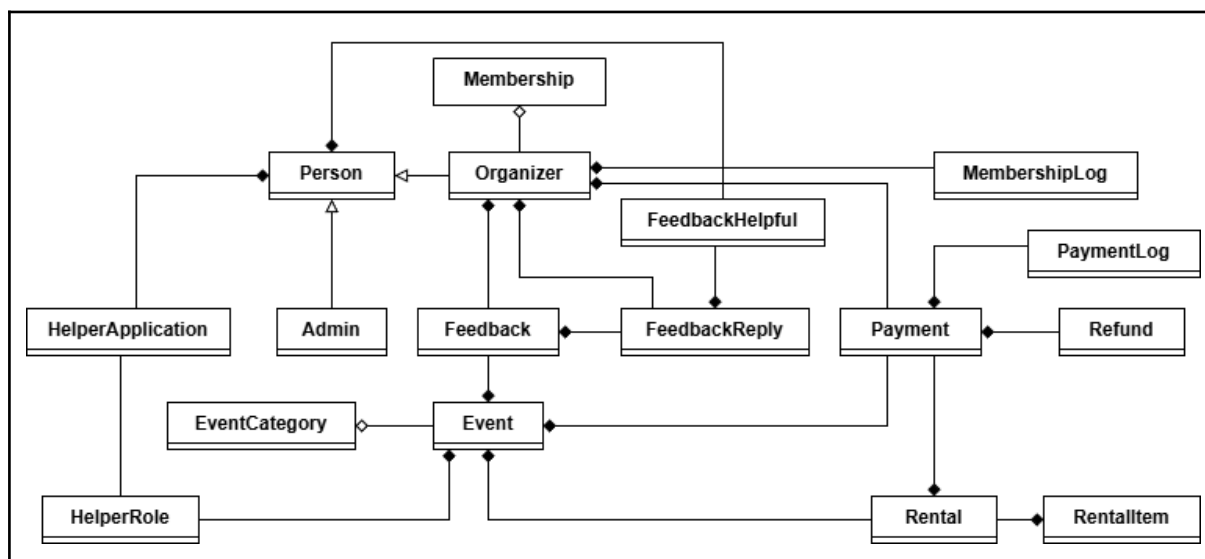# System Description

The TARUMT Event Management System is a web-based platform designed to streamline the process of proposing, managing and reviewing events in TARUMT. The system supports three user roles which are Admin, Organizer and Member while each assigned with specific permissions to ensure a smooth workflow and secure access.

Members can register and log in, browse published events and apply to become organizers. Approved organizers can submit event applications, upload required documents, recruit helpers and request venue or booth rentals. Meanwhile, they can also make deposit and rental payments and submit a post-event review to the admin. Administrators manage the entire system, including managing user accounts, approving organizer applications, approving event proposals, handling rental requests and processing refunds or penalties.

In short, the system provides a unified platform for proposing, approving, managing and completing events within the university. This could help staff and organizers coordinate more efficiently and maintain clear records throughout the event process.

Analysis Class Diagram

Team Member Module

Chia Ming Yi (User Module)

The User Module manages the entire identity, access, and role-based authentication flow within the TARUMT Event Management System. It supports registration, login, secure session handling, account verification, organizer applications and membership functions. This module ensures that users across all roles: Admins, Organizers and Members can securely authenticate, maintain consistent sessions across devices, and access their respective system features. It also includes tools for administrators to manage user accounts, membership tiers, and organizer approvals.

1. User & Authentication

   The User & Authentication Module manages all identity, login and security functions in the system. It ensures users authenticate safely, maintain valid sessions, and are assigned appropriate access roles. This module also handles organizer role upgrades, email verification, and strict session consistency across devices.

   1.1. Member Registration

   - Supports new account creation for all members. (Includes required details such as name, email, contact number and password.)

   - Email verification is enforced using OTP-based activation.

   - CAPTCHA protection helps prevent spam or automated registrations.

   - All new users are automatically assigned the Member role.

   1.2. Login and Authentication

   - New members can log in after successful email verification.

   - Supports secure password handling with hashing and validation.

   - The system stores login session data both in cookies and MySQL. Session data between cookies and database is compared on every request to prevent session hijacking. If a mismatch is detected, the system automatically logs out the affected device.

   1.3. Single Active Session Control

   - Prevents the same account from logging in simultaneously on multiple browsers or devices.

   - When a new login is detected, the previous session is invalidated.

   1.4. Password Recovery

   - Users can initiate password reset via email.

   - OTP verification ensures that only the account owner can recover the password.

1.5. Organizer Role Upgrade

- Members can apply to upgrade their account to Organizer.

- Organizer application requires submission of supporting information such as IC, registration number, company details (if outsider), and documents.

- Application status is tracked (Pending, Approved, Rejected).

- Only approved organizers can access organizer-related modules.

2. Organizer

The Organizer Module manages organizer accounts, membership scores, and organizer progression. It ensures organizers meet eligibility requirements and allows them to track their credit score and membership logs.

2.1. Membership

- Organizers can view current membership tier and benefits.

- Displays credit score, threshold progress, discount privileges, and membership validity.

2.2. Membership Score Tracking

- Organizers receive credit scores based on the number of successfully completed events.

- Scores are awarded only when no penalties are incurred for an event.

- Membership scores update automatically after event completion.

2.3. Membership History and Logs

- Organizers can view past membership changes, score adjustments, and score logs.

- Every credit score update is recorded with a timestamp and reason.

3. Admin

The Admin Module provides full system control to manage users, organizer applications, and membership structures. It ensures strong governance over all user-related workflows.

3.1. Admin Role Management

- System supports two admin roles: Super Admin (single account), Admin (multiple accounts allowed)

- Super Admin can view, manage and import/export admin records.

3.2. Member Management

- Administrators can view, manage and import/export member records.

3.3. Organizer Management

- Administrators can view, manage and import/export organizer records.

- ■ Provides full control of organizer application workflow:Review applications, Approve with activation, Reject with remarks, Ensures organizer roles are only given to verified users.

4. Membership

The Membership Module manages tiered membership levels that determine organizer benefits such as discounts and privileges. This module ensures credit-based progression and transparent membership updates.

4.1. Membership Level Creation

- ■ Administrators can create new membership tiers using fields such as: Minimum credit score, Discount percentage, Membership name and status, Supports flexible configuration to match evolving rules.

4.2. Membership Level Management

- ■ Administrators can modify membership thresholds, discount rates, and level status.
- ■ Supports changes to reflect updated policies or new privilege structures.

4.3. Membership Level Deletion

- ■ Allows safe removal of unused membership tiers.
- ■ Ensures that deleted tiers do not affect existing organizer records.

4.4. Membership Logs

- ■ Records every membership level update or credit score change.
- ■ Helps maintain full transparency and traceability of organizer progression.

Lim Jun Wei (Event Module)

The Event Module manages the entire event workflow, including event proposal submission, administrative approval, event publication and public listing for members. It also supports internal processes such as document uploads, resource requirements and helper recruitment. This allows organizers to manage applications by updating application status and sending email to applicants. This module works together with other modules such as payment, rental, membership and feedback to ensure smooth and coordinated event management within the university.

1. Event Browsing

   This submodule allows members to browse all published and approved events. It will focus on viewing, filtering and retrieving event details from the system.

   1.1. The system shall allow the members to view a catalog of approved and published events including basic details such as title, category, date and organizer.

   1.2. The system shall allow members to filter events by category, date, organizer and search by event title

   1.3. The system shall allow members to view full event information, including description, schedule, documents (if public) and organizer contact.

2. Event Application and Management

   This submodule allows event organizers to create the event proposals, upload required documents and manage the status of their submissions.

   2.1. The system shall allow organizers to submit a new application, including event details, budget, required materials or facilities, helper count and supporting documents.

   2.2. The system shall allow organizers to upload required files (IC copy, license, proposal or plan) with validation on file type and size.

   2.3. The system shall allow organizers to edit a submitted application if it has not been approved by the admin.

   2.4. The system shall allow organizers to view the proposal status of each event (Pending, Approved, Rejected, Published)

   2.5. The system shall display admin comments when an application is rejected.

   2.6. The system shall allow organizers to publish the event to the public listing after it is approved and all required payments or deposits are completed.

3. Event Approval and Management

This submodule enables administrators to review event proposals, approve or reject submissions and ensure events meet university requirements before publication.

3.1.   The system shall allow admins to view all event applications submitted by organizers with filtering by status and date.

3.2.   The system shall allow admins to view full event details, including documents and organizer information.

3.3.   The system shall allow admins to approve an event if it meets requirements, enabling further actions such as rental and payment.

3.4.   The system shall allow admins to reject an event and provide remarks specifying the reason.

3.5.   The system shall allow admins to request correction or resubmission, sending remarks to the organizer.

4.   Helper Recruitment Management

This submodule supports the recruitment of event helpers. Members can apply for helper roles, and organizers can manage applications and assign helpers to roles.

4.1.   The system shall allow members to view a list of events that are currently recruiting helpers, with information such as helper role, required time, date, and benefits in text form.

4.2.   The system shall allow members to view details for a helper role, including responsibilities, required skills, time slots and number of vacancies

4.3.   The system shall allow members to apply as a helper for a specific event and role.

4.4.   The system shall allow members to view the status of their helper applications, including Applied, Accepted, Rejected and Cancelled.

4.5.   The system shall notify members via email when the status of their helper application changes.

4.6.   The system shall allow organizers to enable helper recruitment for an event and configure helper roles, number of vacancies, qualification requirements and application deadlines.

4.7.   The system shall allow organizers to view a list of helper applications by event, filterable by status, role and applicant name or student ID.

4.8.   The system shall allow organizers to update each helper application status such as Accepted and Rejected.

Ong Yi Xin (Finance Module)

1. Payment

The Payment Module manages all financial transactions between event organisers and the system, including deposits, rental fees, and penalties. It ensures secure payment handling, transparent record-keeping, and proper refund workflows.

1.1 Deposit Payment

- A deposit is required when submitting an event application or applying for booth, venue or item rental.

- Records essential details such as payment amount, payment method and payment timestamp.

- Supports multiple payment methods to provide flexibility for organisers.

- Deposit status is tracked and updated automatically throughout the event or rental process.

1.2 Rental Fee Payment

- Handles payment for booth, venue or item rentals after the rental request is approved.

- Automatically generates an invoice or payment instruction based on rental duration and type.

- All rental payments are logged for auditing and financial tracking.

1.3 Penalty Payment

- Enables organisers to pay penalties issued by administrators.

- Penalty details include severity, reason and penalty amount.

- Upon successful payment, the organiser's payment status and membership record are updated.

1.4 Payment History and Logs

- Organisers can view a complete, detailed history of all their payments, including deposit, rental, and penalty transactions.

- Includes activity logs showing changes in payment status for transparency and traceability.

- Administrators can view a full transaction list with filtering, sorting, and pagination features for efficient management.

1.5 Refund Process

- Administrators can process deposit refunds when organisers cancel an event or rental application.

- The system automatically triggers a full or partial refund after the event or rental is completed, depending on whether any deductions or penalties apply.

- Refund actions are logged for accountability.

1.6 Blacklist and Outstanding Payment

- The system automatically compiles a list of organisers with overdue payments.

- Overdue users may be flagged or blacklisted, restricting their ability to submit applications or rentals until payment is settled.

- Helps ensure financial compliance and reduces unpaid debts.

2. Rental Management

The Rental Management Module handles booth, venue, and item rental workflows, including scheduling, application submission, approval, and penalty management.

2.1 Rental Schedule Viewing

- Organisers can view availability for booths, venues and rentable items.

- Built-in schedule validation prevents double booking or conflicting rentals.

- Offers a clear calendar or list-based interface to assist planning.

2.2 Booth, Venue or Item Rental Application

- Organisers can submit rental applications only after their event has been approved.

- The system validates organiser eligibility before allowing submission.

- Rental fees are automatically calculated based on booth/venue/item type, duration, and any associated conditions.

2.3 Rental Approval (Admin)

- Administrators can accept or reject rental applications.

- Upon approval, the system automatically generates the corresponding rental payment record.

- Helps ensure that payment and rental processes remain synchronized.

2.4 Rental Penalties

- Administrators can issue penalties for damages, misuse or rental violations.

- Penalties include severity level, penalty amount and reason for deduction.

- Severity level may affect membership credit score deductions.

2.5 Penalty Synchronisation with Payment System

- Once a penalty is issued, it is automatically created and added to the organiser's pending payment list.

- The organiser receives an email notification informing them of the penalty details and payment requirements.

- Ensures consistent and automated communication between rental and payment subsystems.

Sia Keng Loon (Feedback Module)

The **Feedback Module** enables TARUMT students, organizers, and administrators to manage and analyze feedback for campus events. It integrates AI-powered features to provide sentiment analysis, reply suggestions, and actionable insights. This module complements other modules, such as Event, Finance, and User Management, ensuring a seamless event experience.

1. **Member Site**

   The **Member Site** of the Feedback Module allows students to submit reviews for events they attended, view feedback from others, and contribute to event quality improvement.

   Functions:

   1.1. Submit Review

       1.1.1. Members can submit ratings (1–5 stars) and text comments for events.

       1.1.2. Optional image or document attachment (e.g., event photos).

       1.1.3. **AI Sentiment Analysis:** Reviews are automatically tagged as positive, neutral, or negative to help organizers quickly understand attendee sentiment.

   1.2. Edit / Delete Review

       1.2.1. Members can edit or delete their own reviews within 24 hours after submission.

   1.3. View Reviews

       1.3.1. Paginated listing of all reviews for each event.

       1.3.2. Members can sort reviews by newest, highest rating, lowest rating, or most helpful.

   1.4. Helpful Review

       1.4.1. Members can mark reviews from others as helpful.

2. **Organizer Site**

   The **Organizer Site** allows event organizers to monitor feedback, respond to attendees, and analyze event performance.

   Functions:

   2.1. View Feedback

      2.1.1.   Organizers can view all reviews for their events.

      2.1.2.   Reviews can be filtered by sentiment, rating, or date.

2.2.   Event Feedback Analytics

      2.2.1.   Provides metrics such as average rating per event, sentiment distribution, and most mentioned keywords.

2.3.   Reply Review

      2.3.1.   Organizers can manually reply to reviews.

3. Admin Site

The **Admin Site** enables administrators to manage feedback across the campus, moderate reviews, and generate actionable insights for event improvements.

Functions:

3.1.   Review Moderation

      3.1.1.   Admins can approve, reject, or flag inappropriate reviews.

3.2.   Review Analytics Dashboard

      3.2.1.   Provides overall statistics across events, including average ratings, sentiment summaries (pie chart or bar chart), and trending feedback topics.

      3.2.2.   Identifies patterns such as most praised aspects and most common complaints.

3.3.   Export Reviews

      3.3.1.   Reviews can be exported as PDF, CSV, or Excel files for reporting and archival purposes.