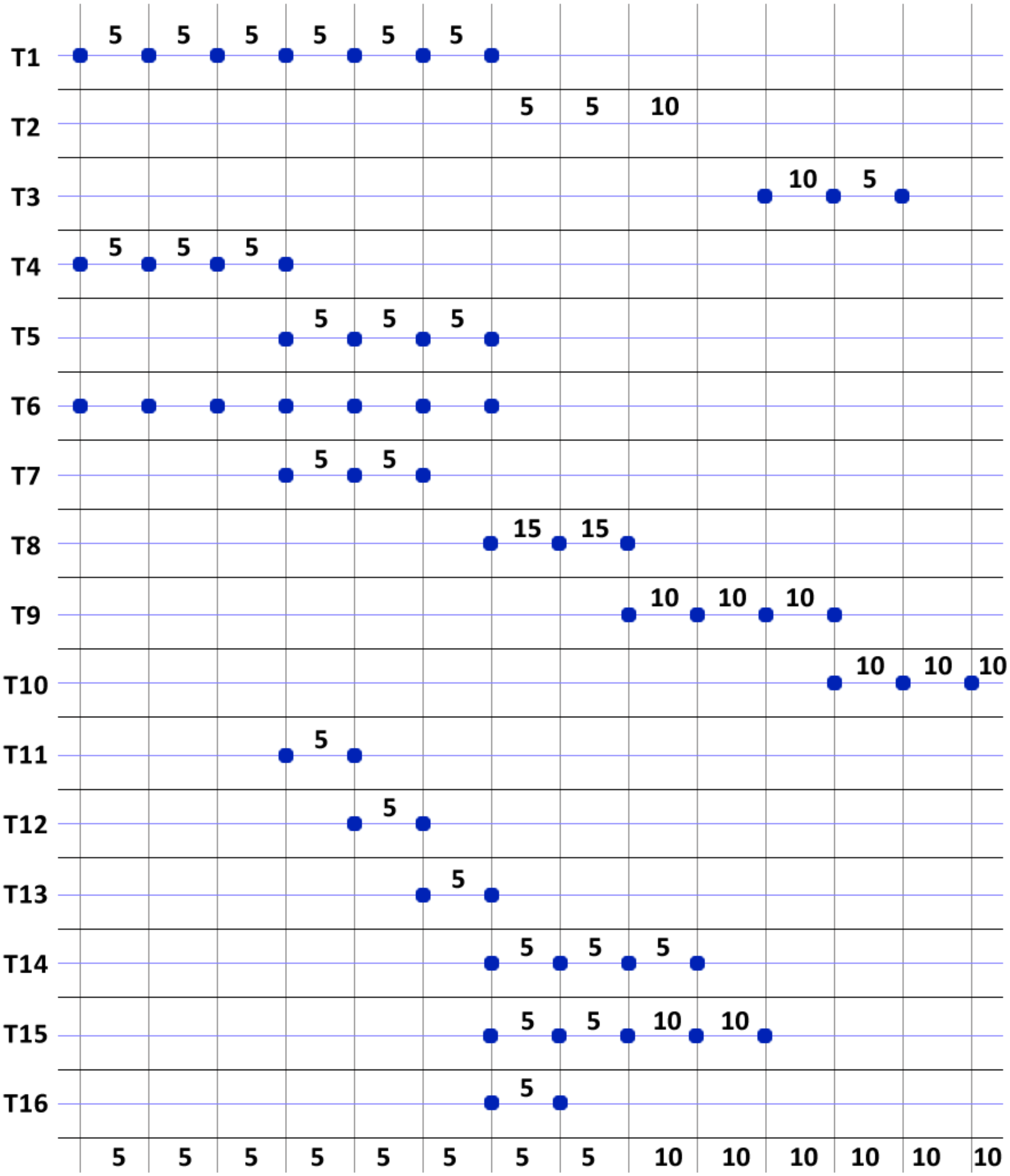
- Credit card Validation
- SSL connection
- Identity Confirmation
- Client Information privacy
- Payment must be done using secured server
- Payment must be verified and validated before the confirmation is received

11) Activity Chart

Task	Task Name	Duration	Dependencies
T1	Website Develop	30	n/a
T2	Fix Errors	20	T1
T3	Documentation	15	T2
T4	Create Database	15	n/a
T5	Manage Schedule	15	T4
T6	Create Admin Login	30	n/a
T7	Member Updates	10	T4
T8	Movies Update	10	T5
T9	Price Updates	30	T8
T10	Update Seats	30	T9
T11	Validate Purchase	5	T4
12	Send Confirmation	5	T11
T13	Save all Purchases	5	T12
T14	Refund	15	T13
T15	Purchase Analysis	30	T13
T16	Resolve Problems	5	T13


30
T1
20
T2
15
T3
10
T7
15
T4
25
T5
10
T8
30
T9
30
T10
Start
Stop
5
T11
5
T12
5
T13
15
T14
30
T6
5
T16
30
T15

12) Bar Chart


T1 5 5 5 5 5 5
T2 5 5 10
T3 10 5
T4 5 5 5
T5 5 5 5
T6
T7 5 5
T8 15 15
T9 10 10 10
T10 10 10 10
T11 5
T12 5
T13 5
T14 5 5 5
T15 5 5 10 10
T16 5
5 5 5 5 5 5 5 5 10 10 10 10 10 10

13) Milestones, Deliverables, Critical Path

- Milestones - T1, T2, T4, T5, T6, T11

- Deliverables – T3, T16, T9

- Critical Path – T4 < T5 < T8 < T9 < T10 : 110

14) UML

WATCH TRAILER

-Select Ticket number
-Billing Zip Code
-Email

-Select the movie
-Watch Trailer

SELECT MOVIES

-First Name
-Last Name
-Email

-Search Movie
-Check availability
-Check movie time

RESERVE SEATS

-Number of Ticket
-Phone #
-Email

-Check Seats
-Check Row
-Assign number of seats

BOOK TICKETS

-Email
-Phone #
-Age

-Check availability
-Add number of tickets
-Confirm tickets

PAYMENT SYSTEM

-Credit Card CVV
-Credit Card No.
-Credit Card Expiry Date

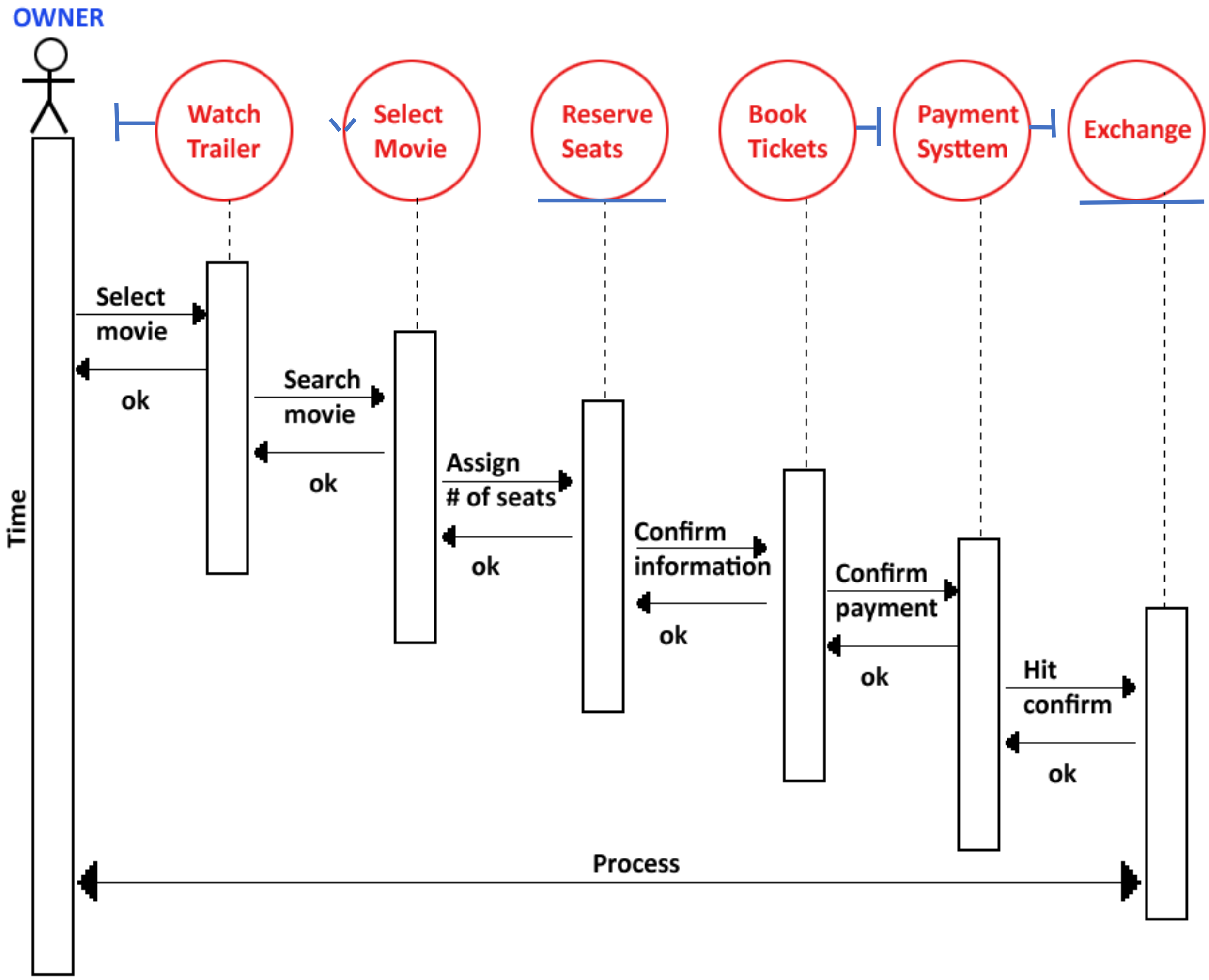
-Choose the payment method
-Submit payment Information
-Confirm Payment
-Buy Tickets

EXCHANGE

-First Name
-Last Name
-Email
-Phone number

-Enter Confirmation
-Select New Showtime / Movie
-Check Information
-Hit Confirm

15) Sequence Diagram



17) Test Plan

A. System

Watch Trailer	Call 1
Select Movie	Call 2
Reserve Seats	Call 3
Book Tickets	Call 4
Payment System	Call 5
Exchange	Call 6

B. Sub-System

- Reserve Seats
- Check Seats availability

1	Enter the number 3	error(Not available)
2	Enter the number 33	accepted(available)
3	Enter XYZ	error(entered value must be in int)
4	Enter 45	accepted

- Check Row

1	Enter value XY	error(must be an int)
2	Enter value 4	accepted
3	Enter value 56	error (must be <40)
4	Enter value 22	accepted

- Assign Number of Seats

1	Enter value 22	error (it cannot be >15)
2	Enter value 5	accepted
3	Enter value ab	error (must be an int)

4 Enter value 6	accepted

C. Method

Reserve Seats

- Assign number of seats

1. Enter value 22	error (if cannot be > 15)
2. Enter value 5	accepted
3. Enter value ab	error (must be an int)
4. Enter value 6	accepted

D. Unit

- enter A=abc

  error A must be an integer

- enter B=4

  accepted

- enter C=44

  error C must be between 1 and 15

- enter D=15

  accepted

18) Maintenance Plan

- E-Ticket movie reservation is a system that allows customer to buy a movie ticket online anytime from anywhere by using web browsers on internet.
- Hire – A technical engineer is hired who has enough knowledge and experience to help.
- Train – Each employee is trained for a week by a senior software developer.
- Keep – Pay enough to keep employee in the system.
- Re-train – If system has to be upgraded, it is necessary to re-train the employees to keep the system upgraded.
- Fire – Unnecessary employees should be fired.
- Maintenance contract would not work because it would be expensive and would not be possible for the developers to learn.

19) Mobile App Code

```
CREATE DATABASE ACPCINEMA;


USE ACPMovies;
-- DROP TABLE Genre;
CREATE TABLE Genre(
GenreID varchar(10) NOT NULL PRIMARY KEY,
GenreType varchar(30) NOT NULL
);
-- DROP TABLE Director;
CREATE TABLE Director(
DirectorID varchar(10) NOT NULL PRIMARY KEY,
DirectorName varchar(30) NOT NULL,
DirectoryNationality varchar(30) NOT NULL
);
-- DROP TABLE Movie;
CREATE TABLE Movie (
MovieID varchar(10) NOT NULL PRIMARY KEY,
MovieTitle varchar (30) NOT NULL,
ReleaseDate DATE NOT NULL,
GenereID varchar(10) FOREIGN KEY References Genre(GenreID),
DirectorID varchar (10) FOREIGN KEY References Director(DirectorID)
);
```

```
drop table if exists Reviewer;
drop table if exists Rating;
create table Reviewer(rID int, name text);
create table Rating(rID int, mID int, stars int, ratingDate date);
--Equivalent to Describe Table
exec sp_columns Movie;
INSERT INTO Genre VALUES
                    ('G01', 'Action'),
                    ('G02', 'Comedy'),
                    ('G03', 'Thriller'),
                    ('G04', 'Drama'),
                    ('G05', 'Crime');
INSERT INTO Director VALUES
                         ('D01', 'Zack Snyder', 'American'),
                         ('D02', 'Tim Miller', 'American'),
                         ('D03', 'James Wan', 'Australian'),
                         ('D04', 'Rajkumar Hirani', 'Indian'),
                         ('D05', 'Ridley Scott', 'British'),
                         ('D06', 'Todd Phillips', 'American'),
                         ('D07', 'Sam Mendes', 'British'),
                         ('D08', 'Christopher Nolan', 'British');
INSERT INTO Movie VALUES
                    ('M01', 'Fantastic Beasts: The Crimes Of Grindelwald',
                         '2018-09-15', 'G01', 'D01'),
                    ('M02', 'Deadpool', '2016-02-12', 'G02', 'D02'),
                                        ('M03', 'Furious 7', '2015-04-03', 'G03', 'D03'),
                                        ('M04', 'PK', '2014-12-19', 'G04', 'D04'),
                                        ('M05', 'Gladiator', '2000-05-05', 'G01', 'D05'),
                                        ('M06', 'The Hangover', '2009-06-05', 'G02', 'D06'),
                                        ('M07', 'Padmavati', '2008-1-18', 'G04', 'D04'),
                                        ('M08', 'Spectre', '2015-11-06', 'G03', 'D07'),
                                        ('M09', 'Batman Begins', '2005-06-15', 'G01', 'D08'),
                                        ('M10', 'The Dark Knight', '2008-07-18', 'G05', 'D08');
insert into Reviewer values(201, 'Sarah Martinez');
insert into Reviewer values(202, 'Daniel Lewis');
insert into Reviewer values(203, 'Brittany Harris');
insert into Reviewer values(204, 'Mike Anderson');
insert into Reviewer values(205, 'Chris Jackson');
insert into Reviewer values(206, 'Elizabeth Thomas');
insert into Reviewer values(207, 'James Cameron');
insert into Reviewer values(208, 'Ashley White');
SELECT * From Movie;
from flask import Flask,render_template,request,redirect
import pymysql
conn= pymysql.connect(host='localhost',user='root',passwd='1234',port=3306,database='cinema')
app = Flask(__name__)
@app.route('/', methods=['GET','POST'])
def index():
    if request.method =='POST':
        userDetails = request.form
        name = userDetails['Username']
        email = userDetails['Email']
        id = userDetails['ID']
        workshift = userDetails['WorkShift']
        cur = conn.cursor()
        cur.execute("INSERT            INTO            users(Username,Email,ID,WorkShift)
VALUES(%s,%s,%s,%s)",
                    (name,email,id,workshift))
        conn.commit()
        cur.close()
        return redirect('/users')
 return render_template('login.html')
@app.route('/users')
def users():
    cur = conn.cursor()
    resultValue = cur.execute("SELECT * FROM users")
    if resultValue > 0:
        userDetails = cur.fetchall()
        return render_template('users.html', userDetails=userDetails)
if __name__ == "__main__":
    app.run(debug=True)
```

20) Verification and Validation

1. Verification – Meets specification of the product.

- Statement of need
- Operation and Maintenance
- Usability test
- Model checking
- Model / Specification inspection
- System testing
- Validation testing
- Goal analysis
- Software meets client needs

2. Validation – Meets all needs of the product.

- Port
- Maintenance
- Robust
- Documentation
- Preliminary design
- Detailed design
- Unit testing
- Integration testing
- Proof of correctness
- Consistency checking

21) Case Tools Utilization

- Programming Tools: Managing process concerned with defining goals for company’s future direction and determining on the missions and resources to achieve those targets.

- Editing tools: Need to fix and edit website for better use.

- Documentation tools: The information that describes the product to its users. It consists of technical manuals of product and online information.

- Change management tools: It is on us to deal with the change from the perspective of an organization and individual is a systematic approach.

- Configuration management tools: Ensuring the proper accounting of a configuration items and of the interrelationship between in and operation environment. It is governance and system engineering process and also its software and capabilities are necessary to deliver services for an organization.

- Testing Tools: finding how it works and if error occurs it should be fixed.

- Re-engineering tools: Involves reserving a program’s machine code back into the source code. To duplicate or enhance the object to see how it works.

22 a) Decommission Plan

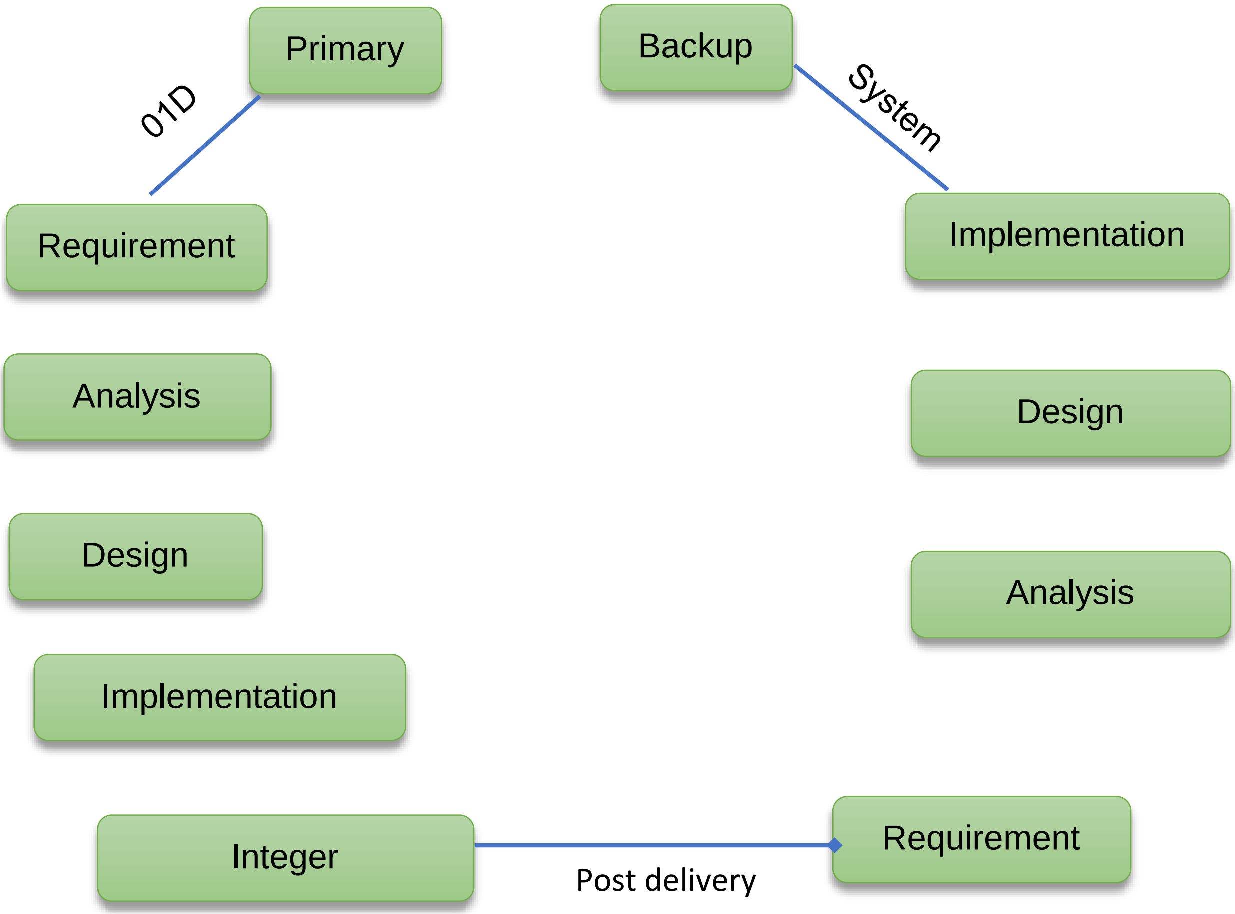
- Transfer of new software to add system software to old system software seamlessly.

- Our decommission plan is fairly simple. Since our system runs web based, so we can upgrade to any other system.

- A new system can be developed within any platform.

- Train employees for updates and pay them enough, so they do not leave the job.

22 b) Decommission Plan



- Train all employees
- Use deliverables
- Seamless switch

23) CMM (Capability Maturity Model)

CMM Levels:

Level 1: $ 10,000	Very Low
Level 2: $ 20,000	Low
Level 3: $ 30,000	Normal
Level 4: $ 40,000	High
Level 5: $ 50,000	Very High

Our project is of Level 3: $ 30,000

We choose level 3 because this is not a very complex system on the level of Microsoft. Neither is it a simple system, so somewhere in between is the best.

Example:

Approximate DSI: 5,000

3.2 (KDSI) raise to 1.05
3.2 (5) raise to 1.05 = 17.34 ie. 17 person months
17 * $ 30,000 = $ 510,000

-1 person would take 17 months to complete the project. This person would receive $ 5,10,1000.

-17 people would take 1 month to complete the project. They would receive $ 30,000 each.

24) Dated Log of assignment, changes, activities within the group

09/10 – We all started the project and page the first day that it was assigned. 09/10 –

WHO	WHAT	DATE
Ashish	Put more than 25 movies in the list.	September 12, 2018
Charmi	5-10 Showtime for each movie in a day.	September 19, 2018
Charmi	Movie timings should be between 10 am to 2 am.	September 25, 2018
Priyanka	Seats should be around 120 in each hall.	September 27, 2018
Ashish	At least 5 rows in each movie hall.	October 02, 2018
Ashish	Movie search can be by movie name, theatre or day.	October 08, 2018
Priyanka	Trailers for upcoming movies up to 2 months in advance.	October 12, 2018
Charmi	Seats reserved for handicapped person.	October 13, 2018
Ashish	Couple seats in box for privacy.	October 18, 2018
Priyanka	Introduce recliner seats for premium movies with high price.	October 24, 2018
Charmi	3-D movies introduced with upgraded disposable glasses.	October 30, 2018
Ashish	Payment can be done by Paypal as well.	November 02, 2018

Charmi	Can refund the payment by the original payment method.	November 03, 2018
Priyanka	During exchange, money can be credited to the online account for future use.	November 04, 2018
Charmi	Crazy Tuesday – Tickets for $5 for premium members.	November 14, 2018
Ashish	Extra benefits to premium members like free Soda and popcorn upgrade.	November 20, 2018
Priyanka	Free Movies on premium member’s Birthday.	November 22, 2018