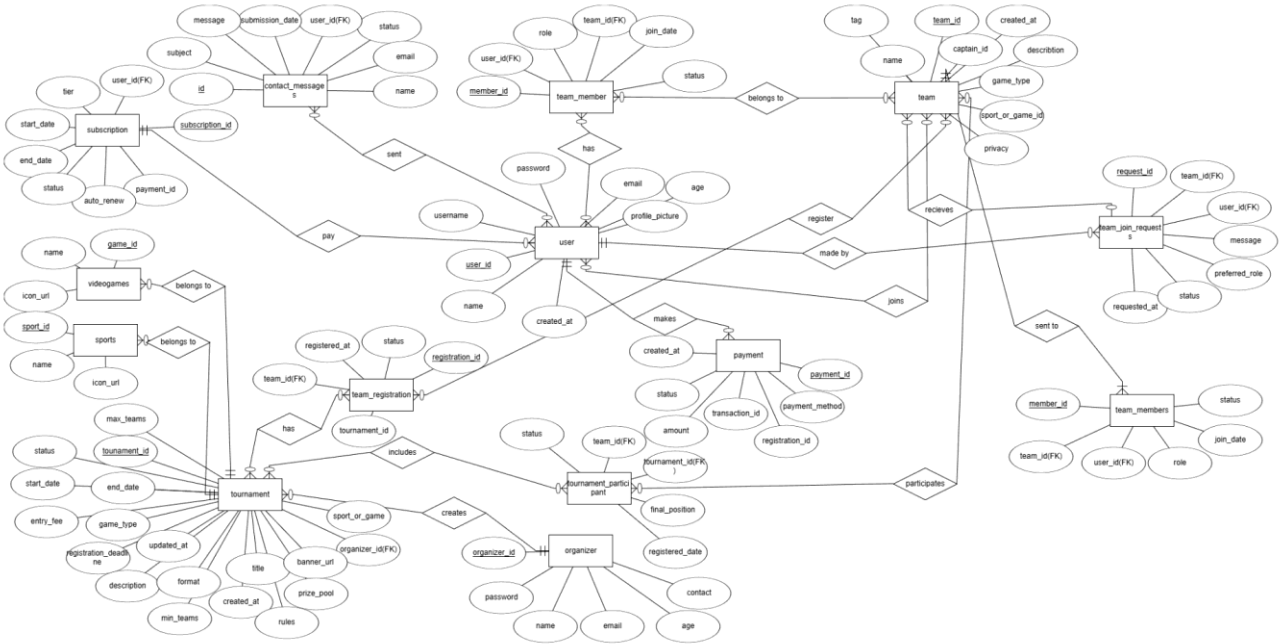
MATCHUP

DATA MODELING

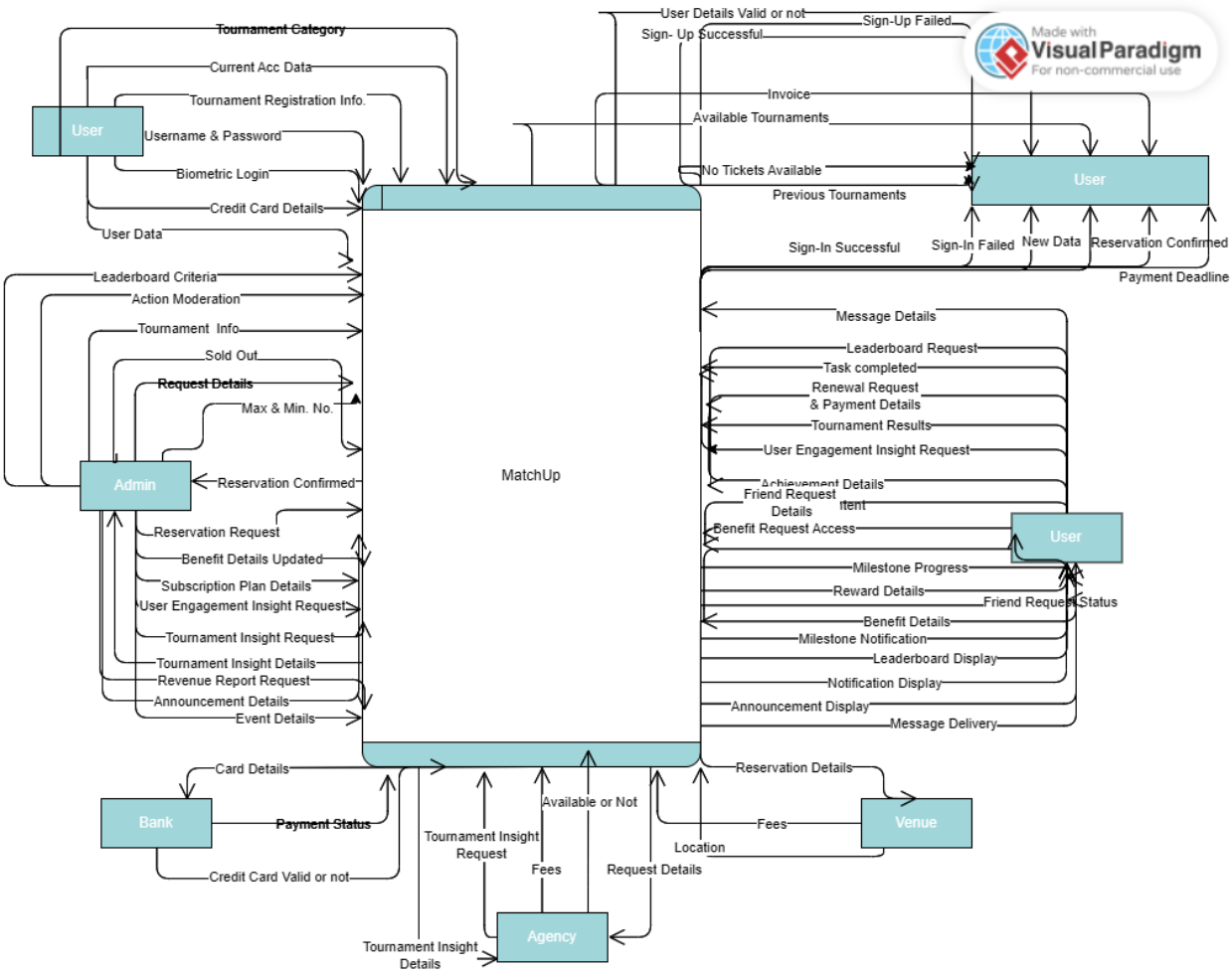
5.1 – ERD



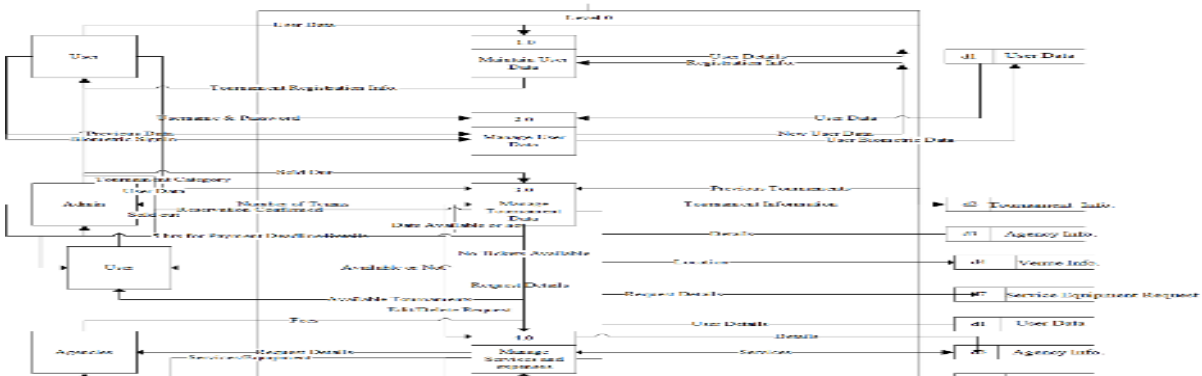
5.2 – Functional Modeling

5.2.1 – DFD

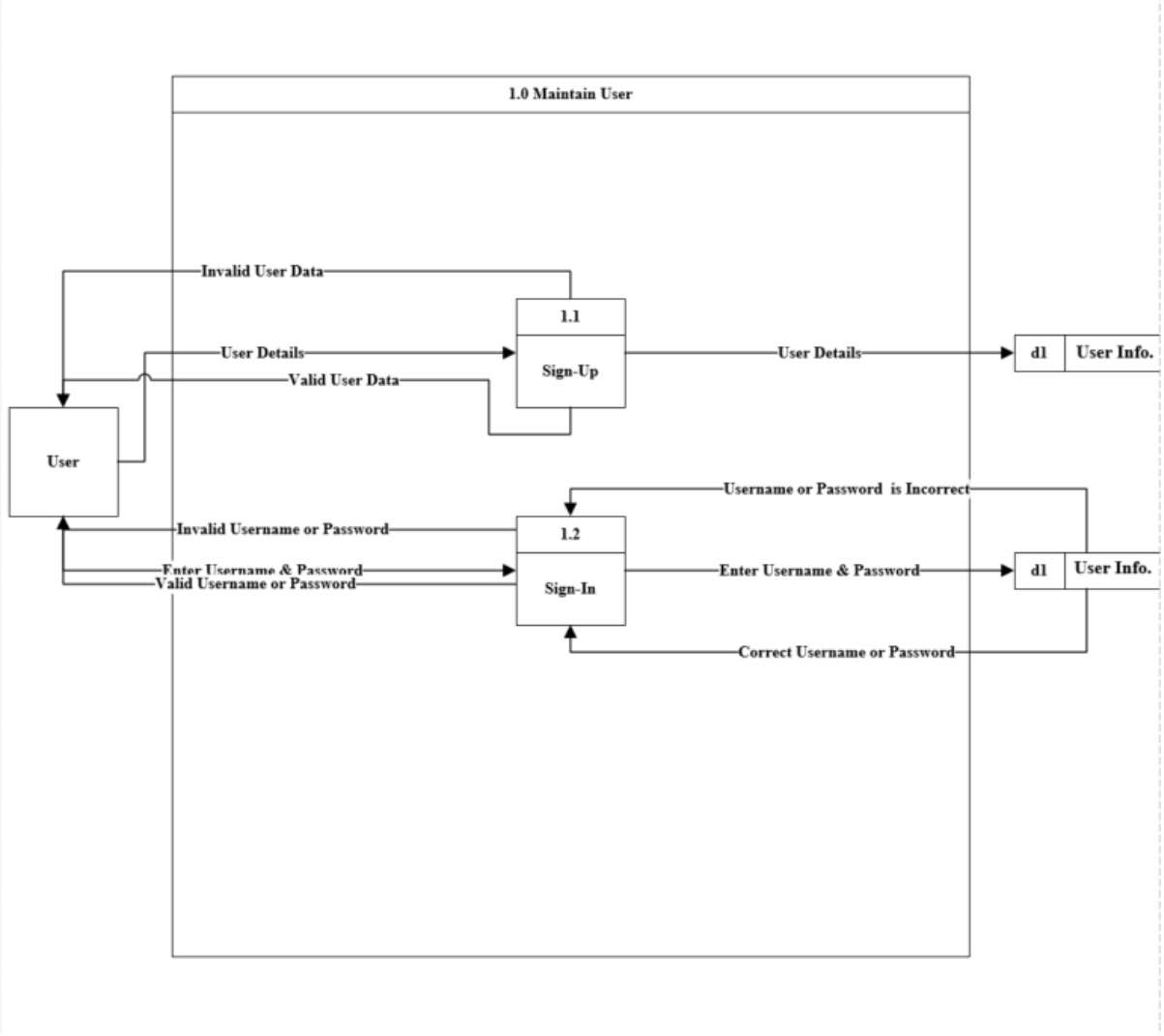
CONTEXT DIAGRAM


Tournament Category
Current Acc Data
Tournament Registration Info.
User
Username & Password
Biometric Login
Credit Card Details
User Data
Leaderboard Criteria
Action Moderation
Tournament Info
Sold Out
Request Details
Max & Min. No.
Admin
Reservation Confirmed
Reservation Request
Benefit Details Updated
Subscription Plan Details
User Engagement Insight Request
Tournament Insight Request
Tournament Insight Details
Revenue Report Request
Announcement Details
Event Details
MatchUp
User Details Valid or not
Sign-Up Failed
Sign- Up Successful
Invoice
Available Tournaments
No Tickets Available
Previous Tournaments
User
Sign-In Successful
Sign-In Failed
New Data
Reservation Confirmed
Payment Deadline
Message Details
Leaderboard Request
Task completed
Renewal Request
& Payment Details
Tournament Results
User Engagement Insight Request
Achievement Details
Friend Request
Details
Benefit Request Access
User
Milestone Progress
Reward Details
Friend Request Status
Benefit Details
Milestone Notification
Leaderboard Display
Notification Display
Announcement Display
Message Delivery
Card Details
Bank
Payment Status
Credit Card Valid or not
Tournament Insight
Request
Fees
Tournament Insight
Details
Available or Not
Fees
Request Details
Reservation Details
Venue
Location
Agency

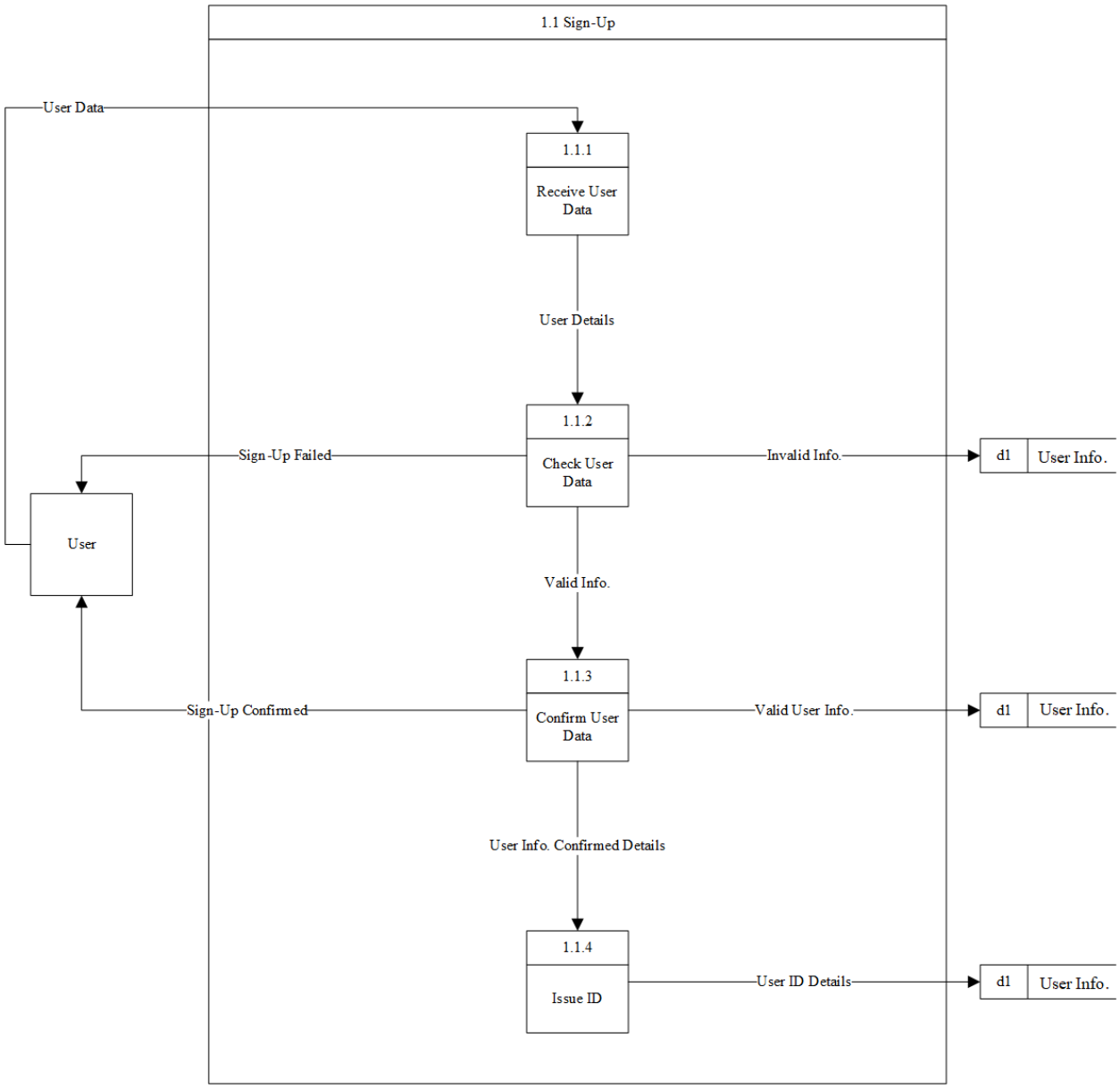
LEVEL ZERO



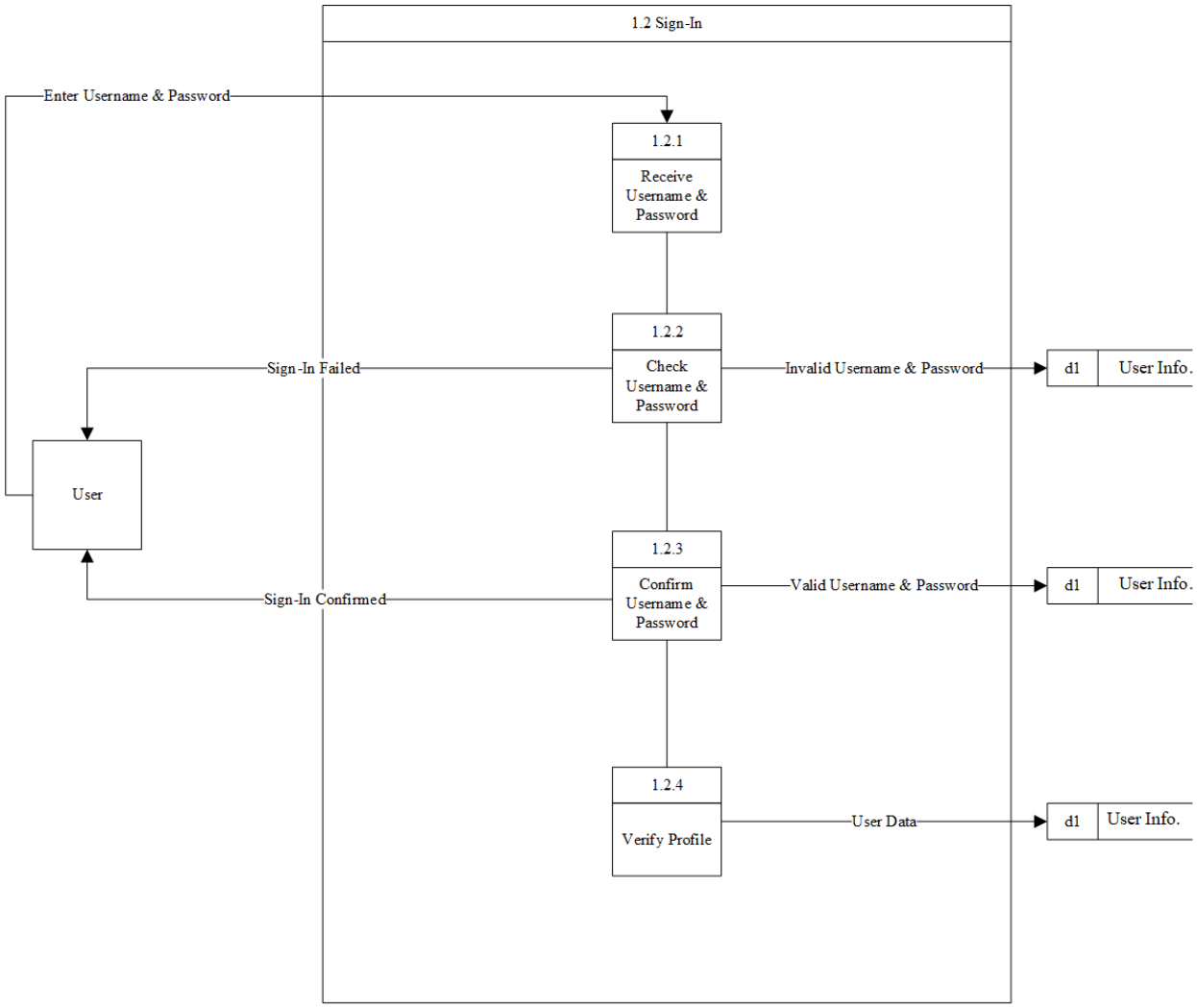
1.0 – Maintain User Data



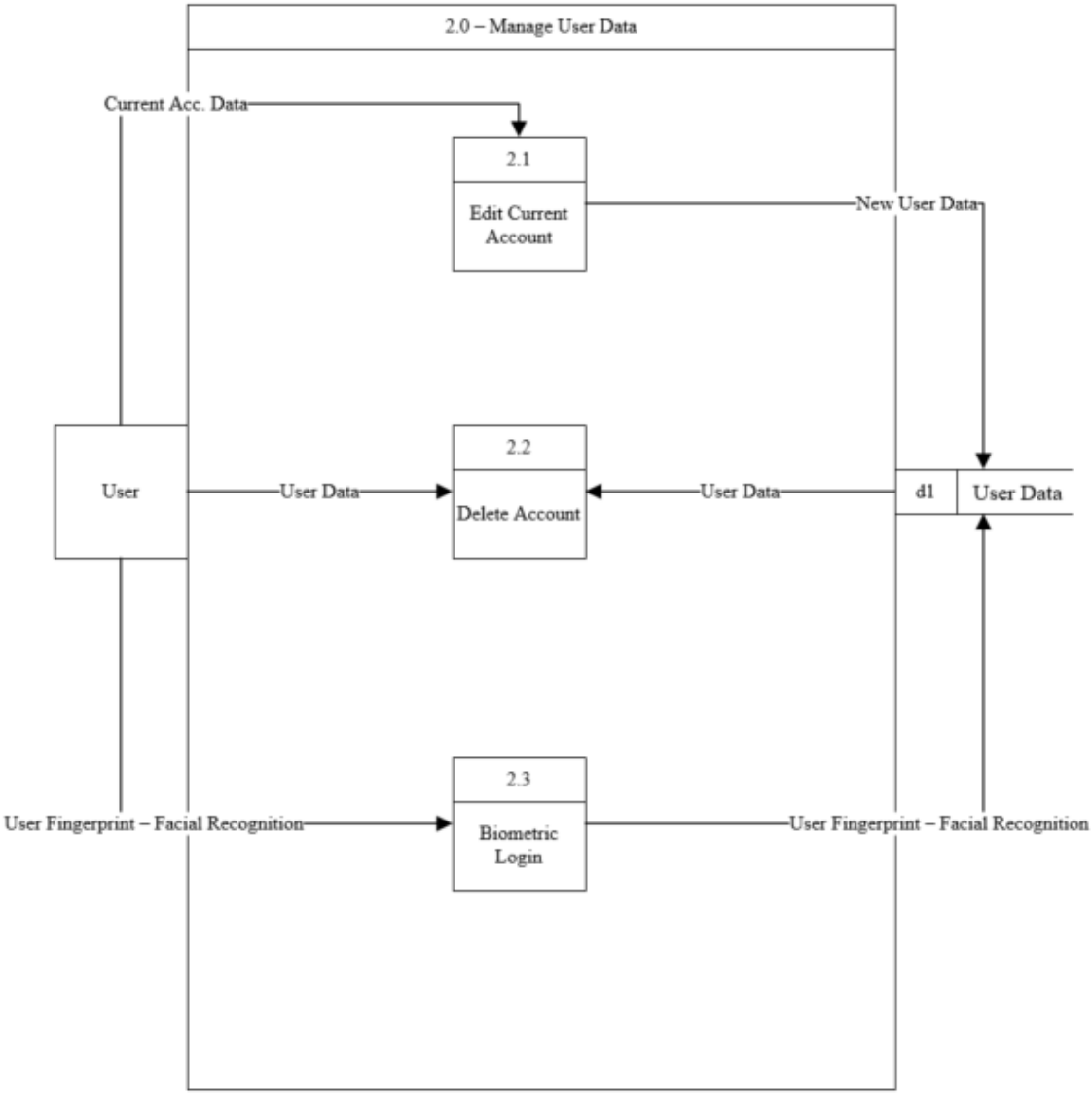
1.1 – Sign-Up


1.1 Sign-Up
User Data
1.1.1
Receive User Data
User Details
1.1.2
Check User Data
Sign-Up Failed
Invalid Info.
d1
User Info.
User
Valid Info.
1.1.3
Confirm User Data
Sign-Up Confirmed
Valid User Info.
d1
User Info.
User Info. Confirmed Details
1.1.4
Issue ID
User ID Details
d1
User Info.

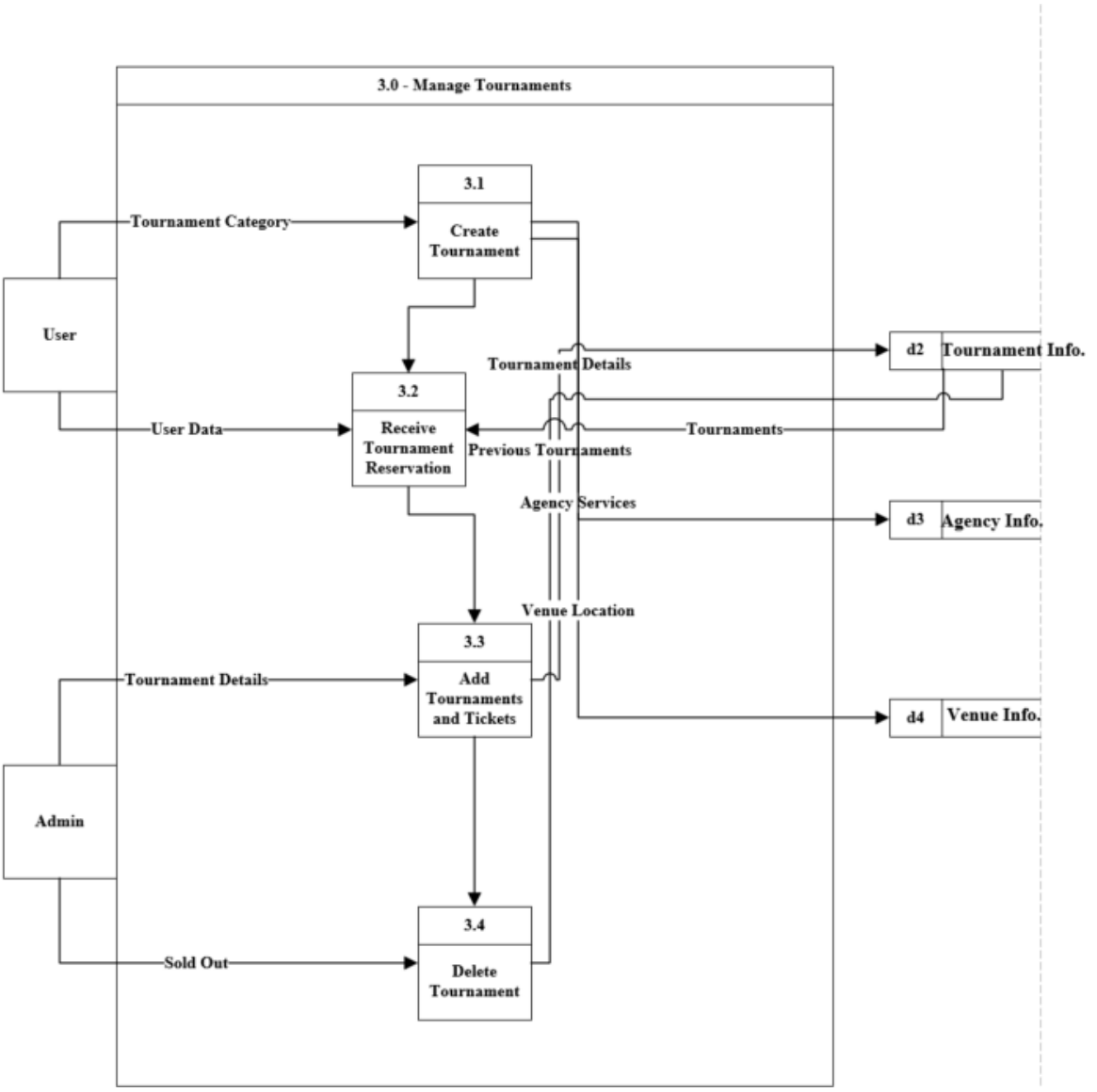
1.2 – Sign-In


1.2 Sign-In
Enter Username & Password
1.2.1
Receive Username & Password
1.2.2
Check Username & Password
Sign-In Failed
Invalid Username & Password
d1
User Info.
User
1.2.3
Confirm Username & Password
Sign-In Confirmed
Valid Username & Password
d1
User Info.
1.2.4
Verify Profile
User Data
d1
User Info.

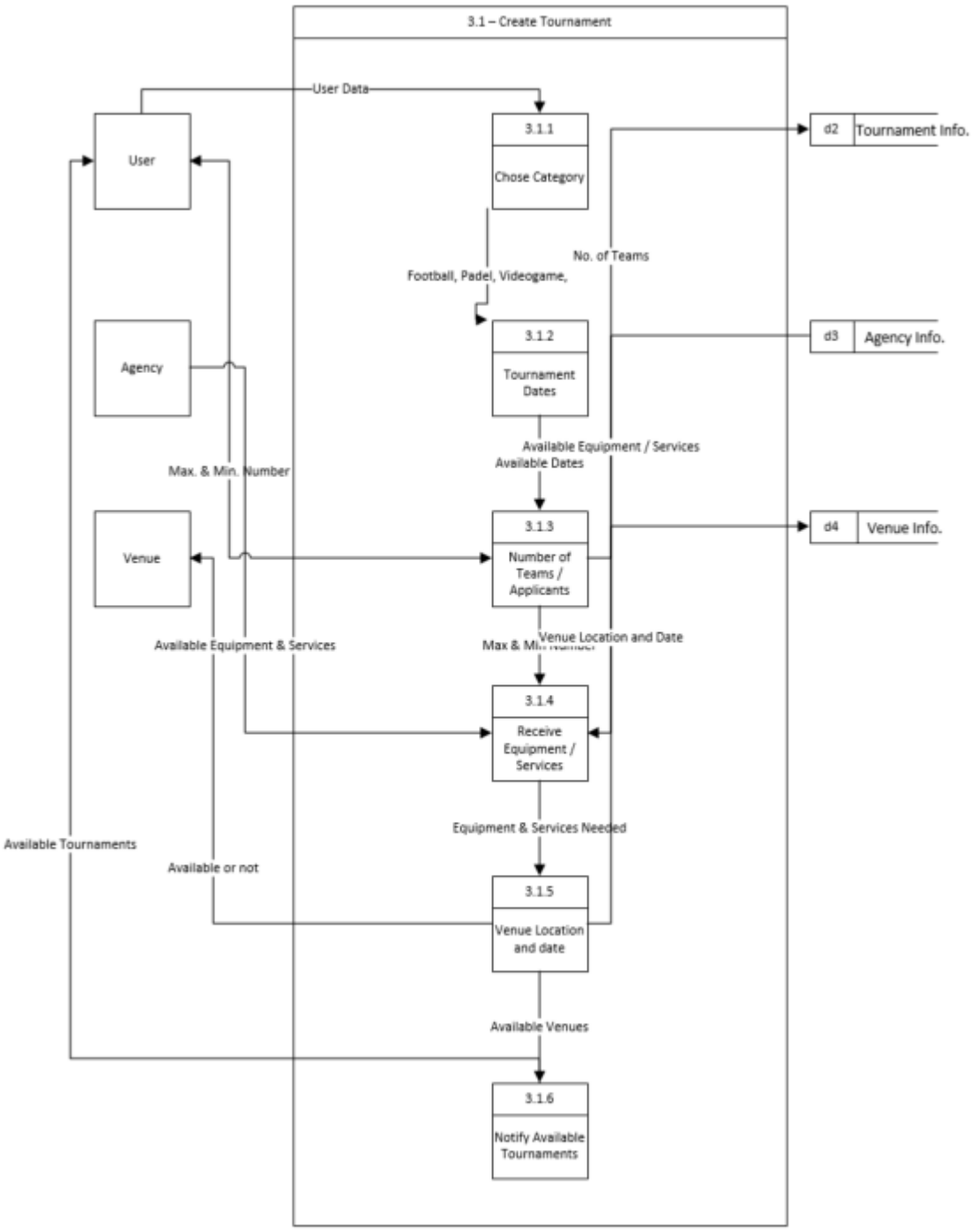
2.0 – Manage User Data



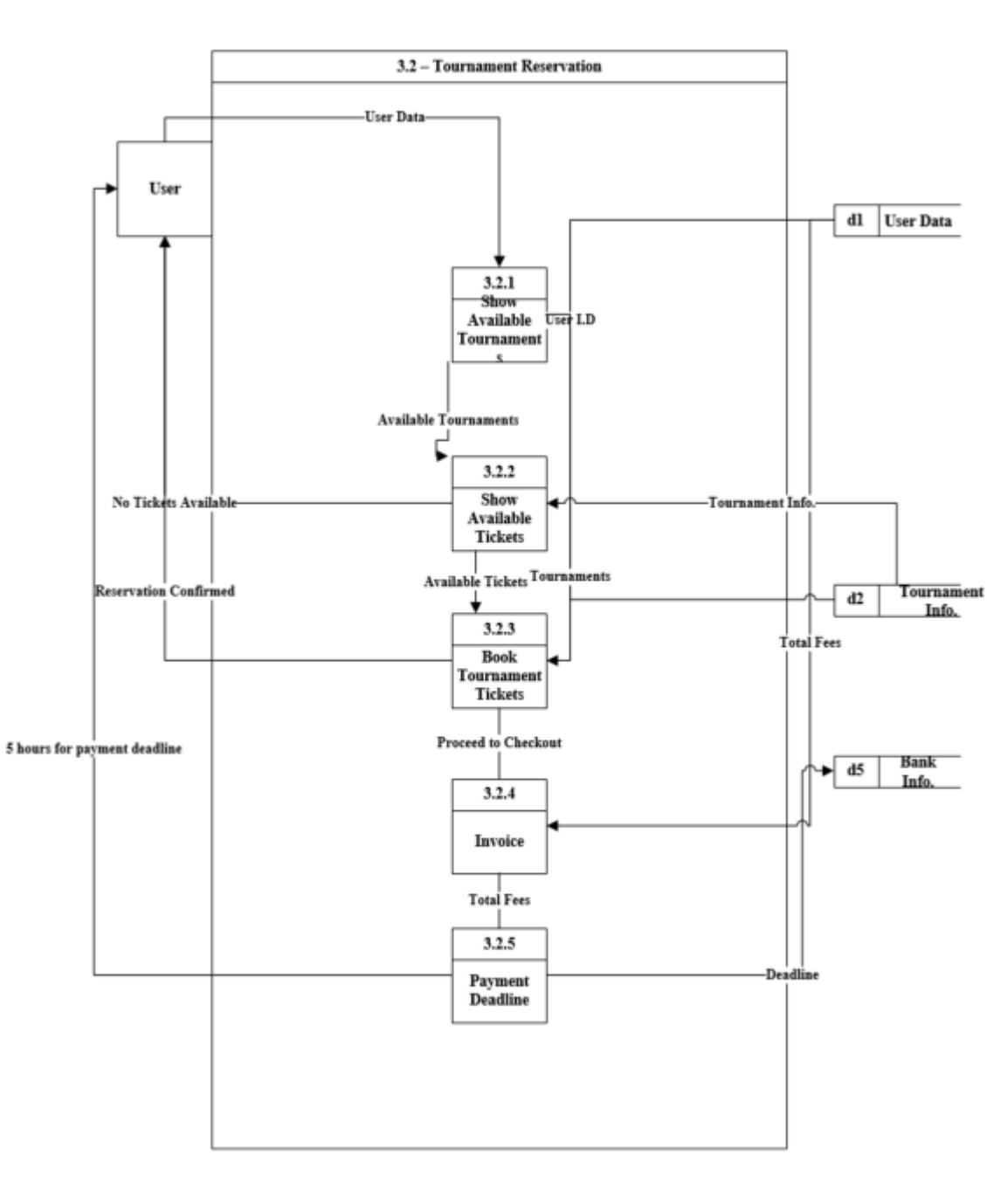
3.0 – Manage Tournaments



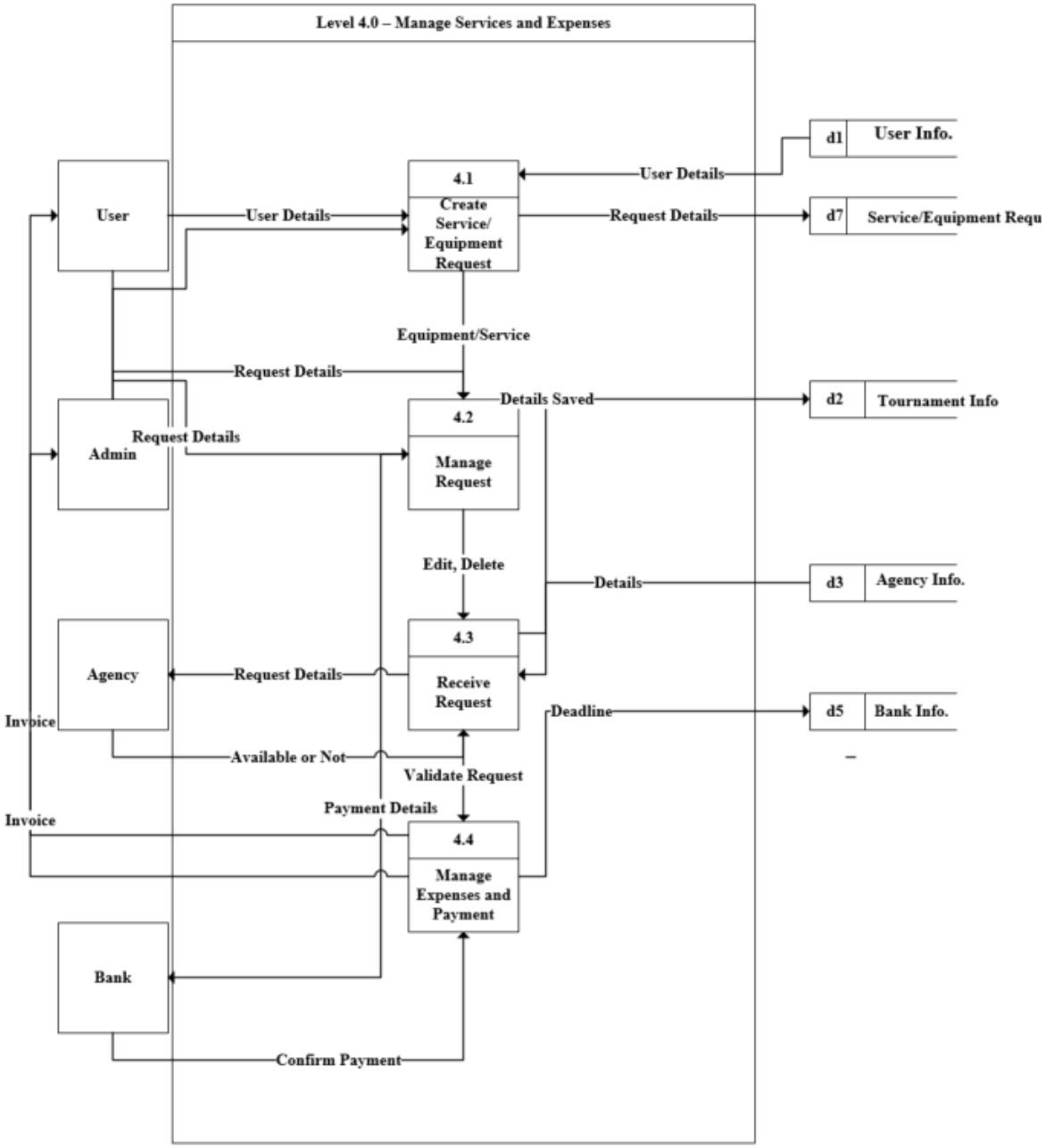
3.1 – Create Tournament



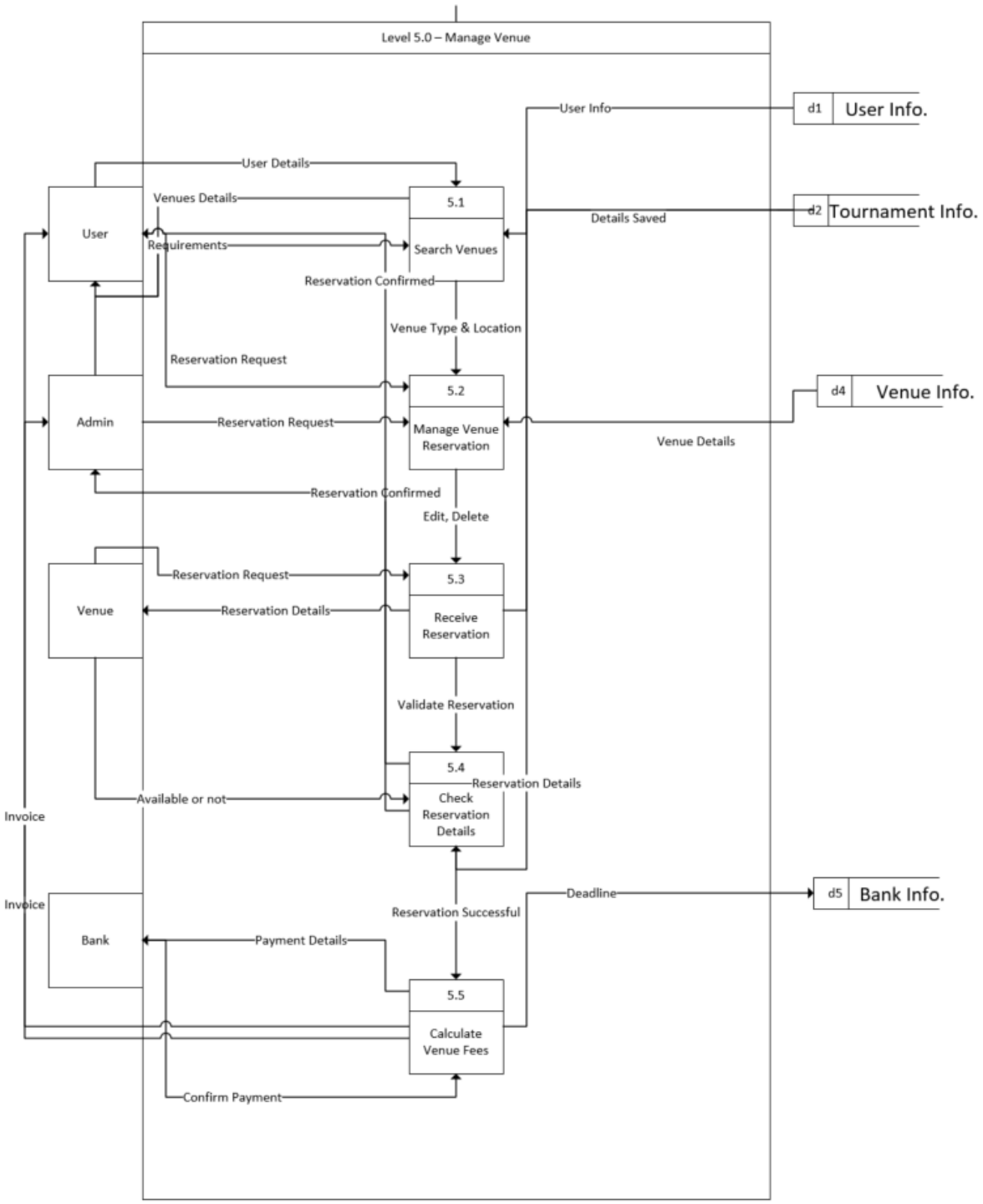
3.2 – Tournament Reservation



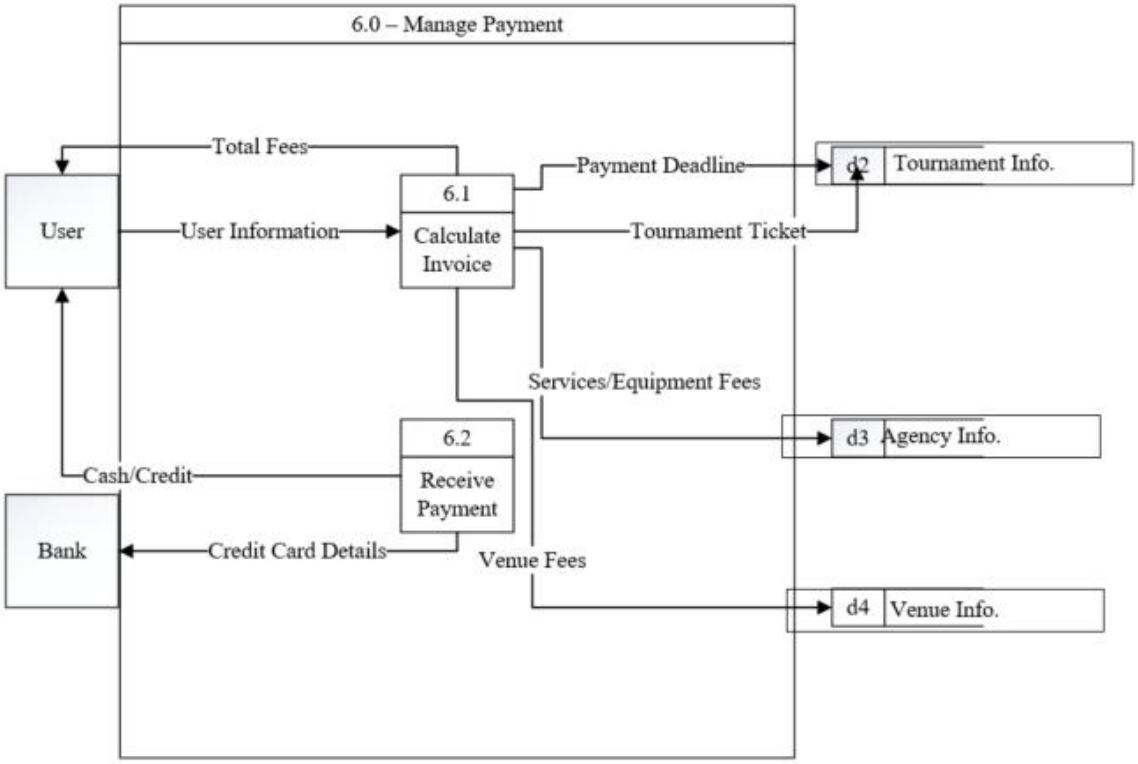
4.0 – Manage Services & Expenses



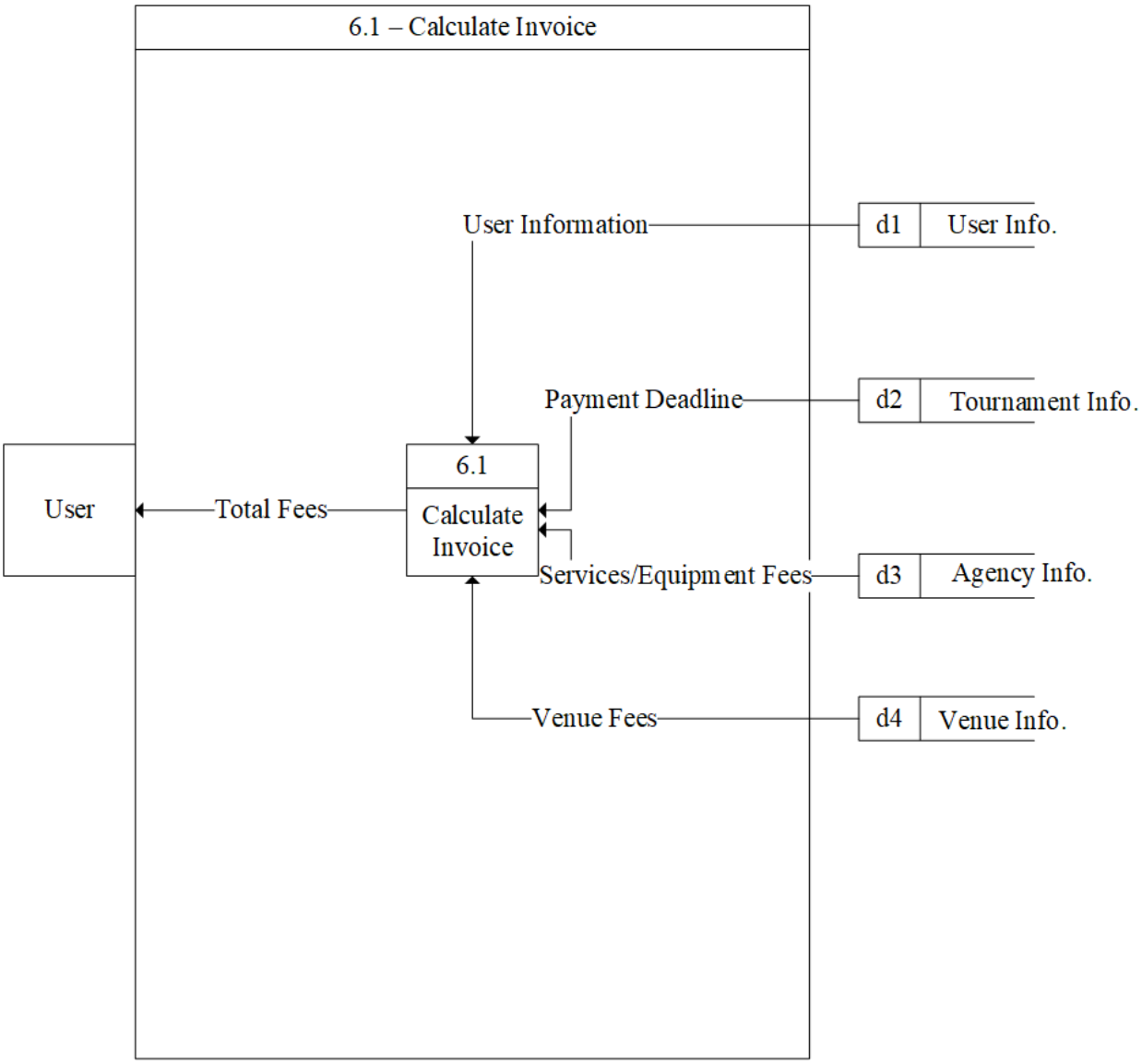
5.0 – Manage Venues



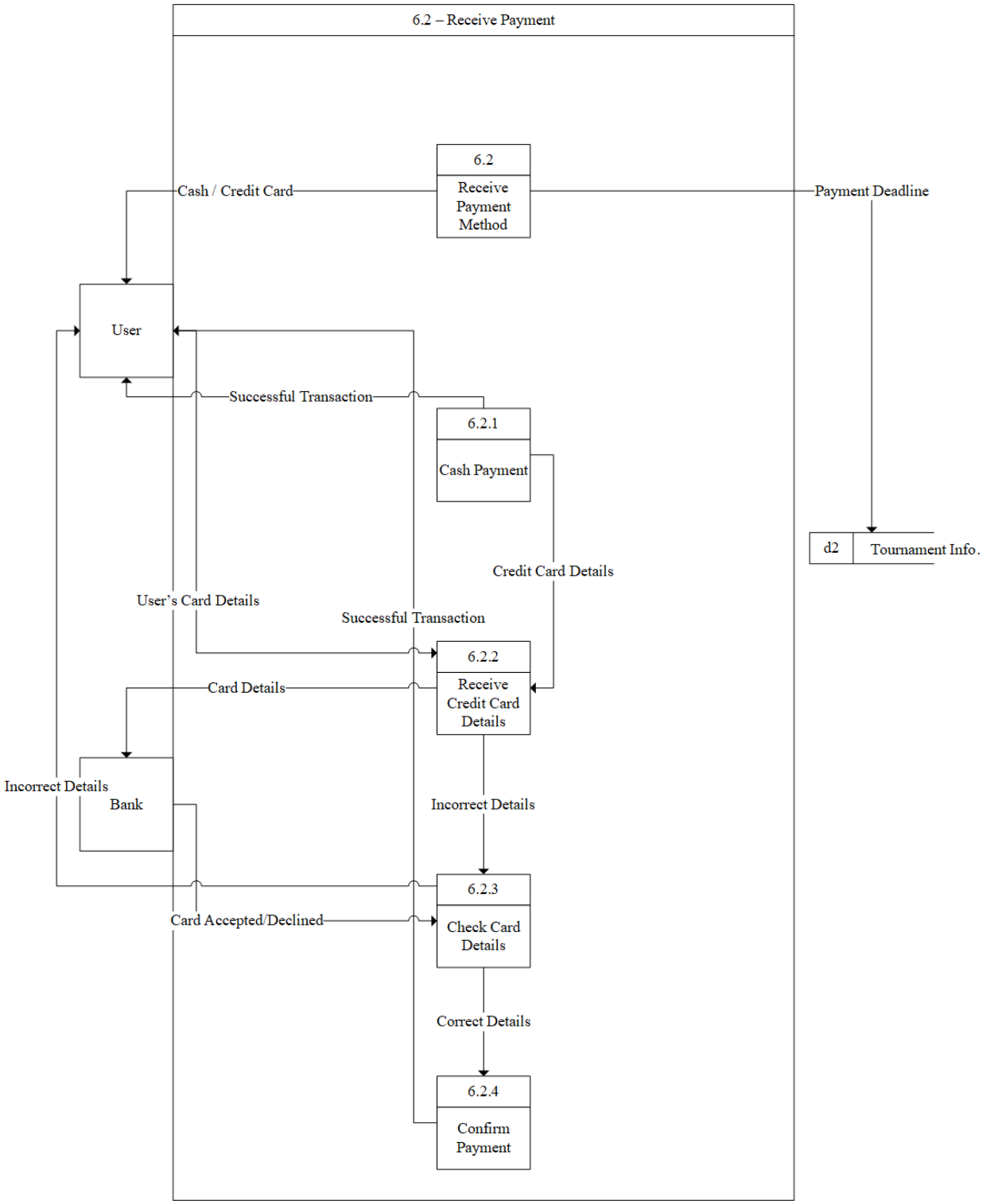
6.0 – Manage Payments



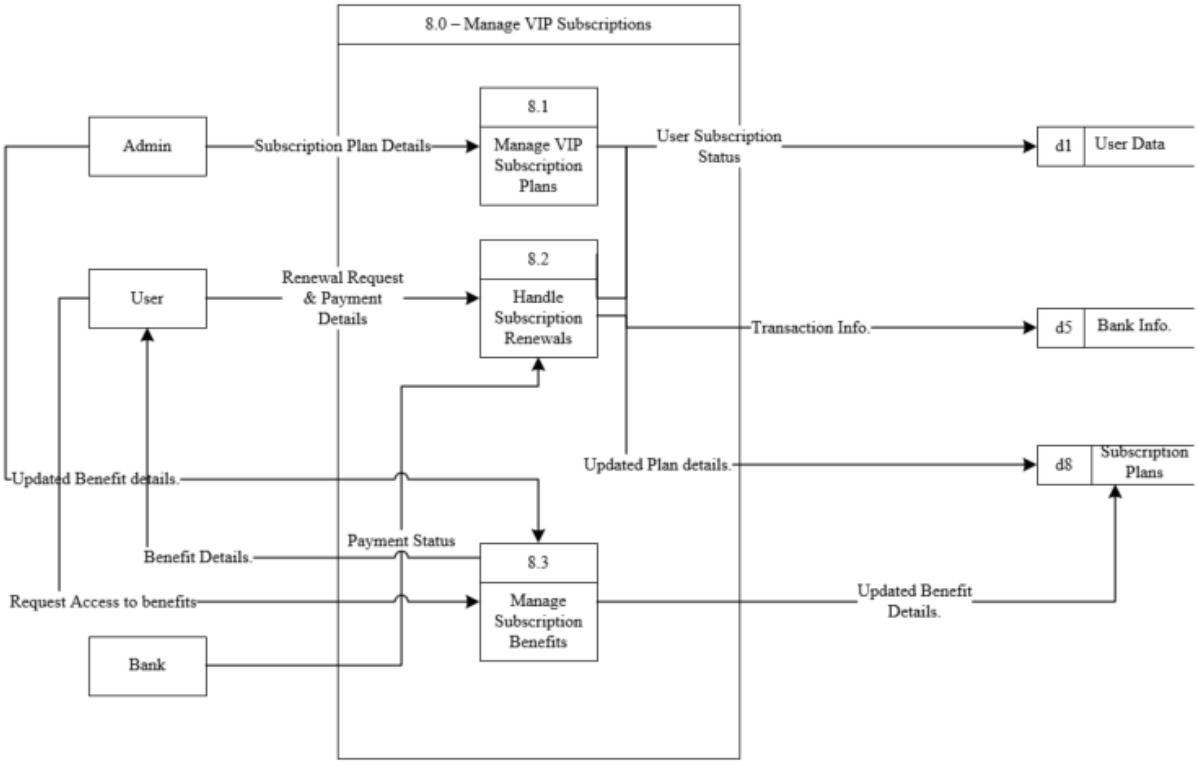
6.1 – Calculate Invoice



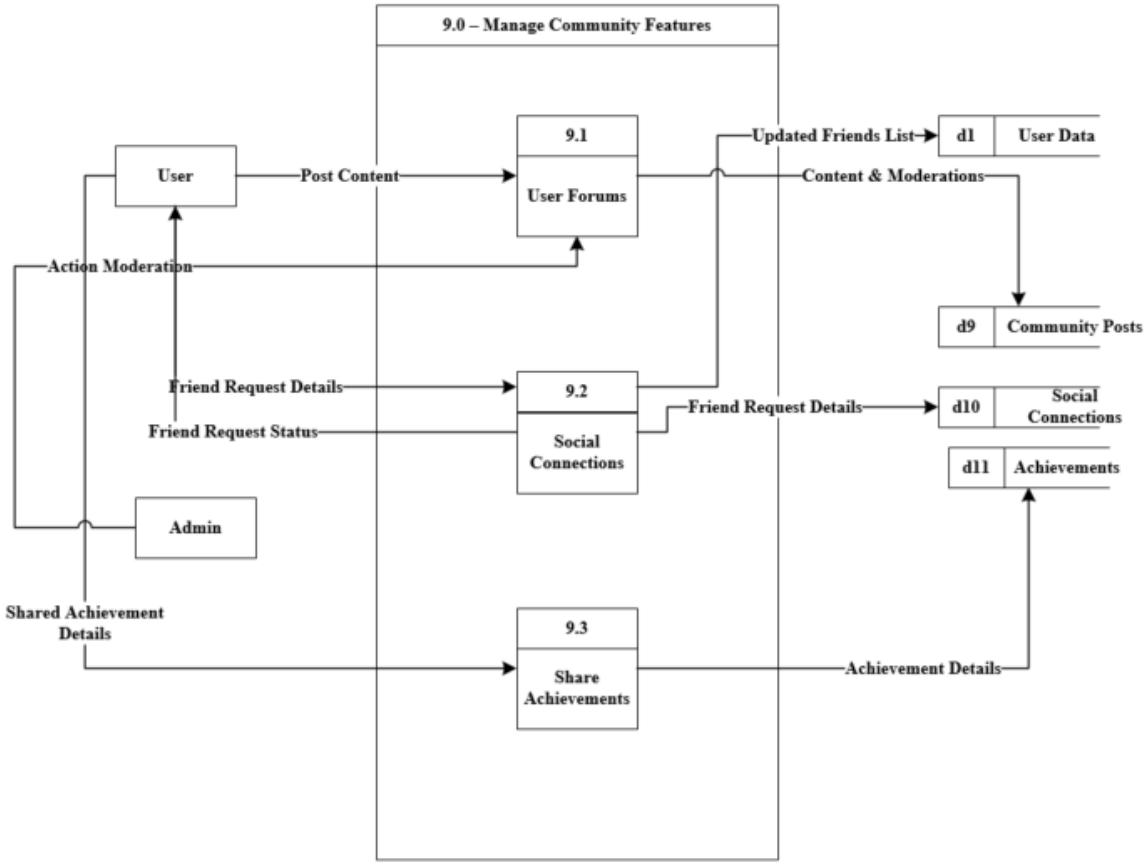
6.2 – Receive Payment


6.2 – Receive Payment
6.2
Receive Payment Method
Cash / Credit Card
Payment Deadline
User
Successful Transaction
6.2.1
Cash Payment
d2
Tournament Info.
Credit Card Details
User's Card Details
Successful Transaction
6.2.2
Receive Credit Card Details
Card Details
Incorrect Details
Bank
Incorrect Details
6.2.3
Check Card Details
Card Accepted/Declined
Correct Details
6.2.4
Confirm Payment

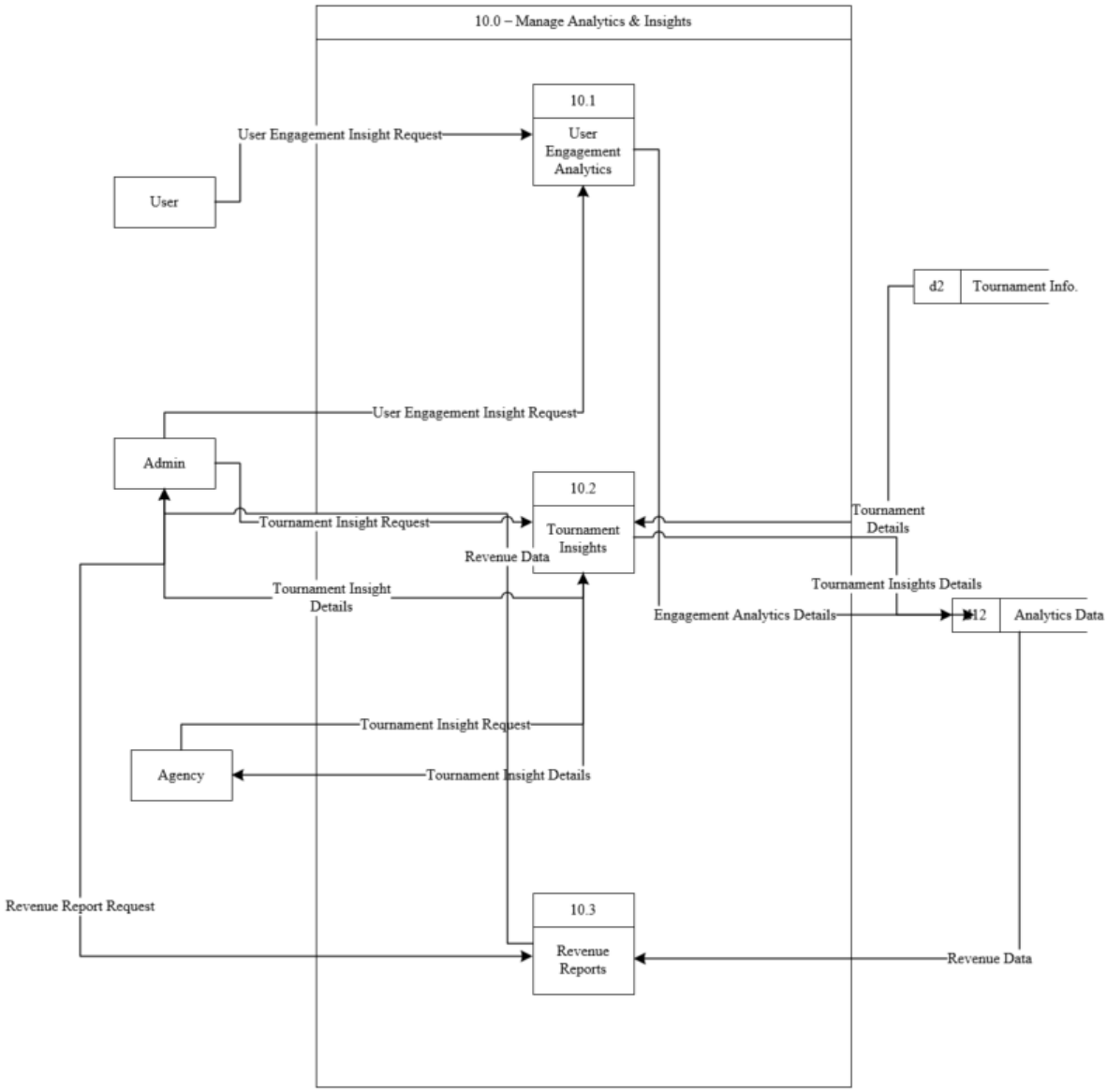
8.0 – Manage VIP Subscription Plans



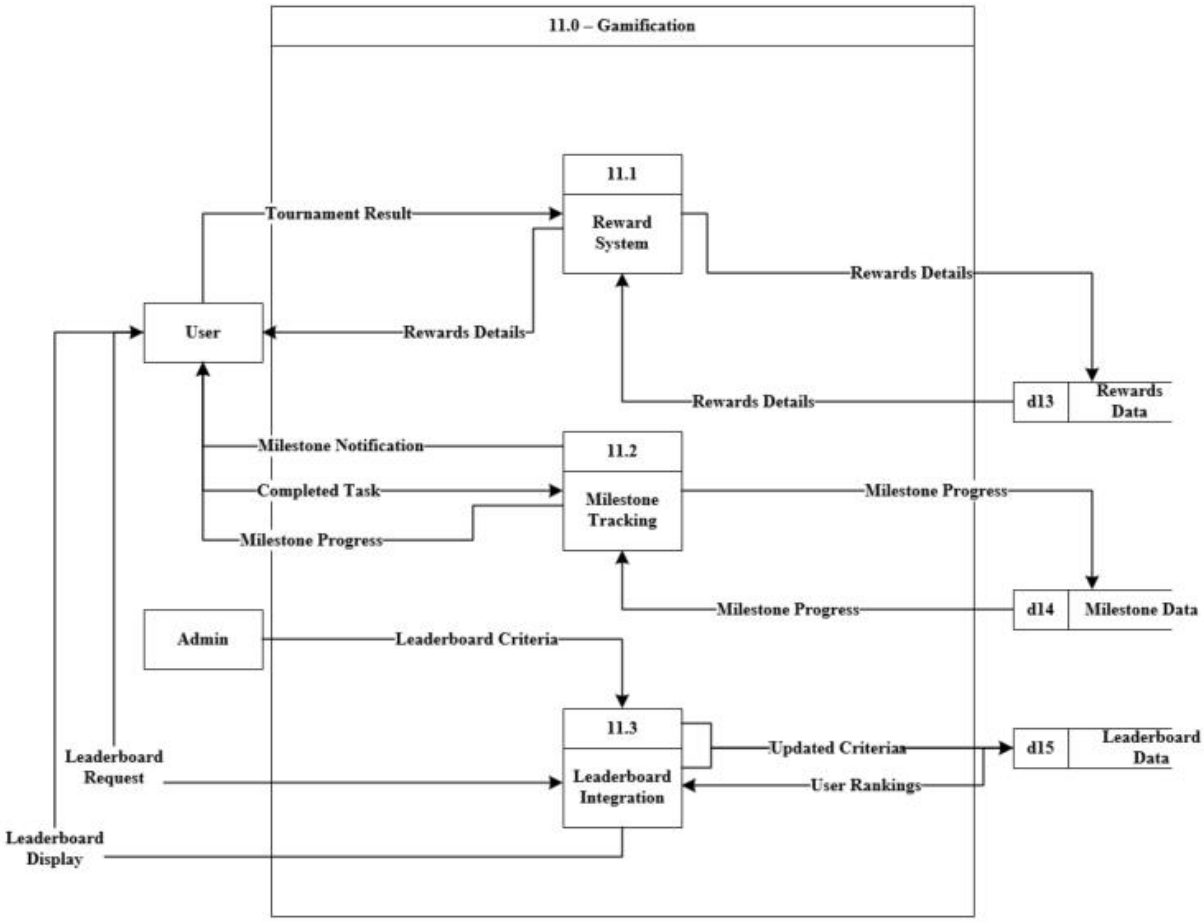
9.0 – Manage Community Features



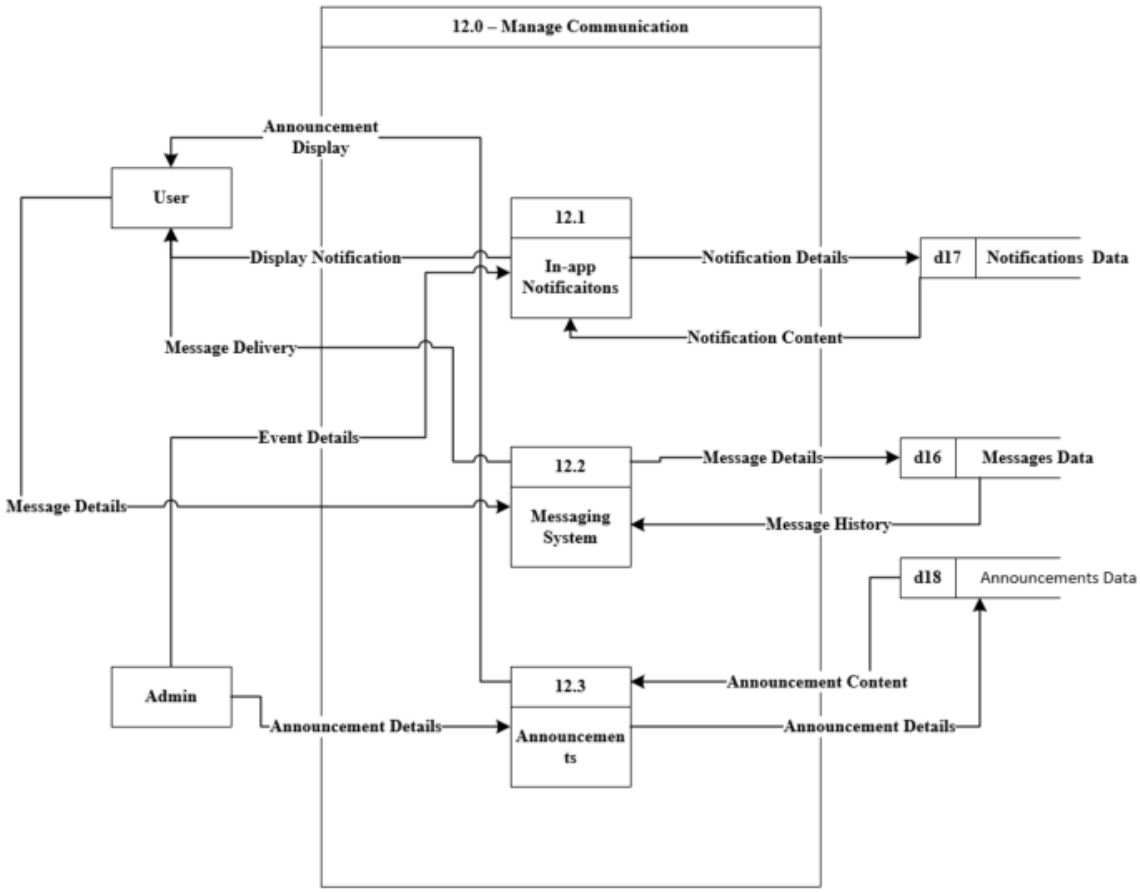
10.0 – Manage Analytics & Insights



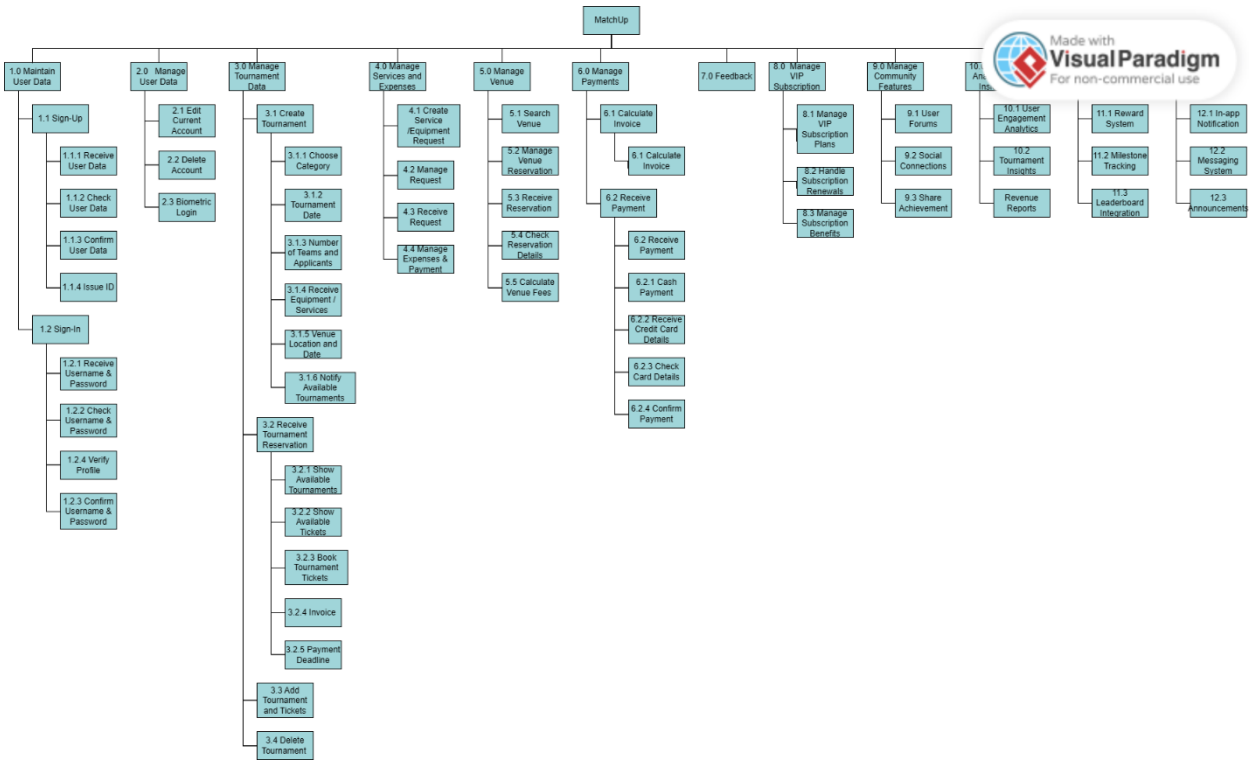
11.0 – Gamification



12.0 – Manage Communication



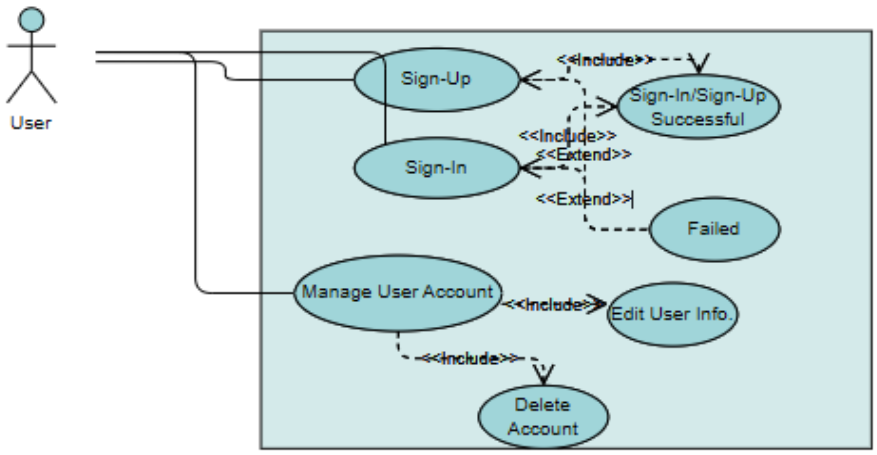
5.2.2 – FUNCTIONAL HIERARCHAL DIAGRAM

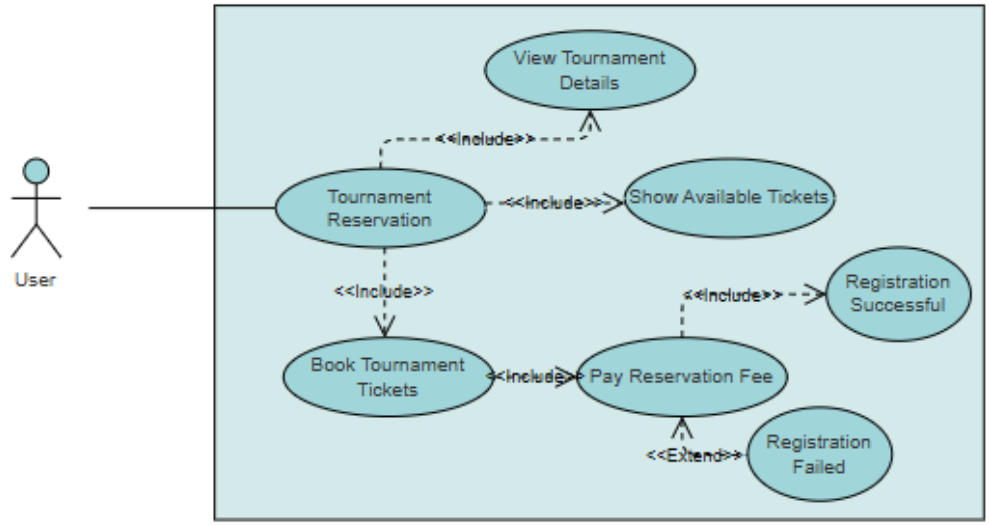


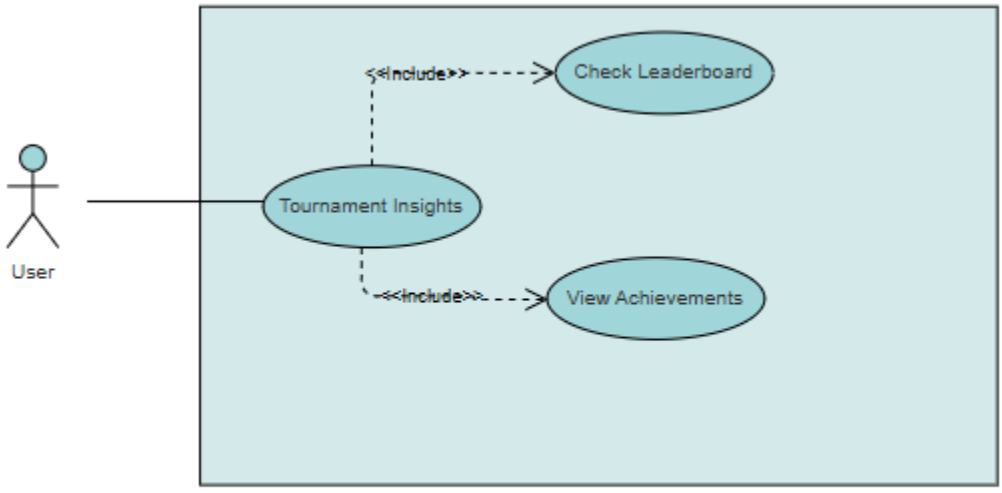
5.2.3 – USE CASE & USER STORIES

User

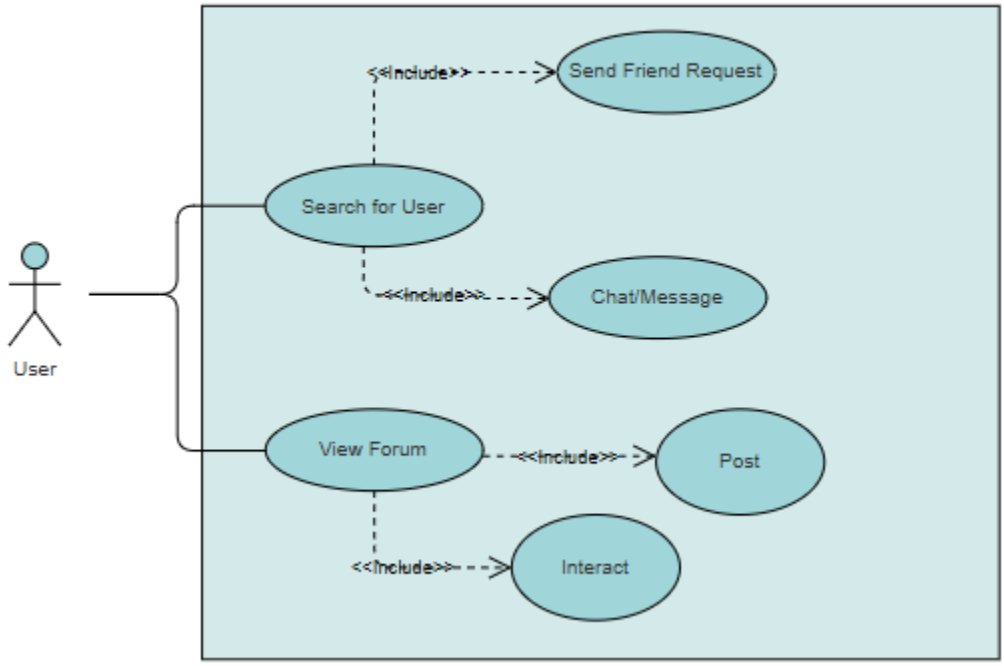
- As a user, I want to register into the platform, browse, register for, and participate in sports or videogames tournaments so that I can compete, track my progress, and connect with others who share my interest.




User
View Tournament Details
<<Include>>
Tournament Reservation
<<Include>>
Show Available Tickets
<<Include>>
Registration Successful
<<Include>>
Book Tournament Tickets
<<Include>>
Pay Reservation Fee
<<Extend>>
Registration Failed

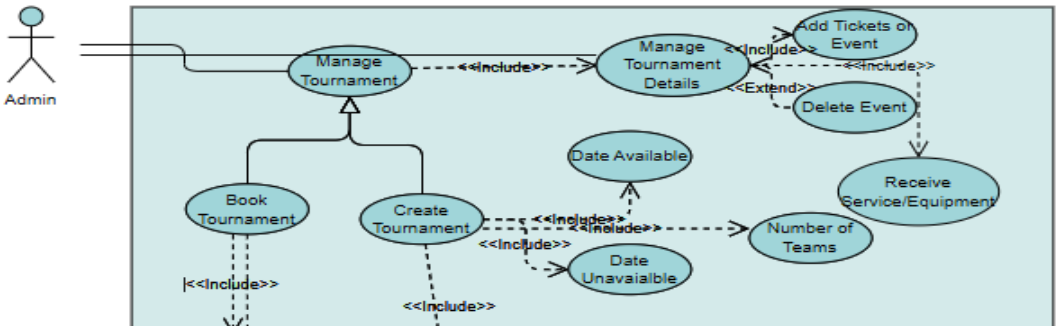

User
<<Include>>
Check Leaderboard
Tournament Insights
<<Include>>
View Achievements

\



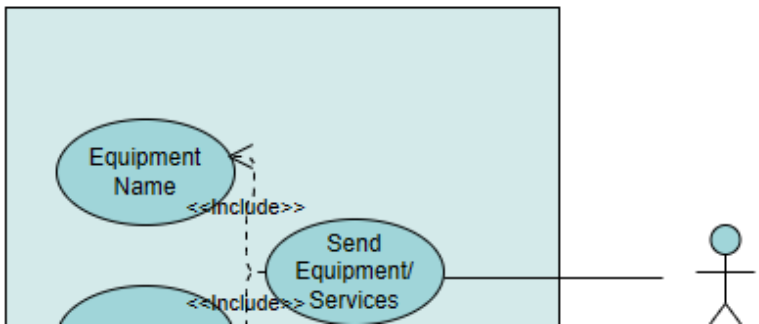
Admin

- As an admin, I want to create a new tournament on the platform, manage its details, and coordinate with agencies to receive necessary equipment and services.



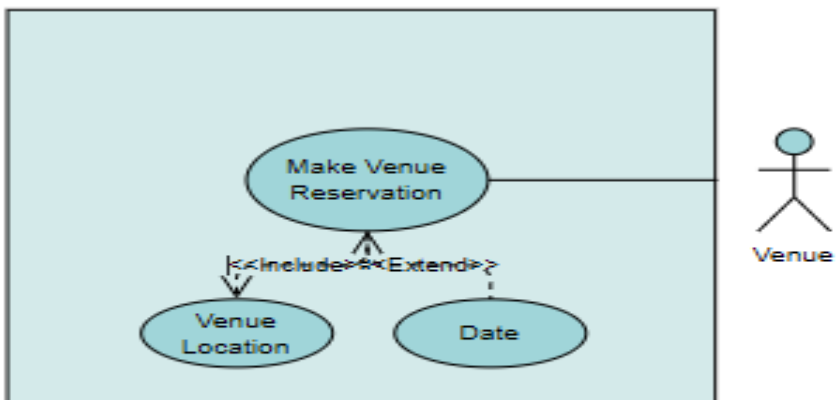
Agency

- As an agency, I want to provide services and equipment to the tournament company, such as marketing assistance or equipment rentals, to support their organized tournaments.



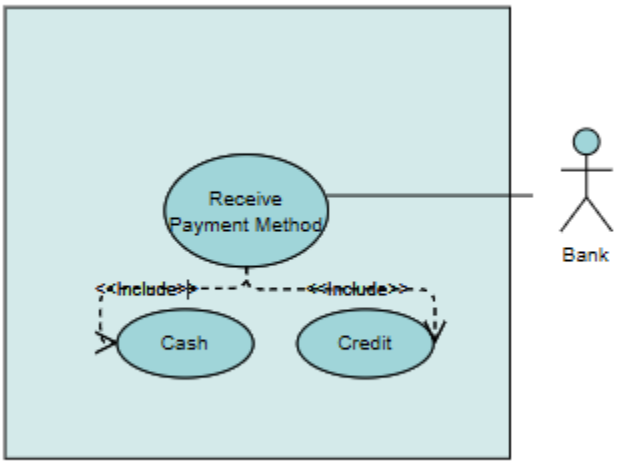
Venue

- As a venue, I want to provide reservation services to the tournament company, allowing them to book and utilize our facilities for their tournaments.



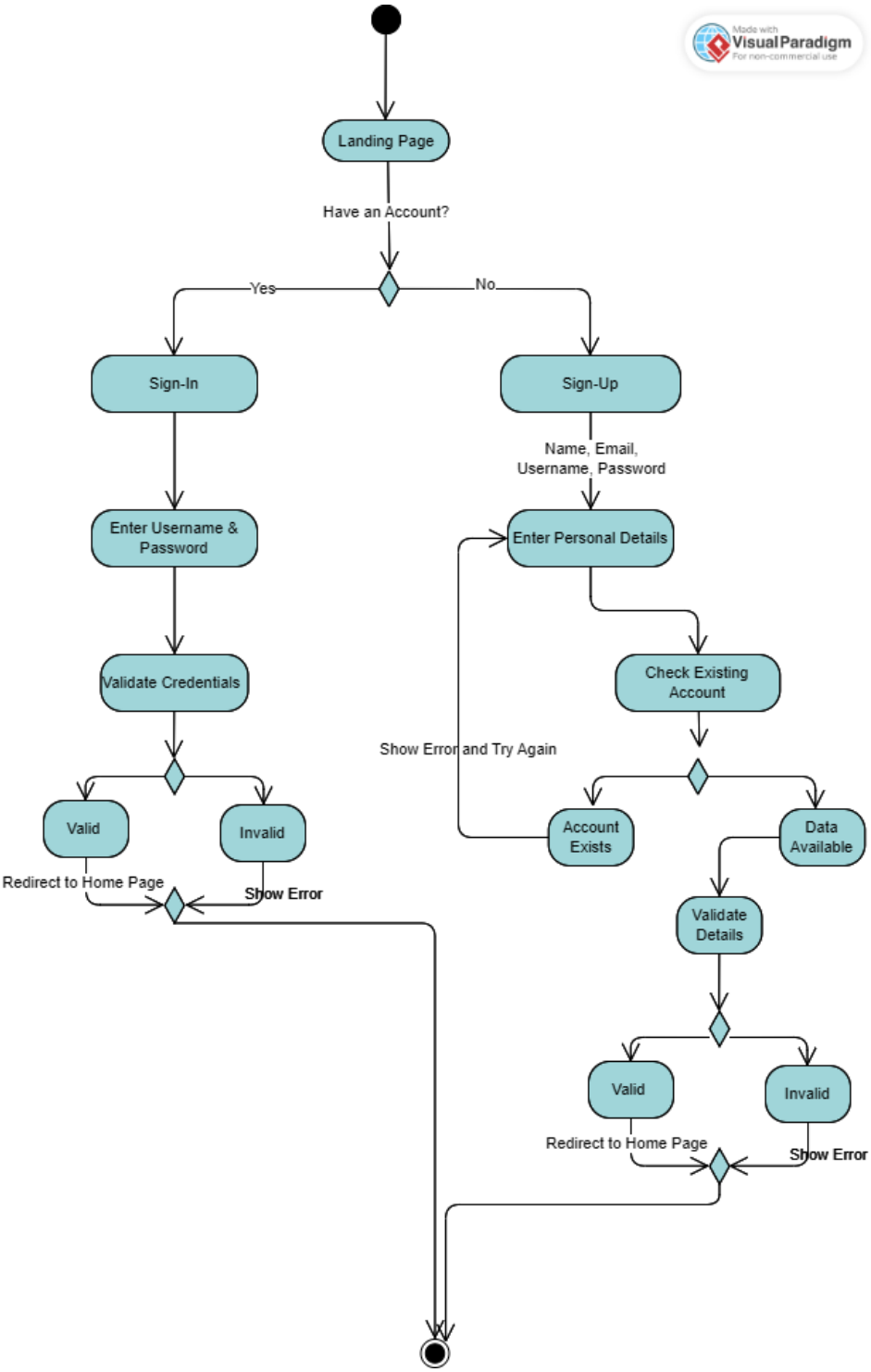
Bank

- As a bank, I want to receive and process payments from the tournament participants and facilitate secure transactions for the tournament company.

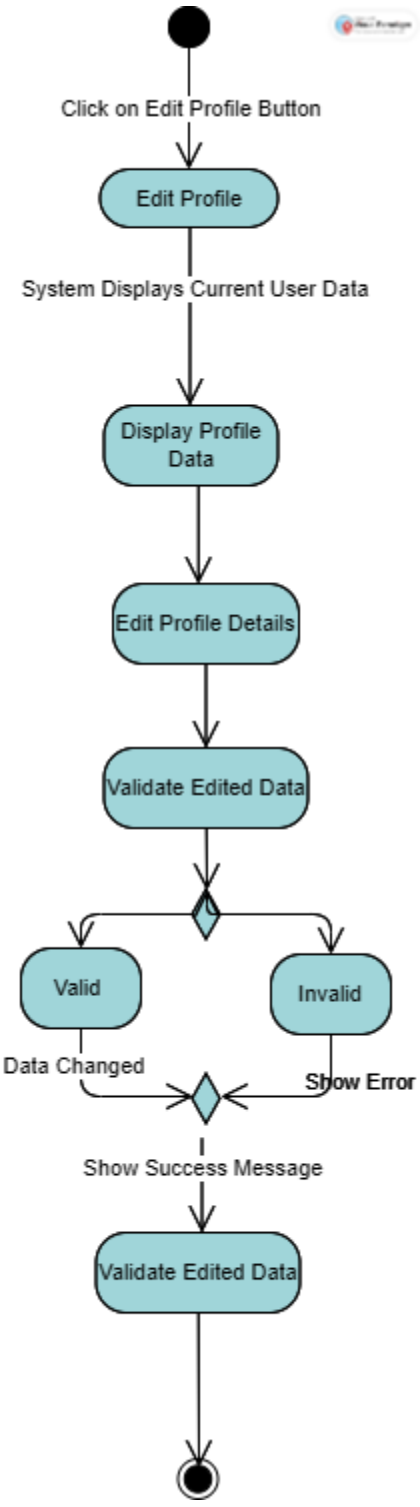


5.2.4 – ACTIVITY DIAGRAMS

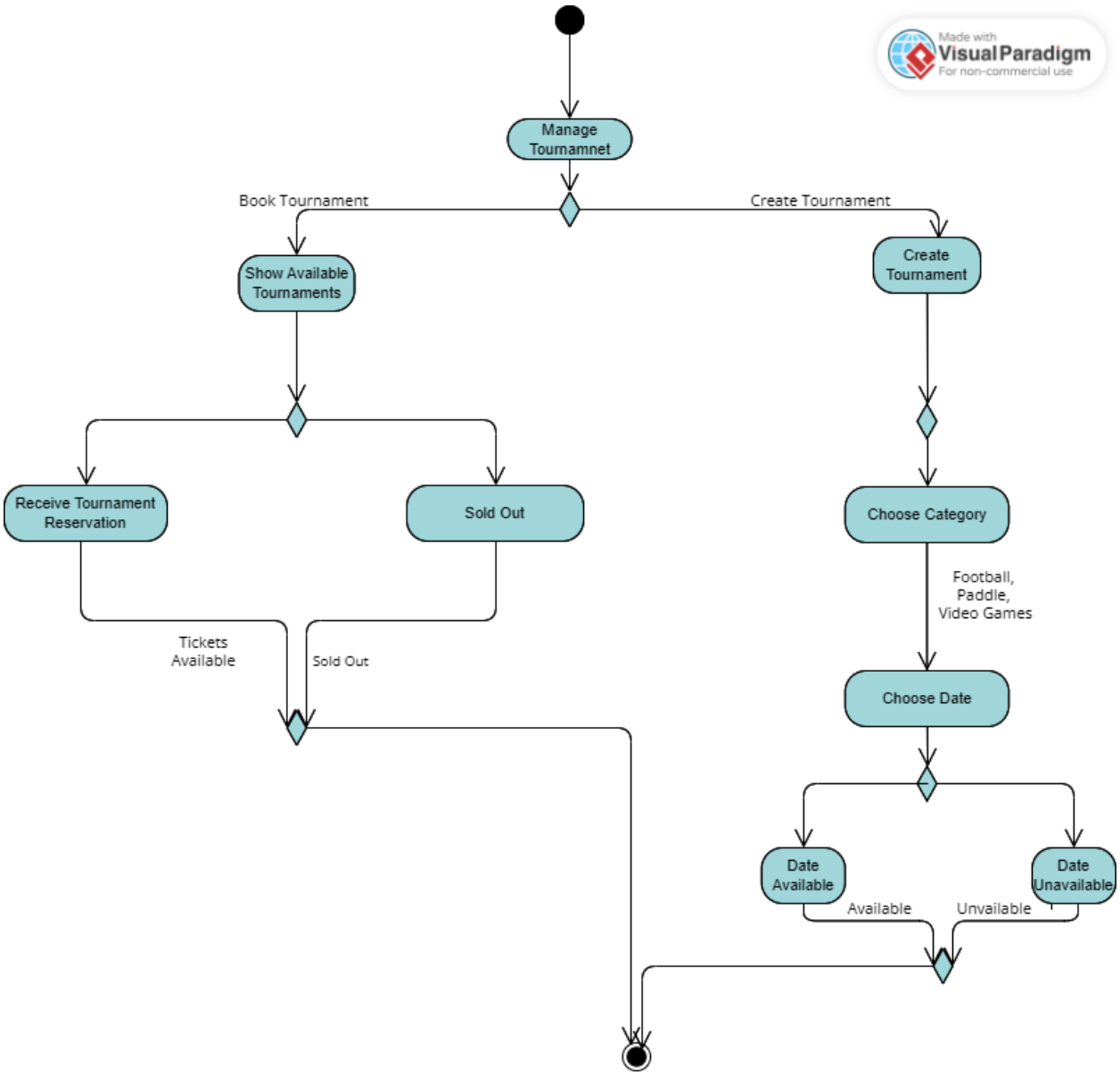
1.0 – Maintain User Data



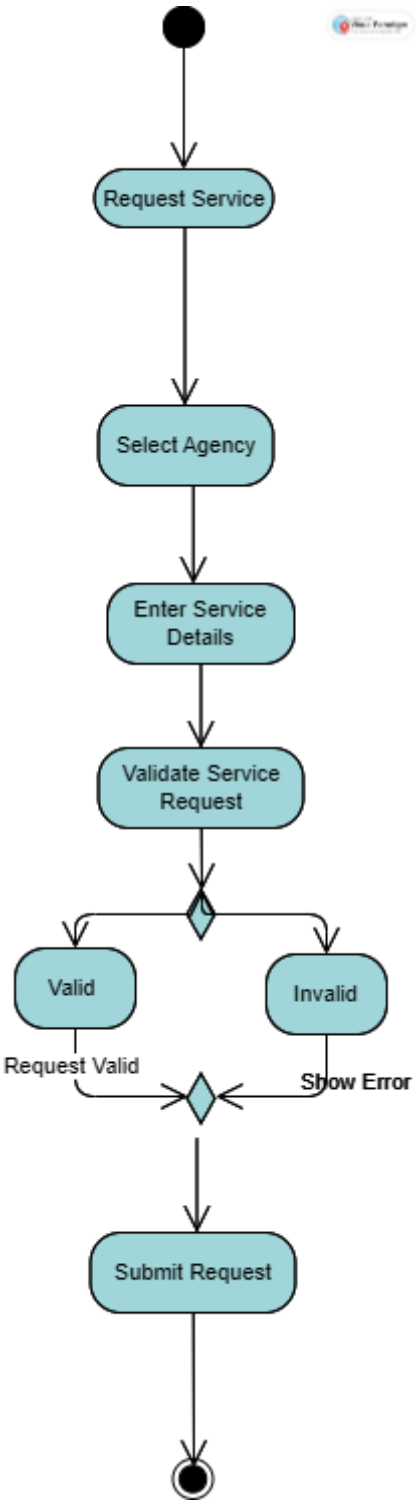
2.0 – Manage User Data



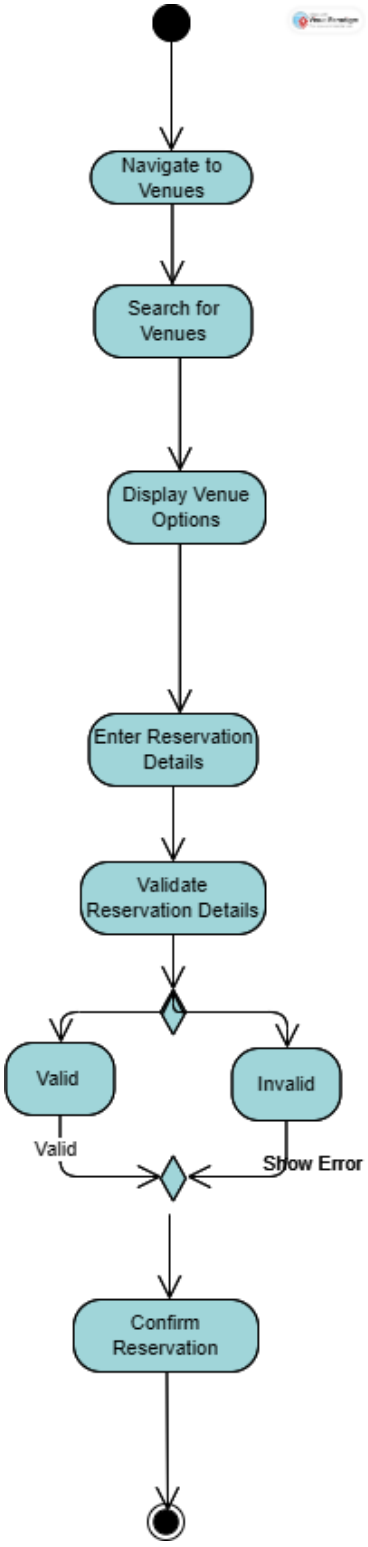
3.0 – Manage Tournaments



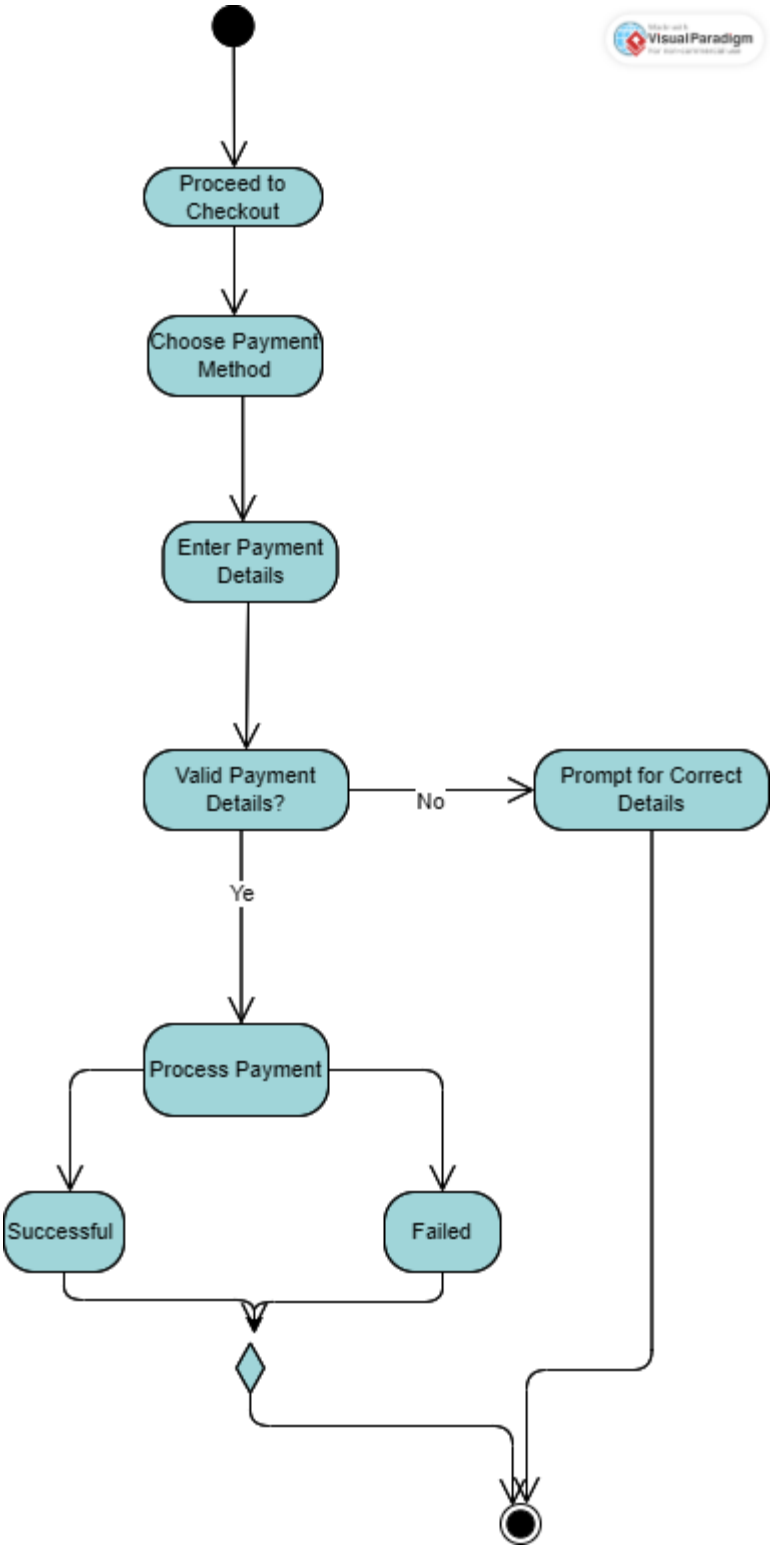
4.0 – Manage Services & Expenses



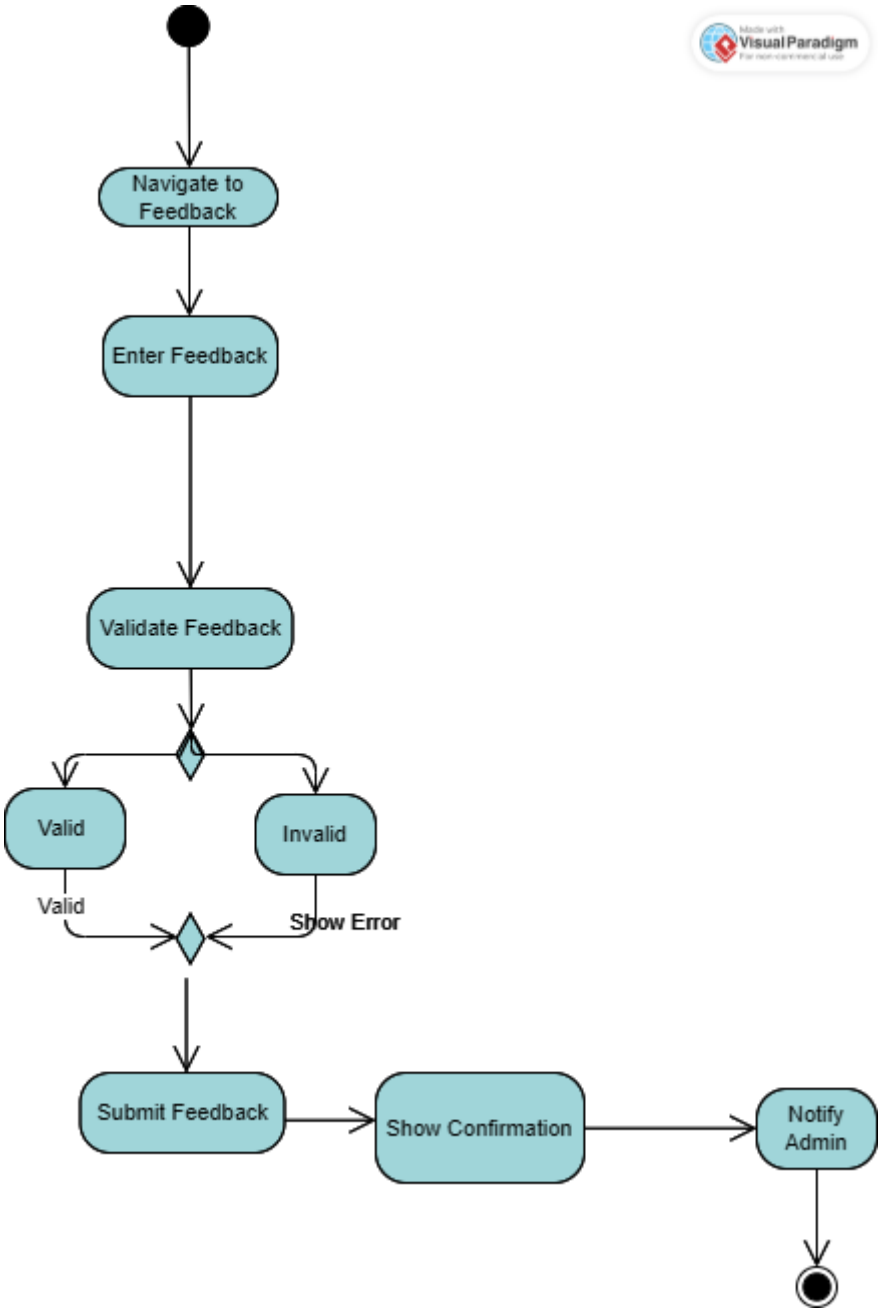
5.0 – Manage Venues



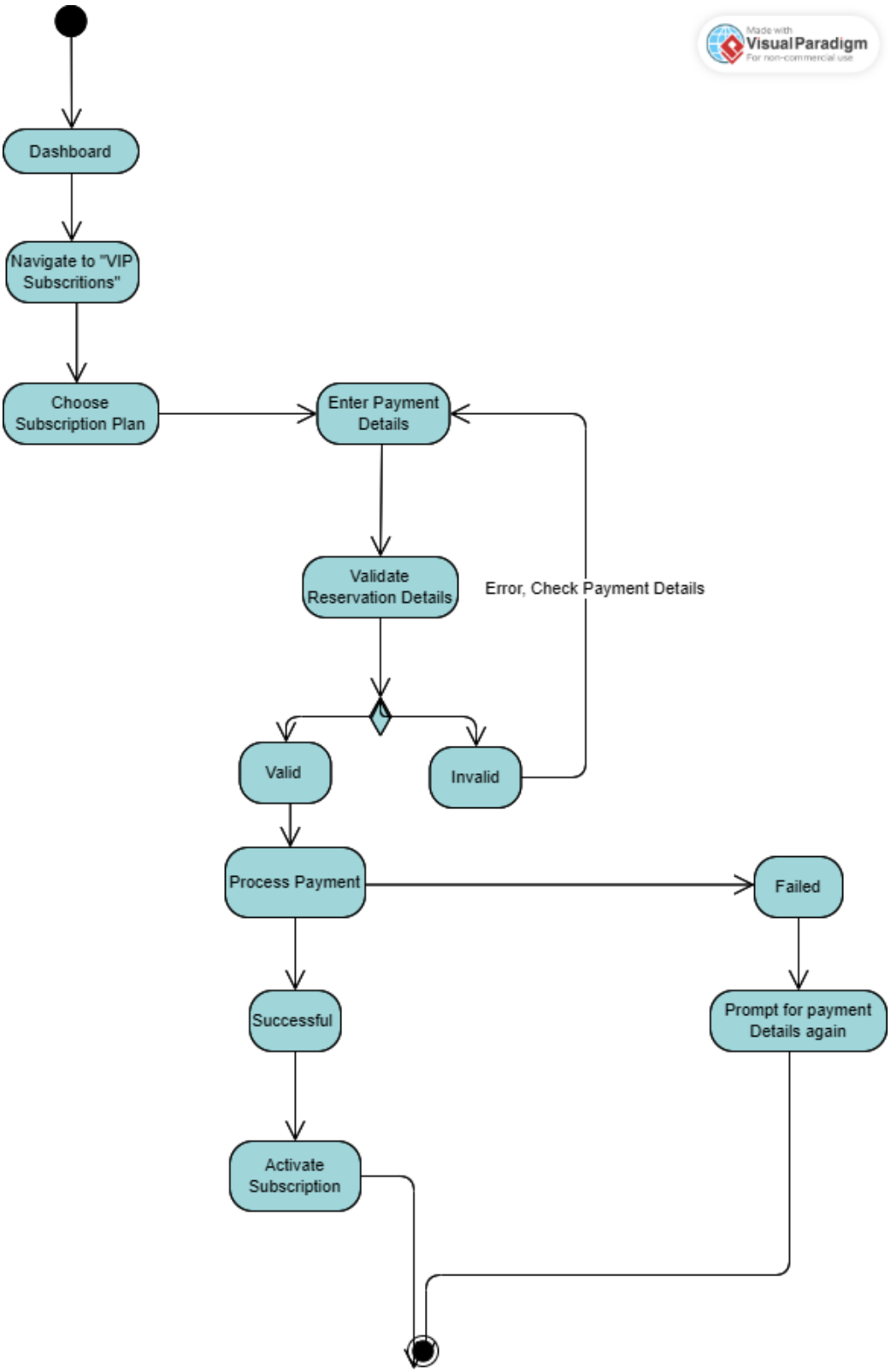
6.0 – Manage Payments


Proceed to Checkout
Choose Payment Method
Enter Payment Details
Valid Payment Details?
No
Prompt for Correct Details
Ye
Process Payment
Successful
Failed

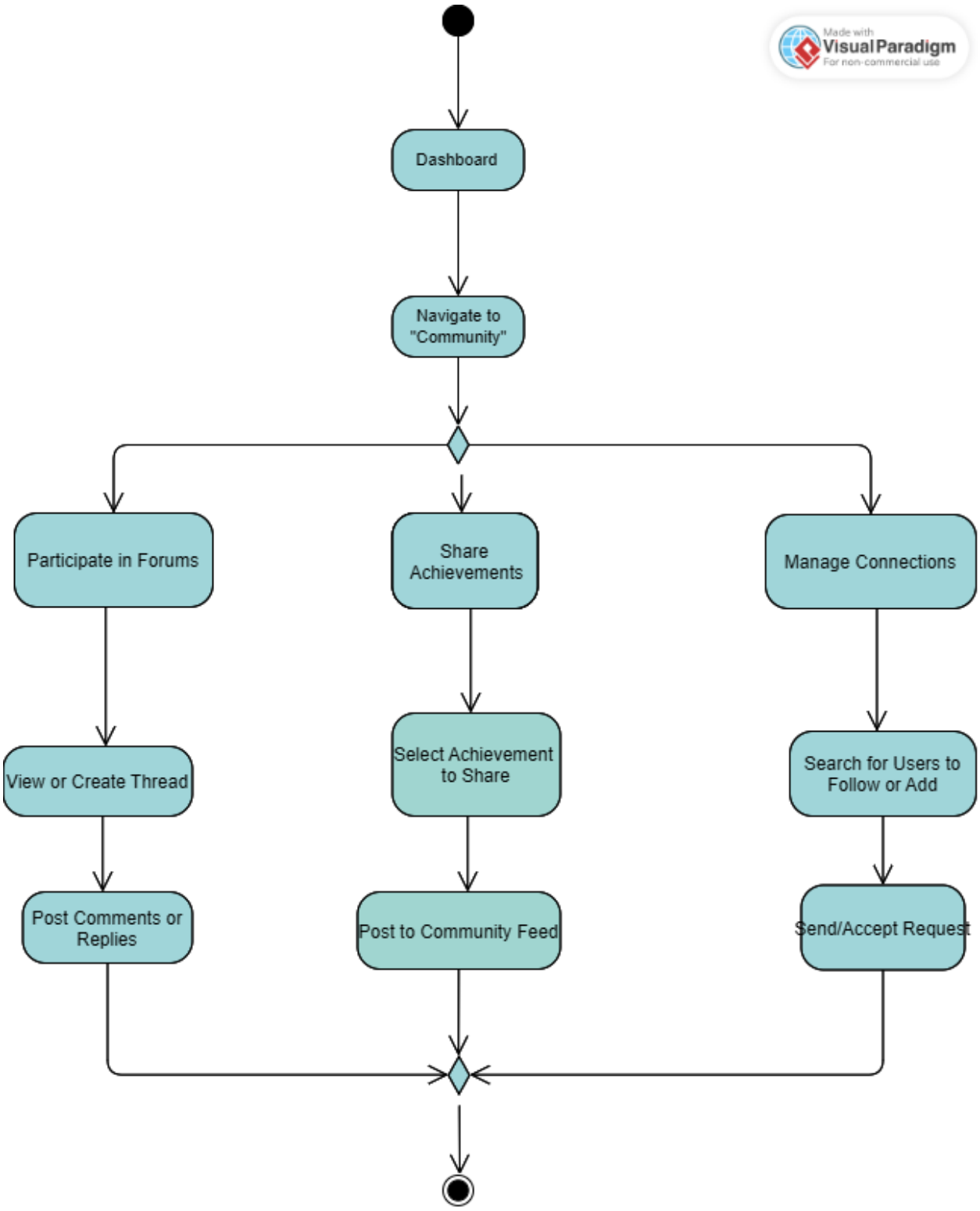
7.0 – Feedback


Navigate to Feedback
Enter Feedback
Validate Feedback
Valid
Invalid
Valid
Show Error
Submit Feedback
Show Confirmation
Notify Admin

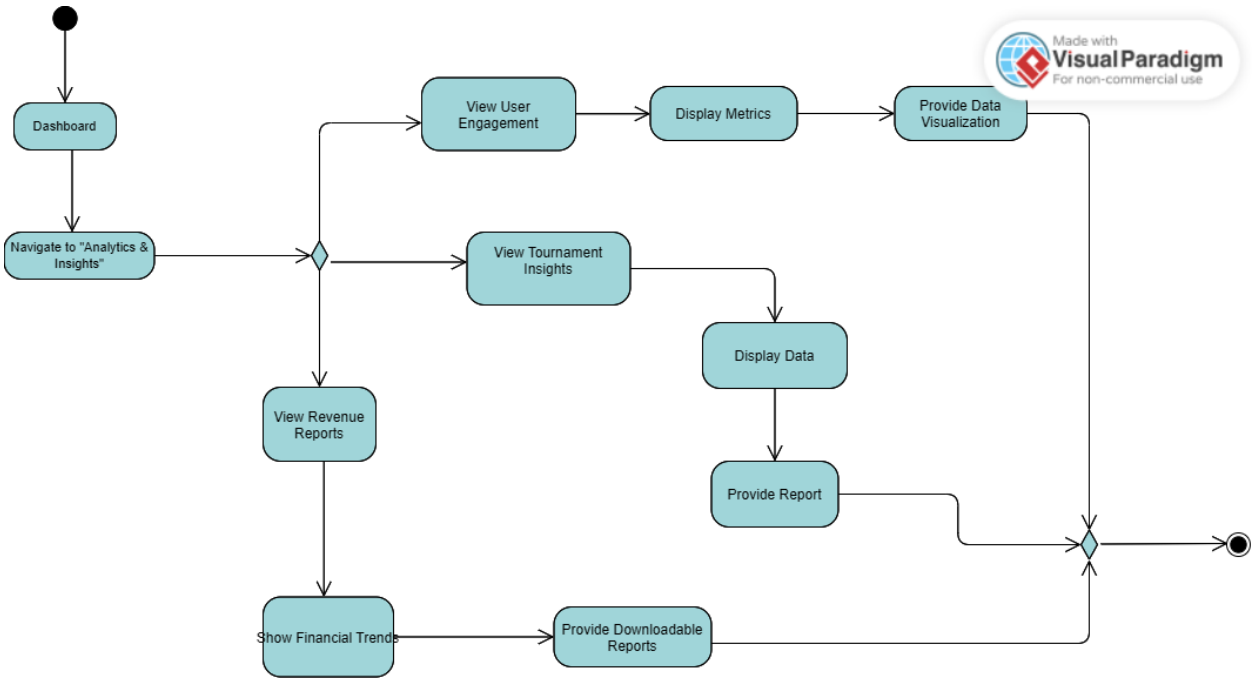
8.0 – Manage VIP Subscription



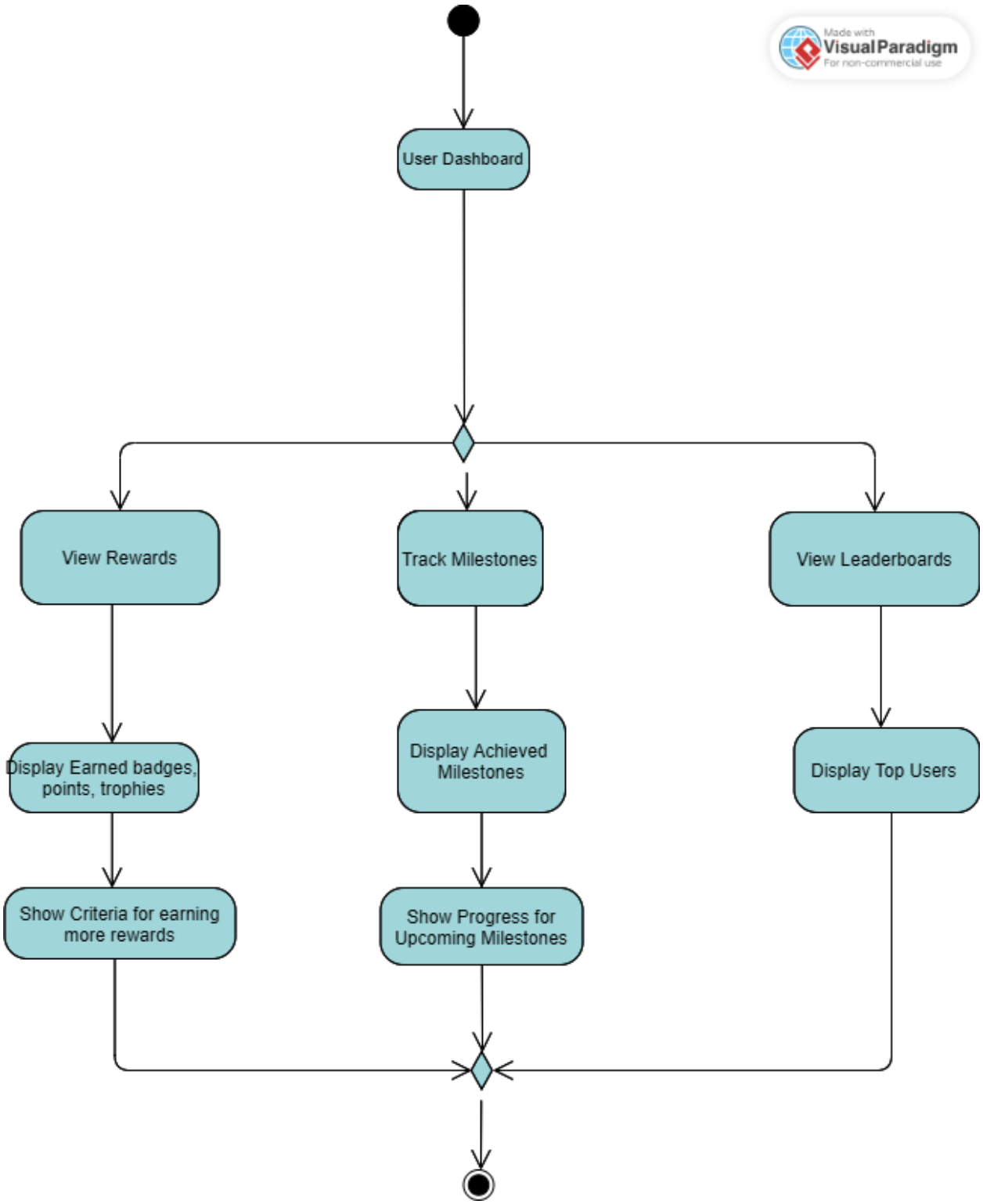
9.0 – Manage Community Features



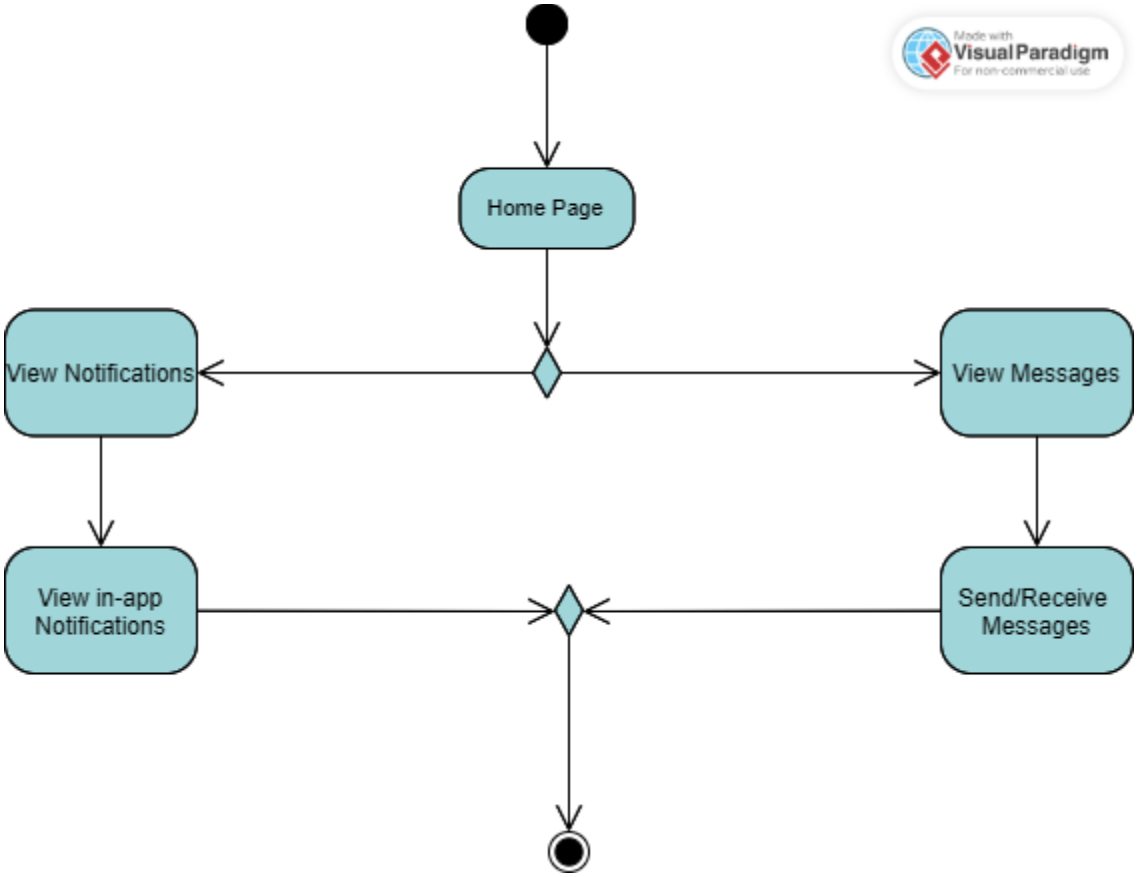
10.0 – Manage Analytics & Insights



11.0 – Gamification

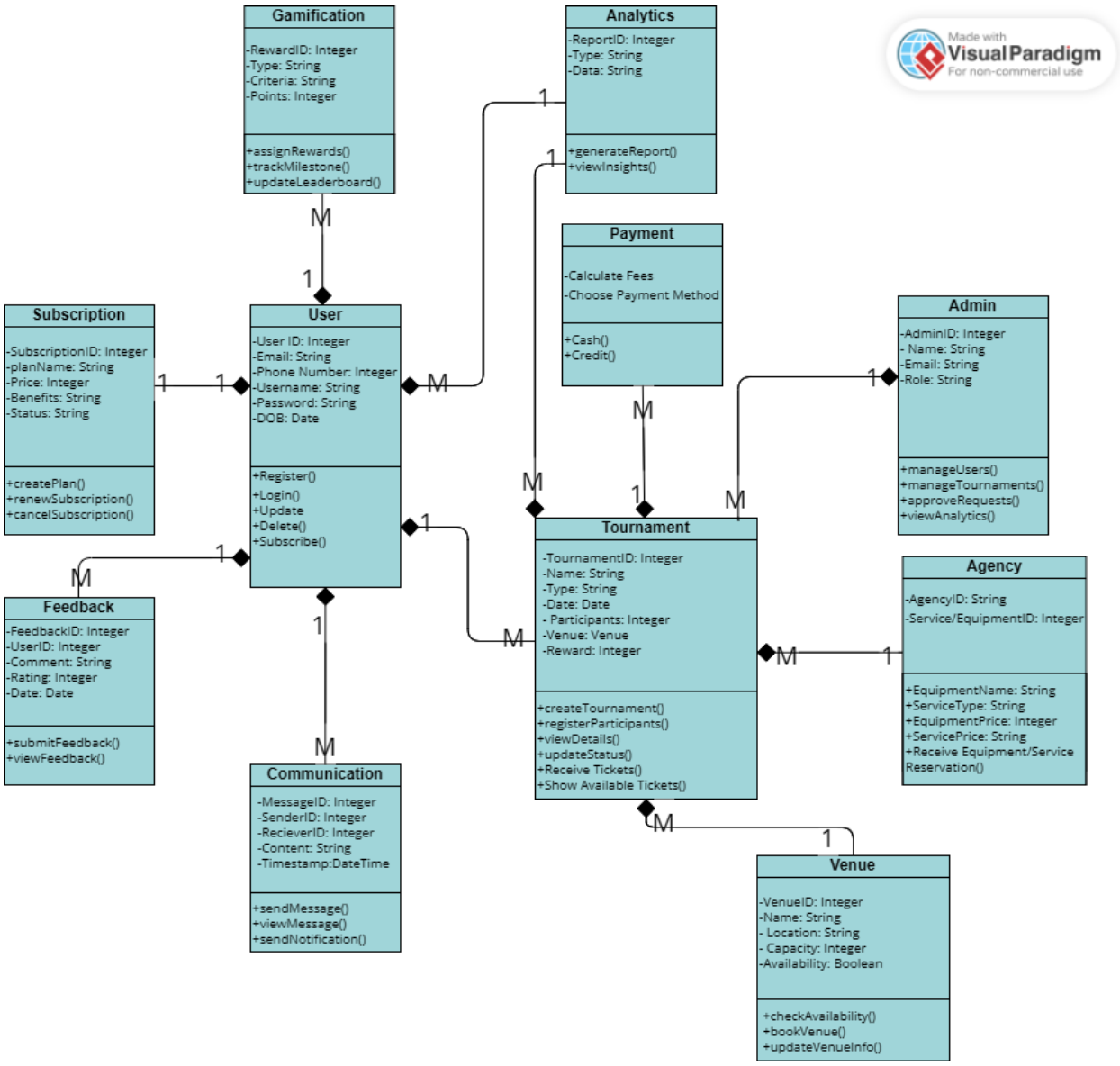


12.0 – Manage Communication

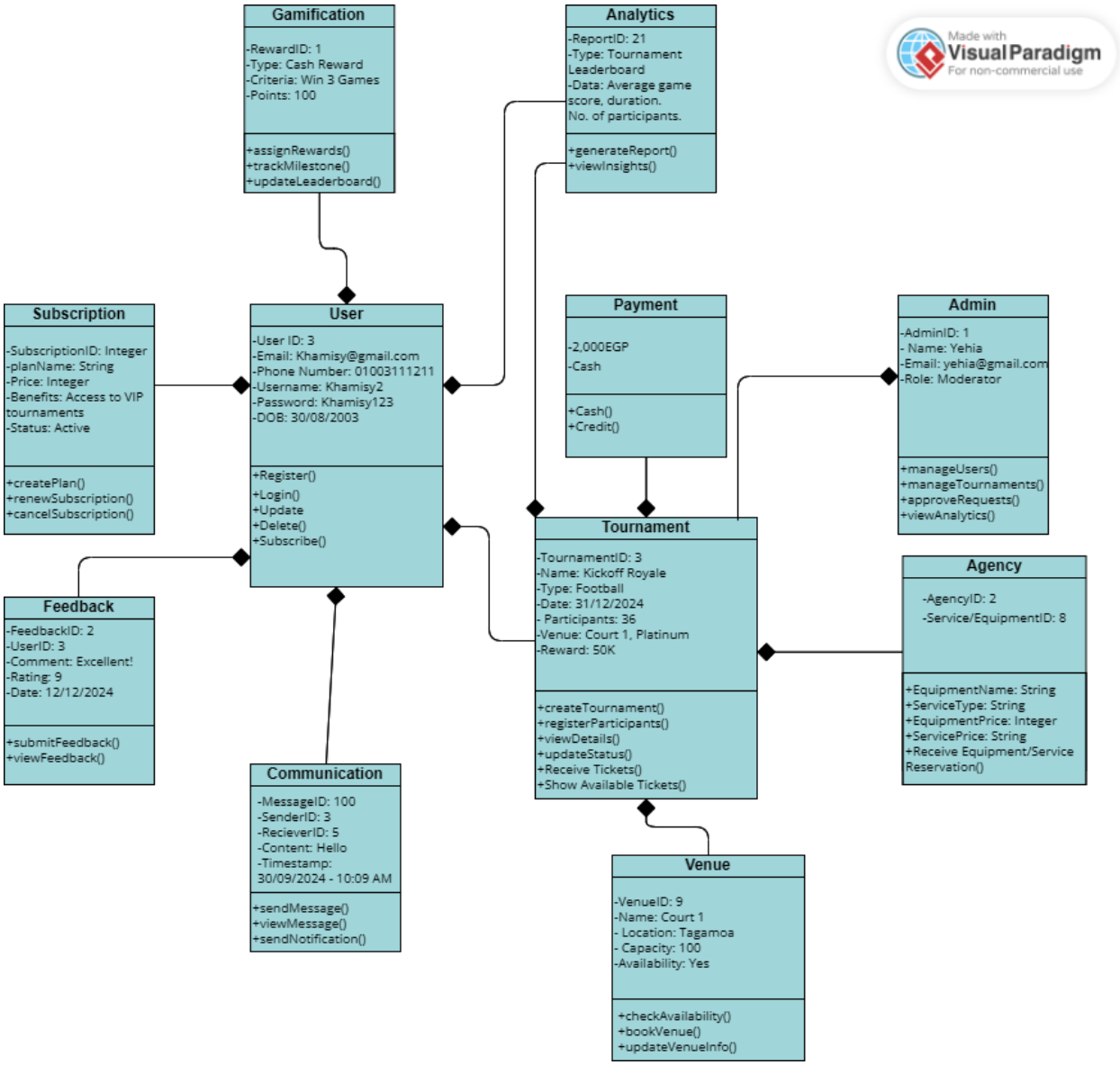


5.3 – Structural Modeling

5.3.1 – CLASS DIAGRAM



5.3.2 – OBJECT DIAGRAM



5.3.3 – CRC CARDS

CRC Card for User

Class Name: User	**ID:** 1	**Type:** Entity
Description: Represents a user of the platform.		**Associated Use Cases:** 4

Responsibilities:

- Manage User Profile and Personal Data
- Register for Tournaments
- Participate in Tournaments
- Track Progress & Achievements
- View Subscription Status and Manage Renewal

Collaborators:

- Tournament
- Subscription
- Achievements

Attributes:

- User ID (Integer)
- Email (String)
- Phone Number (Integer)
- Username (String)
- Password (String)
- DOB (Date)

Relationships:

Generalization: (a-kind-of): Player, Spectator, Organizer

Aggregation: (has-parts): Tournaments

Other Associations: Analytics & Insights, Subscription Plans

CRC Card for Tournament

Class Name: Tournament	**ID:** 2	**Type:** Entity
Description: Represents a tournament in the platform, either for competitive sports or eSports. It holds tournament details, participants, schedules, and results.		**Associated Use Cases:** 5

Responsibilities:

- Organize and schedule tournaments
- Register and manage participants
- Track and store results
- Display tournament details and standings

Collaborators:

- User
- Venue
- Agency
- Bank

Attributes:

- Tournament_ID (Integer)
- Name (String)
- Type String
- Date (Date)
- Participants (Integer)
- Venue (String)
- Reward (Integer)

Relationships:

Generalization: (a-kind-of): Tournament

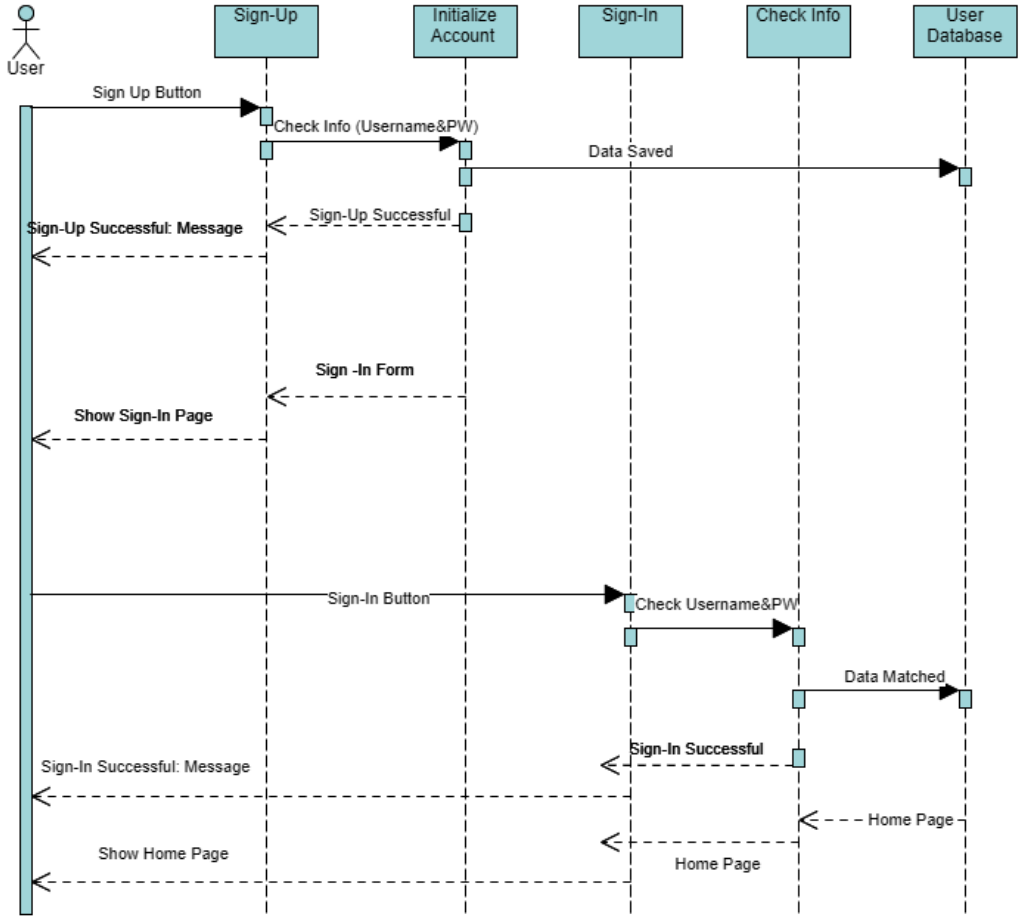
Aggregation: (has-parts): Users, Venue

Other Associations: Agency, Bank

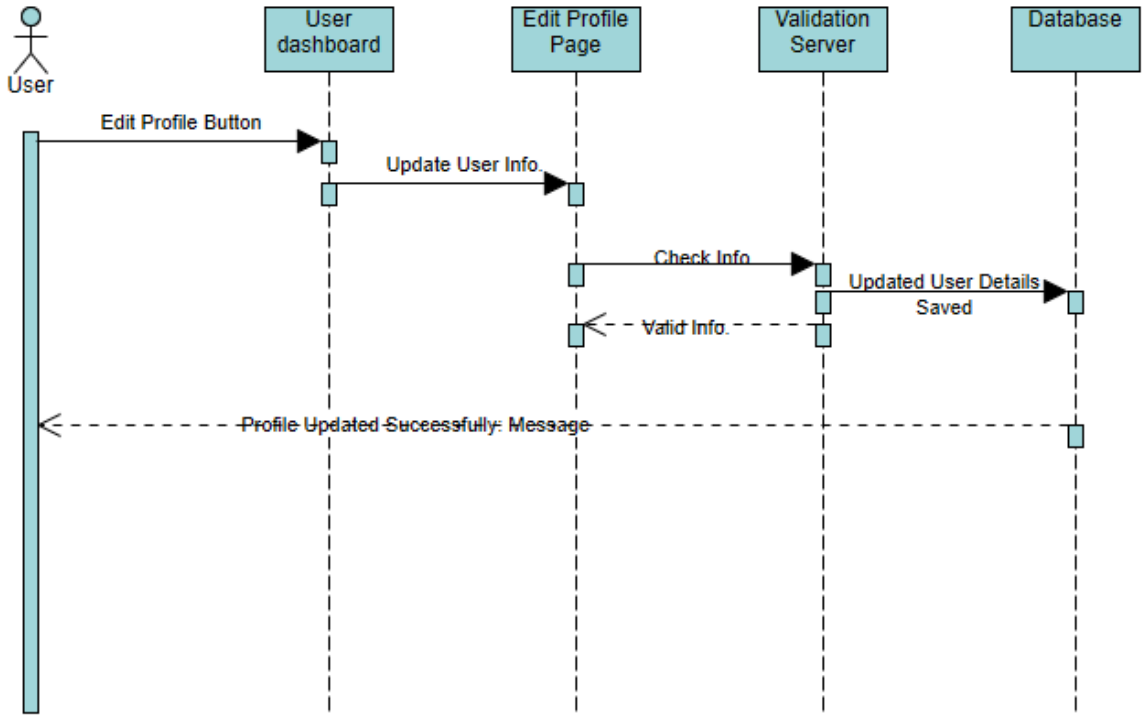
5.4 – Behavioral Modeling

5.4.1 – SEQUENCE DIAGRAM

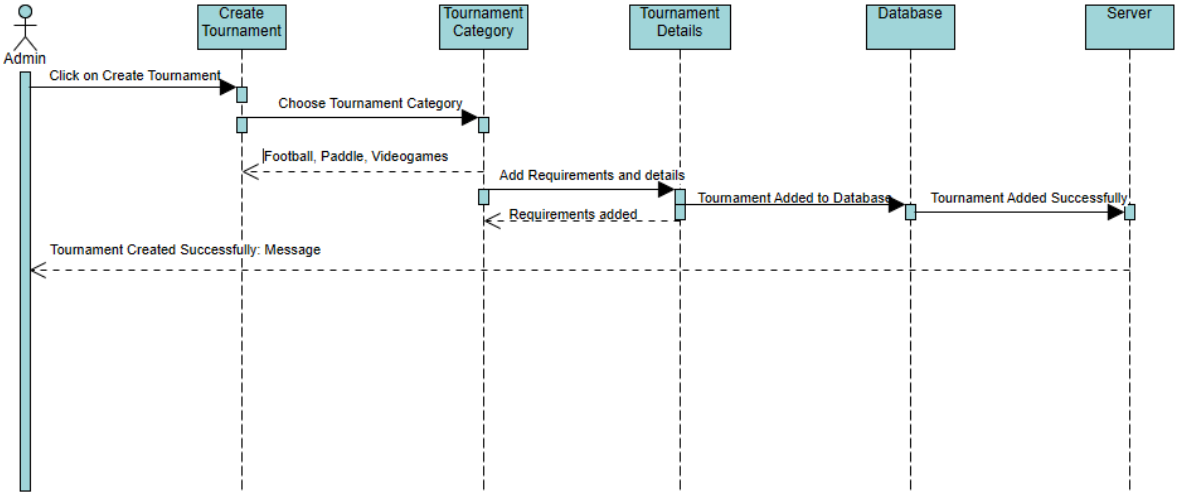
1.0 – Maintain User Data



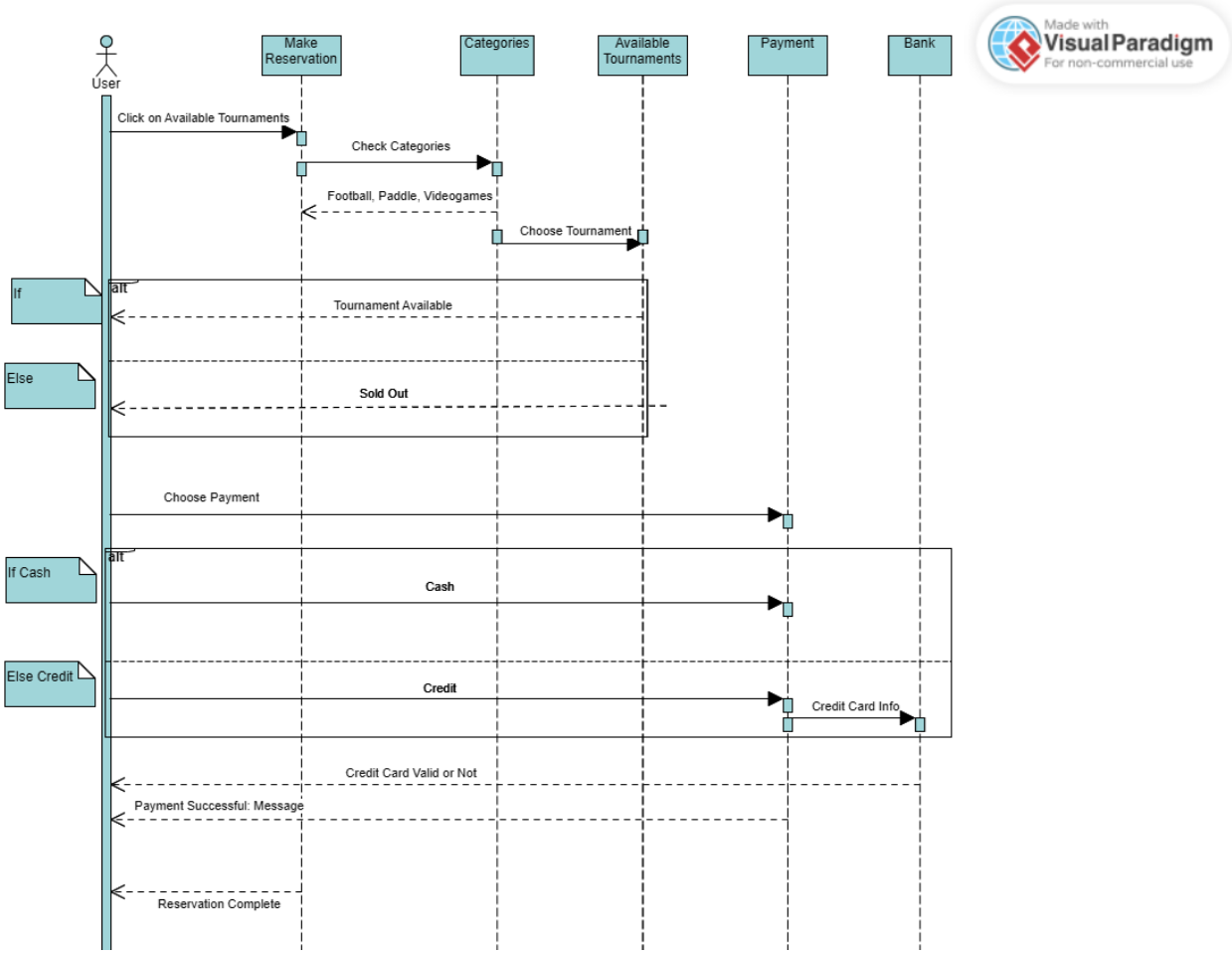
2.0 – Manage User Data



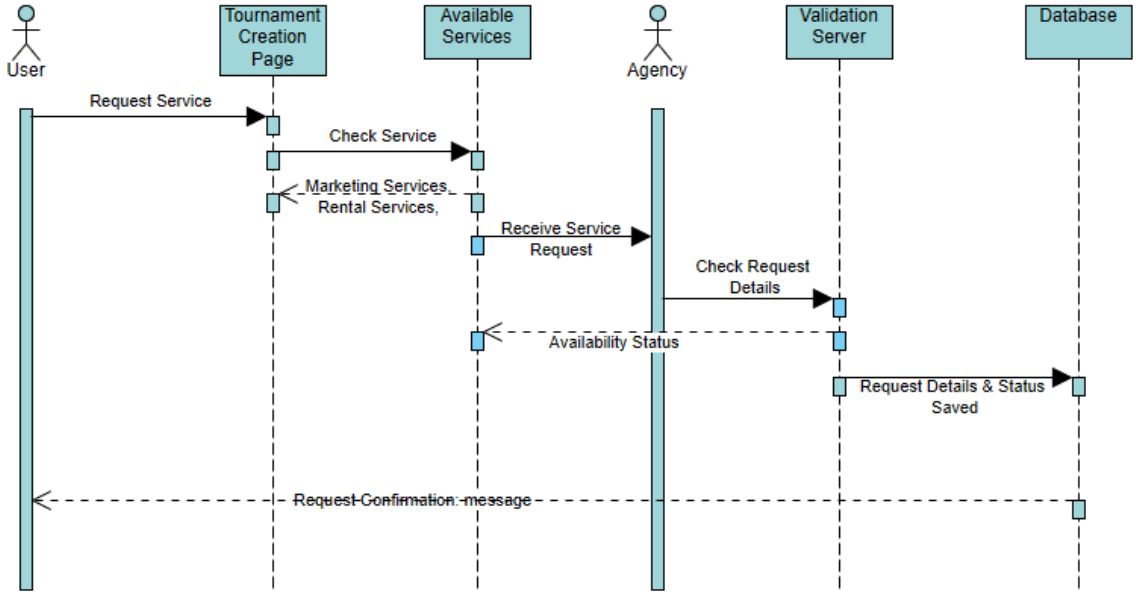
3.1 – Create Tournament



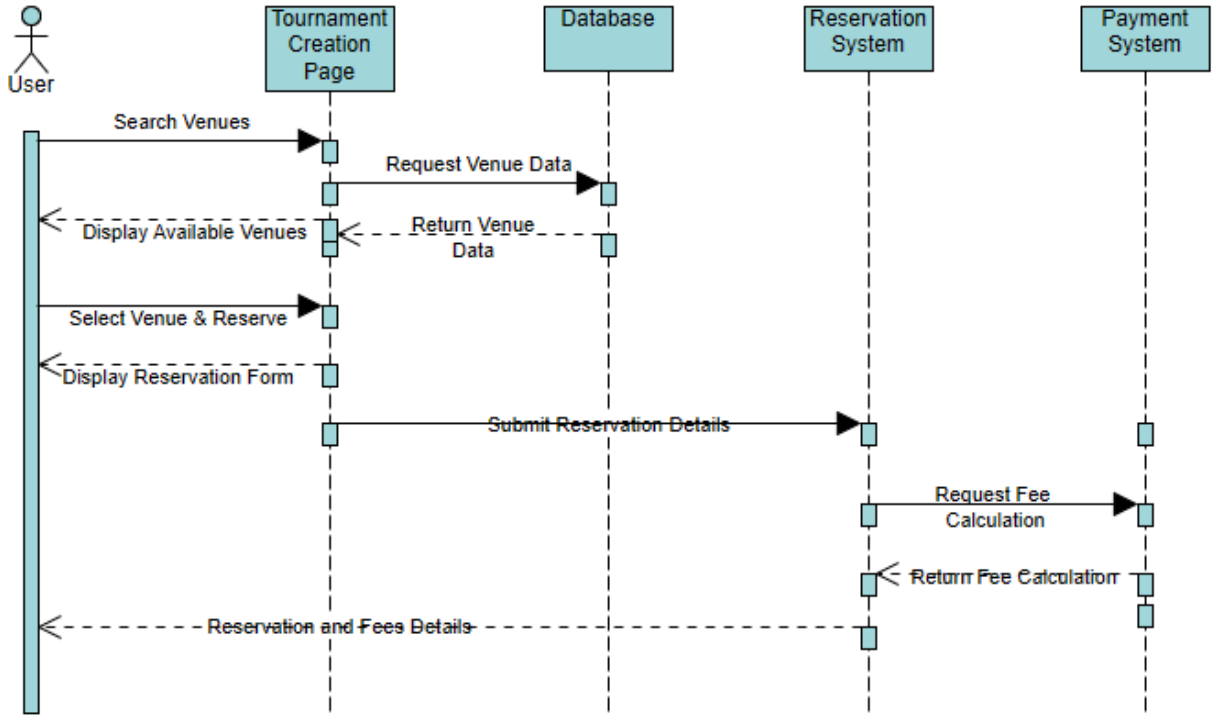
3.2 – Tournament Reservation



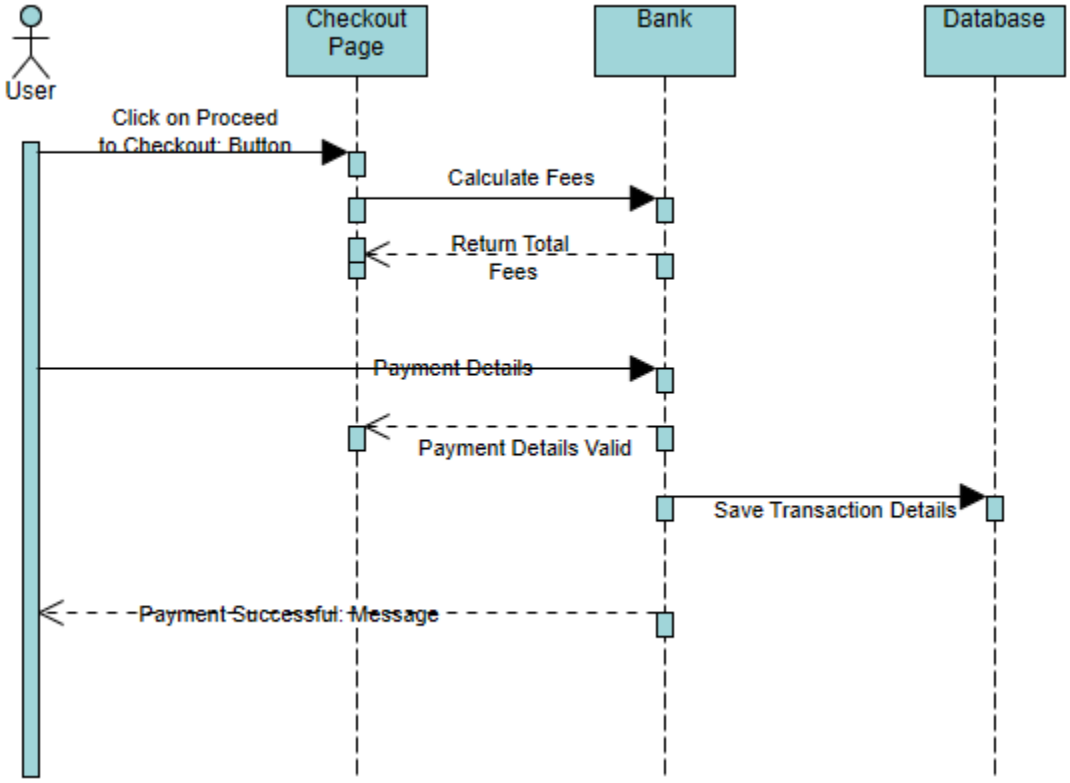
4.0 – Manage Services



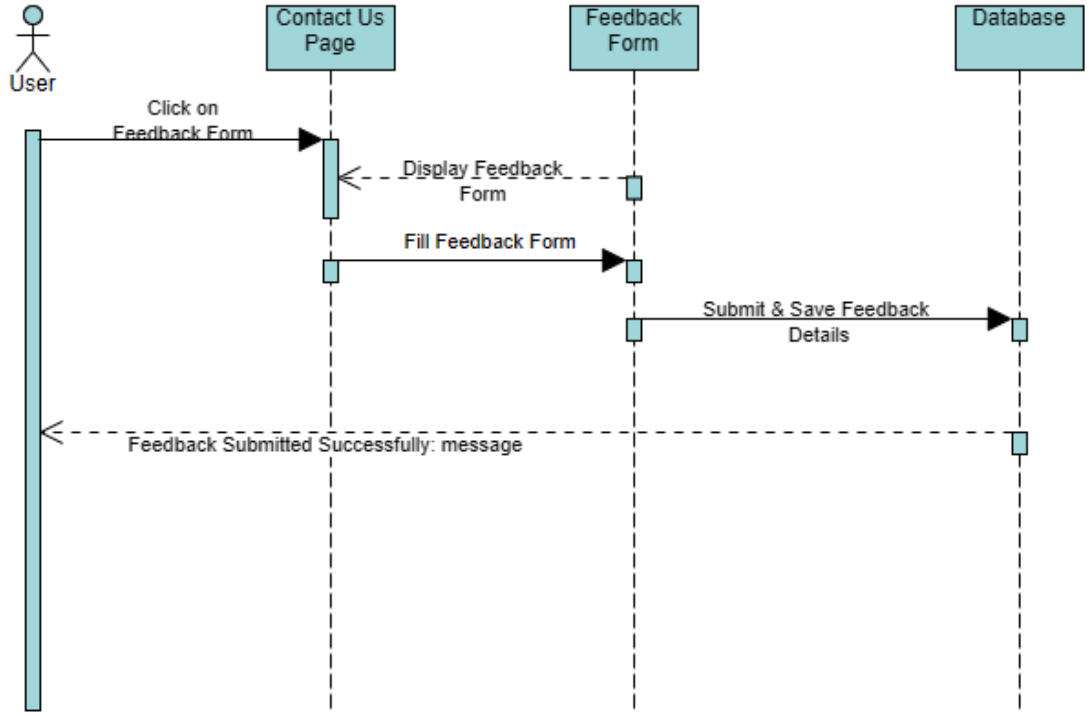
5.0 – Manage Services



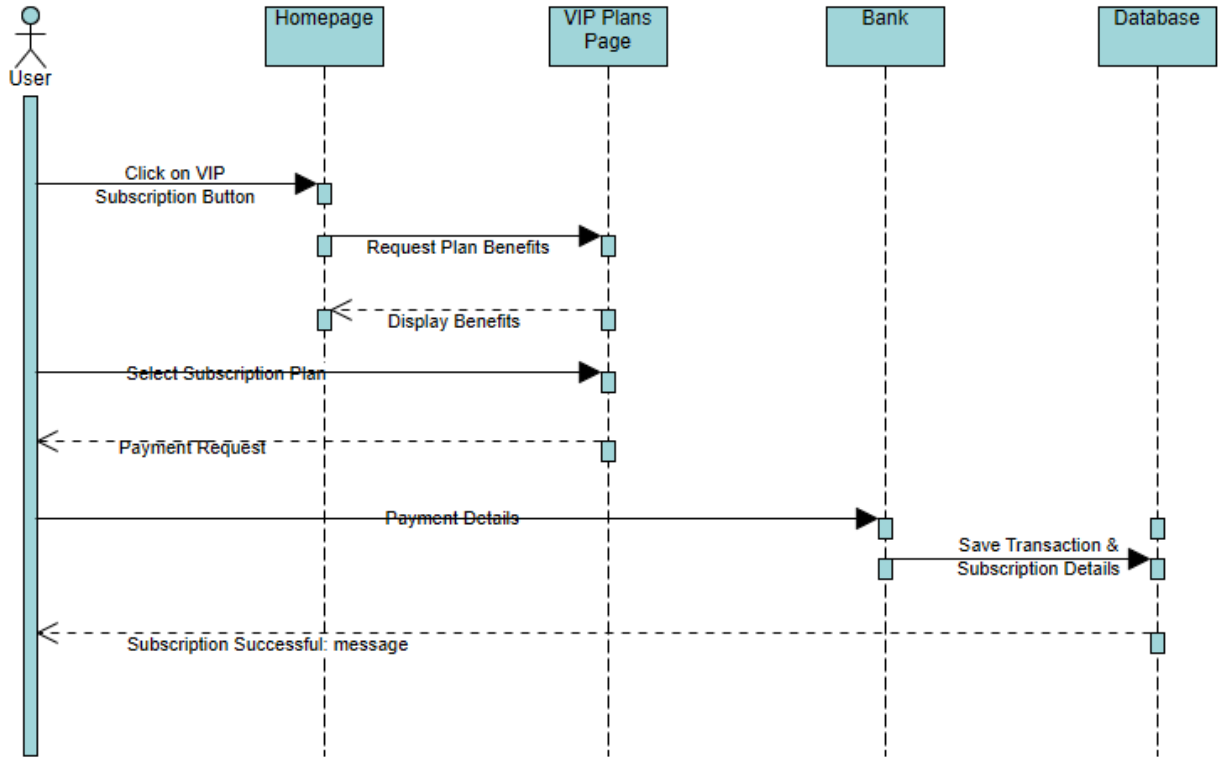
6.0 – Manage Payment



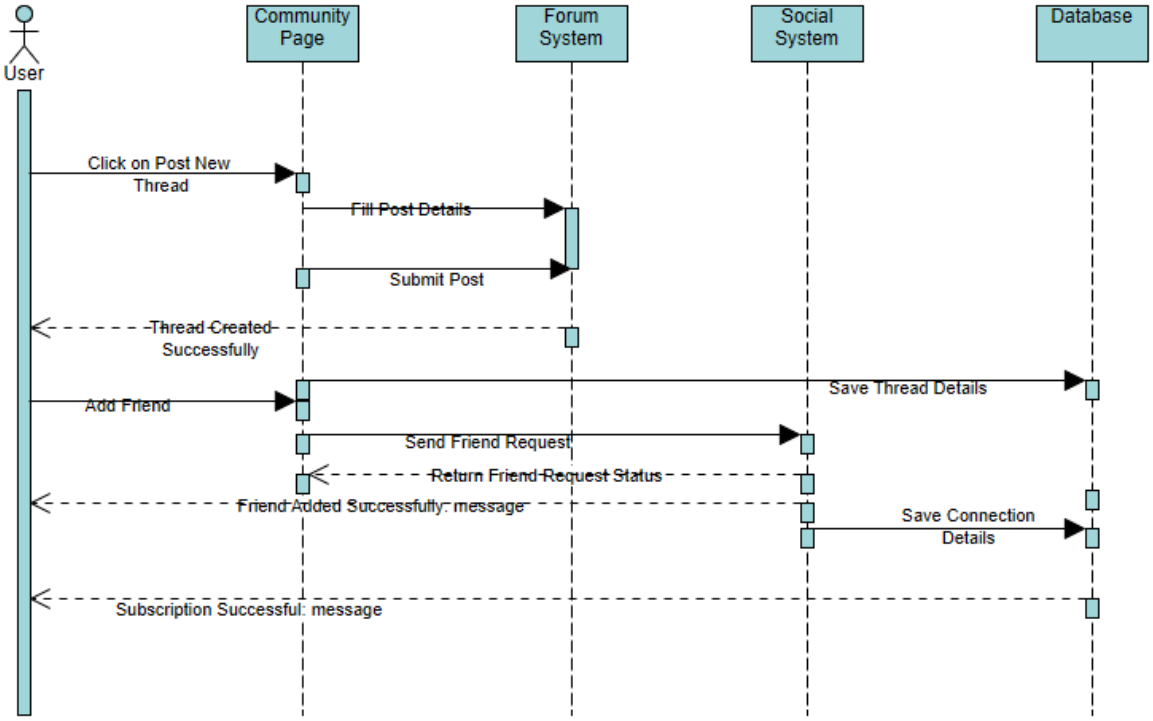
7.0 – Feedback


User
Contact Us Page
Feedback Form
Database
Click on Feedback Form
Display Feedback Form
Fill Feedback Form
Submit & Save Feedback Details
Feedback Submitted Successfully: message

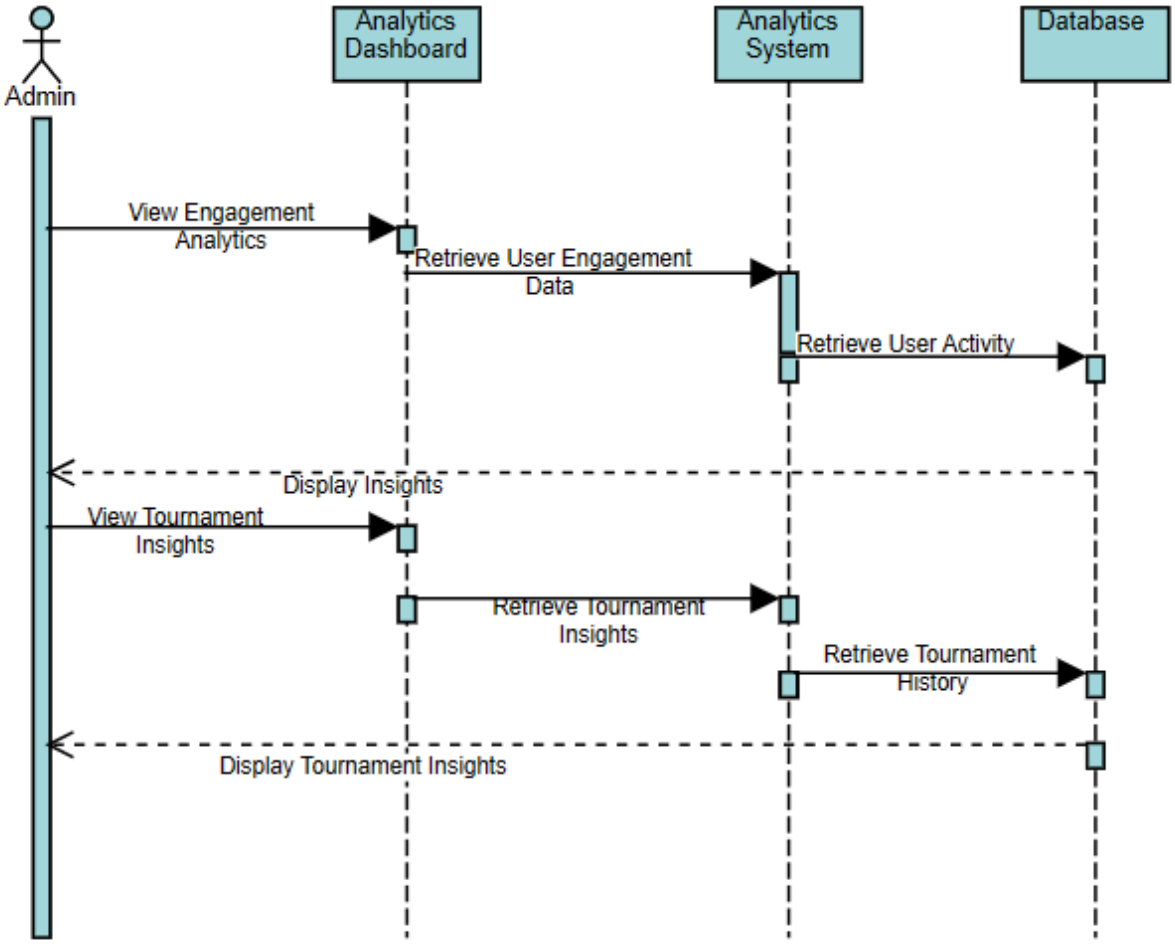
8.0 – Manage VIP Subscription Plans



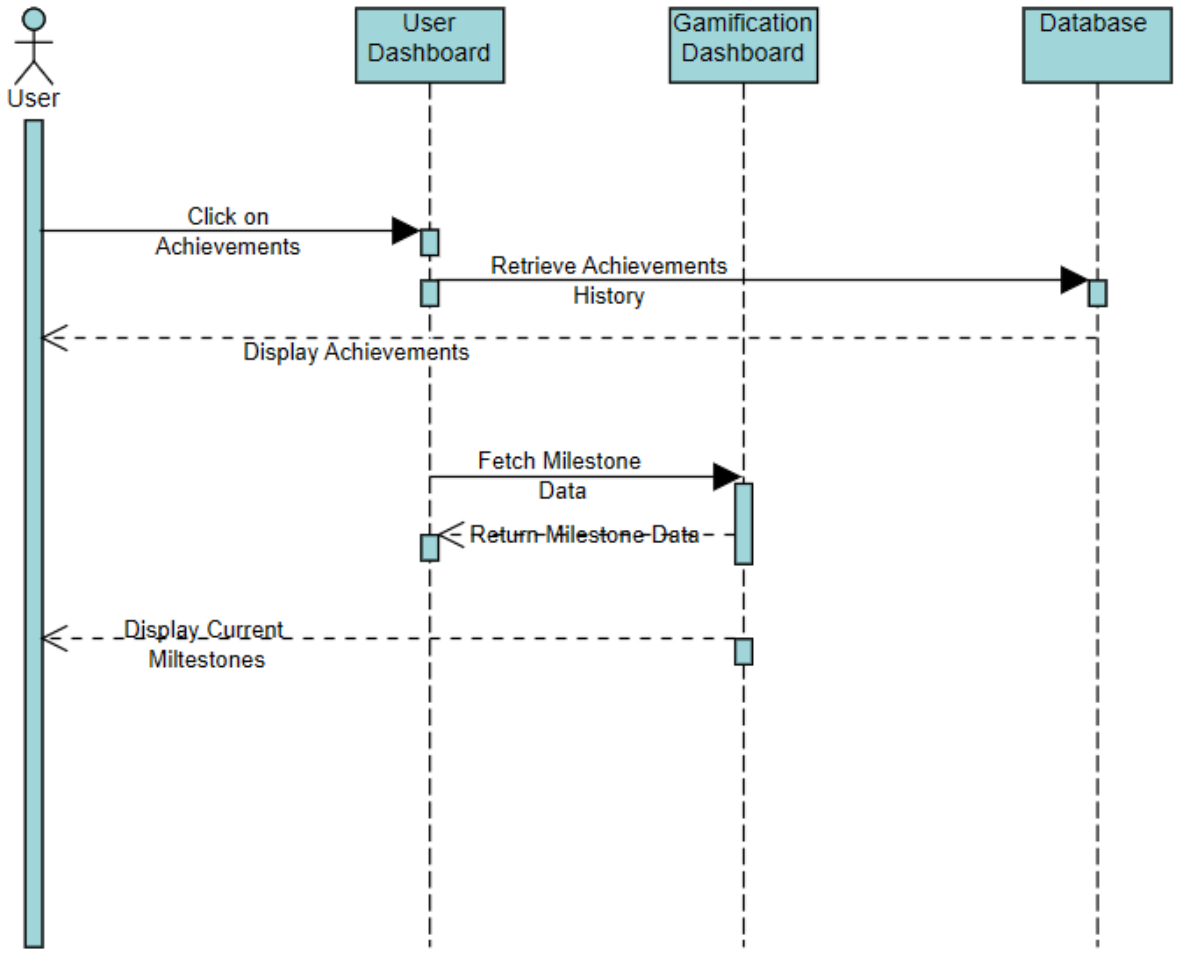
9.0 – Manage Community Features



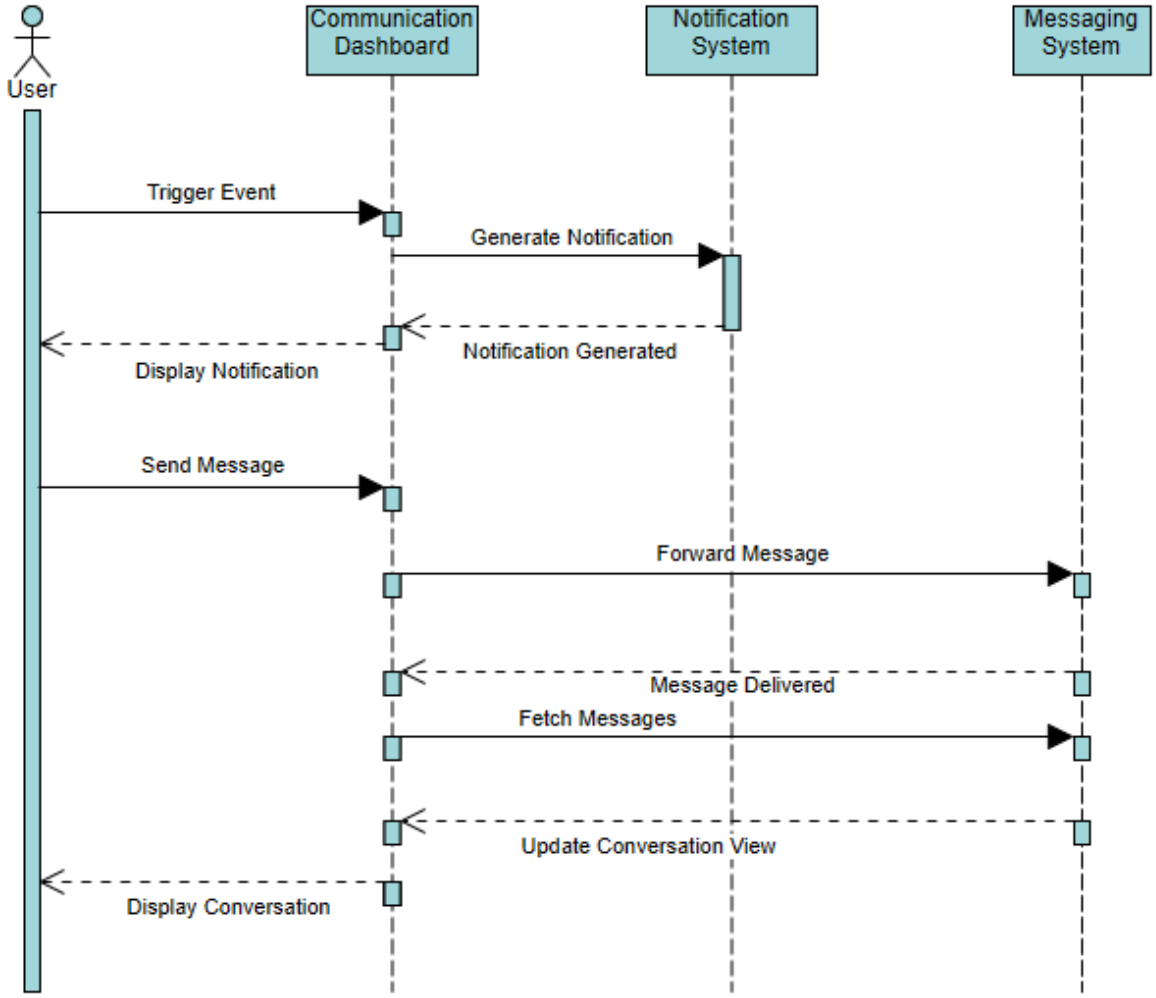
10.0 – Manage Analytics & Insights



11.0 – Gamification

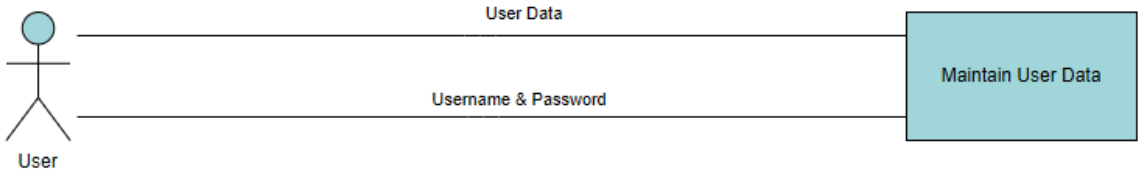


12.0 – Manage Communication

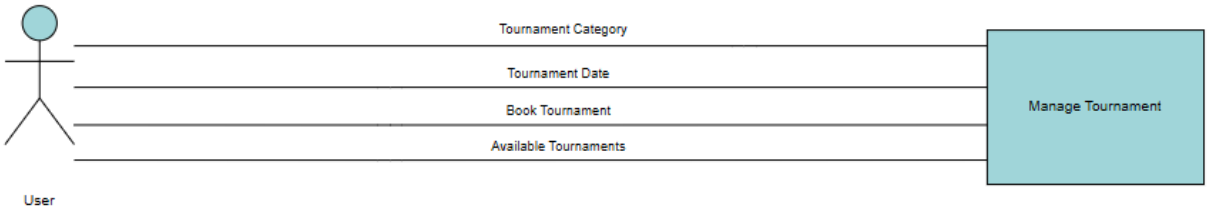


5.4.2 – COMMUNICATION DIAGRAM

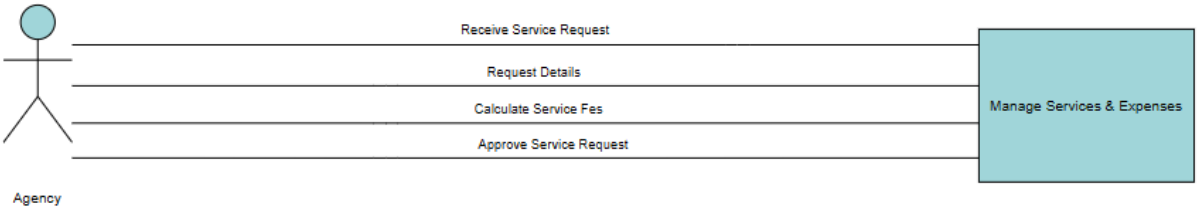
2.0 – Maintain User Data



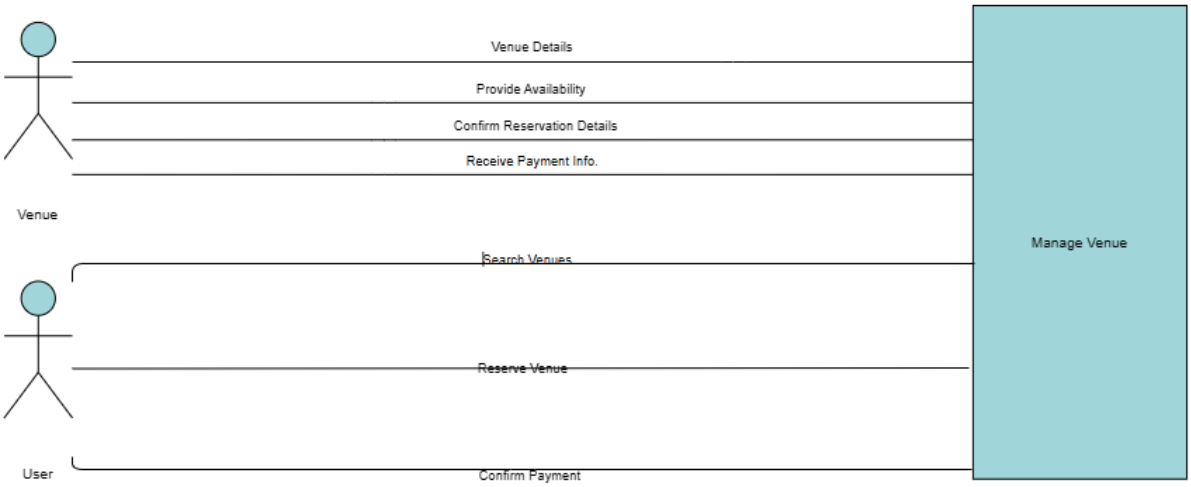
3.0 – Manage Tournament



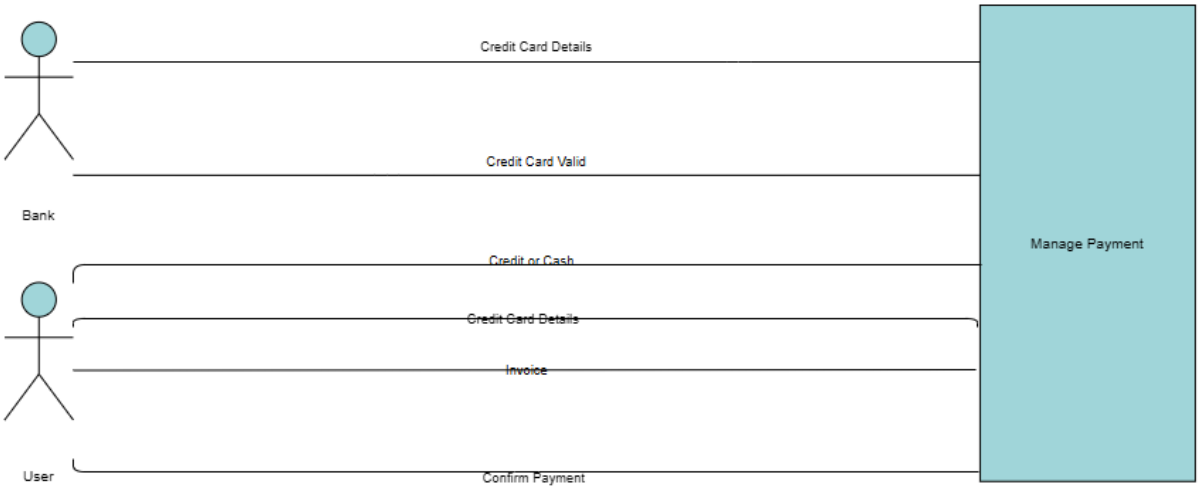
4.0 – Manage Services & Expenses



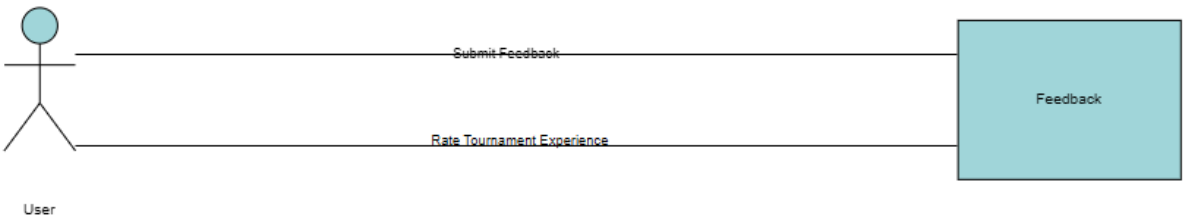
5.0 – Manage Venue



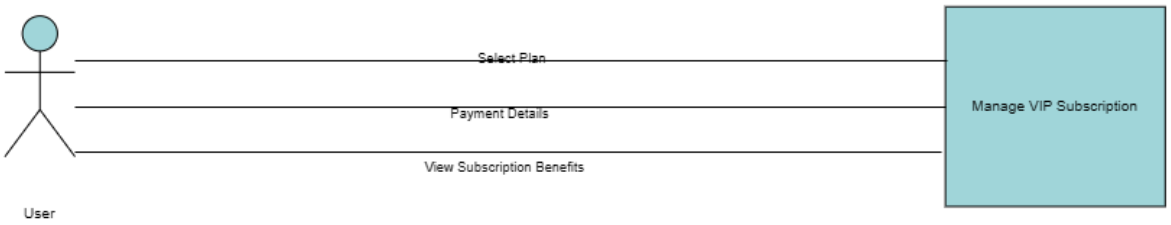
6.0 Manage Payment



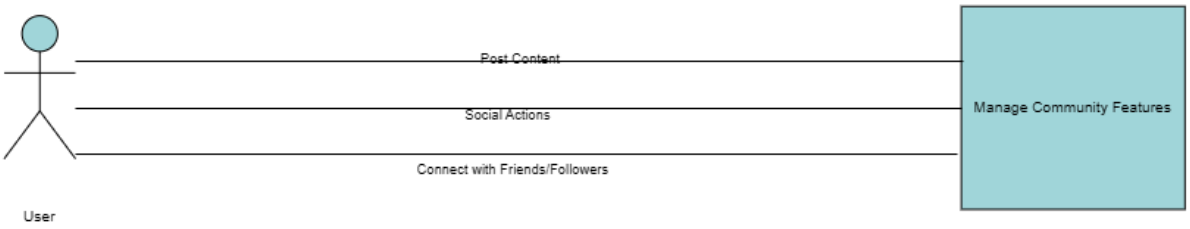
7.0 – Feedback



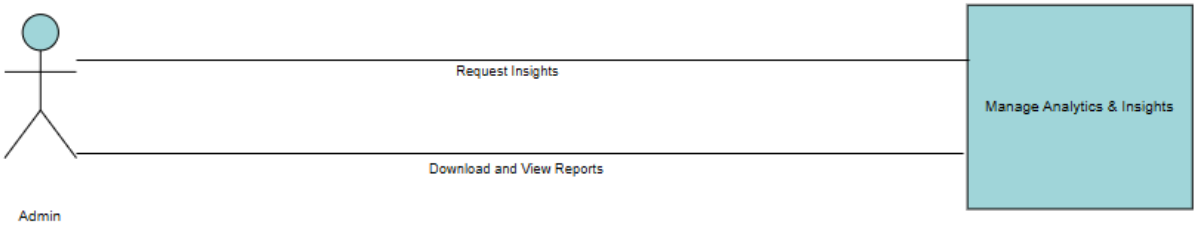
8.0 – Manage VIP Subscription Plans



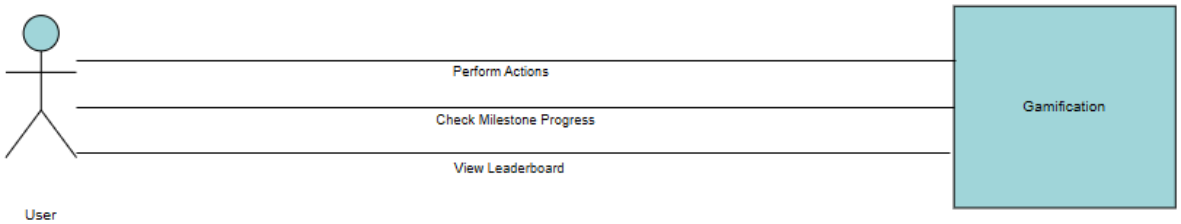
9.0 – Manage Community Features



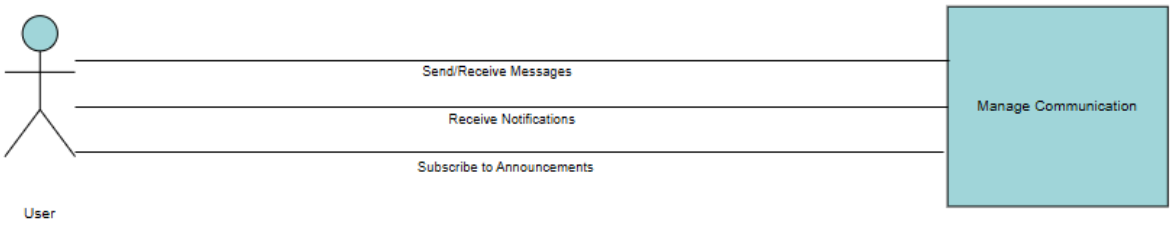
10.0 – Manage Insights & Analytics



11.0 – Gamification



12.0 – Manage Communication



5.4.3 – CRUDE ANALYSIS

Activity	User	Admin	Agency	Venue	Bank
Sign-In	*R*				
Book Tournament	*CRUD*	*RU*			
Create Tournament	*C*	*C*			
Venue Reservation	*CRUD*	*CRU*		*RU*	
Request Service/Equipment	*CRUD*	*CRU*	*R*	*R*	
Receive Request Details		*R*	*R*	*R*	*R*
Payment					*CR*
View Tournament Results	*R*	*R*			
Manage Subscriptions	*CRUD*	*CRUD*			
View User Feedback	*R*	*R*			
Manage Sponsorships		*CRUD*	*CRUD*		
Set Up Notifications		*CRUD*			
Analytics & Reports	*R*	*CRU*			
View/Update Bank Info.					*CRU*

CHAPTER 6 – DATA DEFINITION FORMS

6.1 – Process Specification Form

3.2 – Tournament Reservation

Process specification form	
Number: 3.2 **Name:** Tournament Reservation **Description:** The User will be able to see what tournaments are available and which type of tickets are available. In addition, he/she will be able to Book tickets. **Input data flow:** User Data **Output data flow:** Available Tournaments	
Type of process: Online Batch Manual	**Subprogram/function name:** N/A
Process logic If the user signs in, he will be able to see the available tournaments and tickets. Else, there are no current tournaments available.	
Refer to Name: 1. Structured English ☐ Decision Table ☐ Decision Time ☐	

8.1 – Manage VIP Subscription Plans

Process specification form

Number: 8.1

Name: Manage VIP Subscription Plans

Description: This process allows the admin to create and edit VIP subscription plans, defining the subscription tiers, prices, and associated benefits for users.

Input data flow:

- Admin Inputs (Subscription details: name, price, benefits)
- Existing Subscription Data (for editing plans)

Output data flow:

- Updated Subscription Plans
- Confirmation Message to Admin

Type of process: **Subprogram/function name:**

Online Batch Manual ManageSubscriptionPlans

Process logic

- Admin logs in and navigates to the "Manage VIP Subscription Plans" section.
- Admin selects "Create Plan" or "Edit Plan."
- Admin inputs or modifies plan details (name, price, duration, benefits).
- System validates the inputs for completeness and correctness.
- System updates the database with the new or modified subscription plan.
- Confirmation is displayed to the admin.

Refer to Name:

2. Structured English ■ Decision Table □ Decision Time □

DATA FLOW DESCRIPTION	
Name: Subscription Plan Details	
Description: This data flow contains the details provided by the admin for creating or editing VIP subscription plans.	
Source: Admin	Destination: Process 8.1

6.2 – Data Flow Description Form

Type of data flow	
☐Table/File ☒I Screen ☐Report ☒Form ☐Internal	
DATA FLOW DESCRIPTION	
Name: Request Details	Volume/Time: 2HRS
Data Flow Composition (elements): Plan ID, Plan Name, Price, Duration, Benefits	
Description: This data flow carries the details of a request for Services / Equipment made by the Admin, which includes the important information for managing the request.	
Comments: This data flow supports the core VIP subscription management functionality.	

Source: Admin	Destination: Process 4.2
ELEMENT DESCRIPTION FORM	
Name: User ID Type of data flow ☐Table/File ■I Screen ☐Report ■Form ☐Internal	
Data Flow Composition (elements): Request ID, Request Description Client basic information (client id, client name, etc..)	Volume/Time: 2HRS
Comments: After the admin finishes the request, the details of this request is sent to the Manage Request that may perform adding, editing, updating, or deleting the request.	

6.3 – Element Description Form

Alias: User Information

Description: The primary key for each user is the user ID, which will be used for all processes the user may be involved in.

ELEMENT DESCRIPTION FORM

Name: Price

Element Characteristics	☐ Alphabetic
Length: 4 Input Format: 9 (4) Output Format: 9 (4) Default Value:	☐ Character/string ☐ Varchar ☐ Date ☐ General number ☐ Integer ☐ Floating Point ☐ Currency

☐ Base or ☐ Derived

Validation Criteria

Continuous	Discrete
Upper Limit Lower Limit >0	Value Meaning

Comments: The User ID is given to each user once he/she signs-up. The user ID will allow users to book tickets.

Alias: Subscription Price	
Description: The monetary cost assigned to a VIP subscription plan.	
Element Characteristics Length: 10 Input Format: Currency $10 Output Format: Currency $10 Default Value: None	☐ Alphabetic ☐ Character/string Varchar ☐ Date ☐ General number ☐ Integer ☐ Floating Point ☒ Currency
☐ Base or ☒ Derived	
Validation Criteria	
☒ Continuous Upper Limit: 10,000 Lower Limit >0	Discrete NO Value Meaning: Represents the subscription plan's cost in the selected currency.
Comments: The value is validated to ensure it is positive and within the acceptable range for affordability and system constraints.	

6.4 – Data Store Description Form

DATA STORE DESCRIPTION FORM **ID:** d1
Name: User Info.
Alias: User information
Description: Contains all details about the user such as username, password, ID, email, phone number.
Data Store Characteristics File Type ■ Computer □ Manual File Format ■ Database □ File
Data Set Name: User Copy Member: User Data Structure: User profile Primary Key: User ID Secondary Keys: Phone Number
Comments This data store contains essential user details required for account management, user interaction, and tracking tournament engagement. It also supports features like user rankings, subscription status, and milestone achievements.

DATA STORE DESCRIPTION FORM

ID: d2

Name: Tournament Info.

Alias: Tournament Info.

Description: This data store contains all the information related to tournaments hosted on the platform, including tournament details, participants, scheduling, and results.

Data Store Characteristics

File Type ■ Computer □ Manual

File Format ■ Database □ File

Data Set Name: Tournament Data

Copy Member: No

Data Structure: Relational

Primary Key: Tournament_ID

Secondary Keys: Tournament Name, Game/Sport

Comments

All the information about the client you can find in this data store:

- Tournament ID Tournament Name
- Tournament Type (eSports or Sports)
- Game/Sport Name
- Start and End Dates
- Venue Details
- Participant List (User IDs)
- Tournament Rules
- Entry Fees
- Tournament Results (e.g., winners, rankings)
- Sponsorship Information (if applicable)