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**CSE6224 Software Requirement ENG**

**Project Part 1**

**Task 2: Context Objects and Requirements Sources**

**Title: Campus Event Check-in System (CECS)**

**Prepared By:**

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# **1 Material Context Objects**

**Table 1.1 : Material Context Objects**

| **Object** | **Subject Facet** | **Usage Facet** | **IT System Facet** |
| --- | --- | --- | --- |
| Student | Represents student users | Logs in, views events, registers, makes payments, submits feedback | Used in login, event, payment, and feedback modules |
| Admin | Represents event organizers | Manages events, QR codes, attendance, refunds | Used in admin dashboard and event management |
| Authentication Server | External identity provider | Verifies student/admin credentials | Connected to login/authentication flow |
| Payment Server | Online payment gateway | Handles FPX, TNG eWallet payments, refunds | Used in payment and refund process |
| Event | Event metadata | Stores event info (date, location, fee, etc.) | Managed by admin; displayed to students |
| Event List | Upcoming event list | View/filter/select events | Displayed on student dashboard |
| QRCode | Encoded token for attendance | Enables check-in via scan | Generated by admin; scanned by student |
| Attendance Record | Check-in data per student | Logs student presence at event | Used in reports and analytics |
| Payment | Transaction data | Tracks payment type and status | Used in payment/refund module |
| Receipt | Payment confirmation | Confirms transaction | Viewed by student after payment |
| Notification | Alerts and messages | Communicates status to users | Sent post-registration/payment/refund |
| Mobile Device | User hardware (camera) | Used for scanning QR codes | Required in check-in process |
| Rating/Feedback | Student feedback input | Reflects event satisfaction | Submitted post-event; viewable by admin |
| Refund Request | Student refund form | Initiates refund logic | Managed in finance/refund module |
| EventHistory | Participation record | Logs past attended events | Displayed in student dashboard |
| Payment History | Past payment log | Shows all transactions | Viewed in student dashboard/finance module |
| Attendance Live Record | Real-time check-in log | Tracks ongoing attendance | Displayed in admin dashboard |
| Financial Summary Report | Aggregated finance data | Shows income/refunds per event | Generated in finance system |

# **2 Immaterial Context Objects**

**Table 2.1 : Immaterial Context Objects**

| **Process** | **Subject Facet** | **Usage Facet** | **IT System Facet** |
| --- | --- | --- | --- |
| Login Process | User authentication logic | Grants access to Student/Admin | Managed by Authentication Server |
| Event Registration Process | Event sign-up flow | Lets students register for events | Used in student mobile dashboard |
| Payment Process | Transaction logic | Processes FPX, TNG, onsite payments | Connected to Payment Server |
| Refund Process | Refund handling rules | Validates and approves refunds | Triggered by student/admin |
| Notification Trigger Process | Alert scheduler | Sends confirmation and reminders | Triggered by registration/payment/refund actions |
| Receipt Generation Process | Confirmation creation | Generates receipts for payment | Post-payment function |
| Check-in Process (QR + ID) | Attendance verification logic | Confirms student entry via scan + ID | Used during event check-in |
| Event Rating Process | Feedback logic | Collects star ratings/comments | Stored for review/analytics |
| Attendance Analytics Generation | Attendance report logic | Summarizes check-in data | Used in admin dashboard |
| Attendance Live Tracking Process | Real-time attendance logic | Logs active check-ins | Used during event runtime |
| Event Management Process | Event CRUD operations | Allows admins to manage events | Used in admin dashboard |
| Dashboard Rendering Process | Role-based UI flow | Displays relevant views to users | Used in both student/admin apps |
| Financial Summary Generation | Revenue analysis logic | Shows payment/refund status | Used in finance dashboard |
| Payment Report Generation | Payment log compiler | Outputs transaction summary | Used in finance/reporting modules |

# **3 Requirements Sources**

**Table 3.1 : Requirements Sources**

| **Source** | **Description** | **Stakeholder Role** | **System/Document Influence** |
| --- | --- | --- | --- |
| Students | End-users providing preferences for event registration, check-in, and payment | Stakeholders | Drives UI/UX design, system usability |
| Event Organizers (Admins) | Responsible for managing events, attendance, and refunds | Stakeholders | Guides event management, reporting, QR logic |
| University Admin (Student Affairs) | Defines event approval/authentication policies | Governance | Affects login flow, event eligibility rules |
| Finance Department | Ensures transaction security and refund handling | Regulatory Stakeholder | Defines refund rules, payment flows |
| IT/System Admin | Integrates backend, Auth & Payment Servers | Technical Enabler | Controls system reliability, backend config |
| Payment Gateway Providers | Offer FPX/TNG APIs and compliance standards | External Providers | Defines transaction logic and error handling |
| Reference Systems | Used to model best practices (e.g., Eventbrite) | Inspiration Source | Helps validate features and flows |
| Developers/Architects | Implement system, ensure scalability/security | Solution Stakeholder | Ensures feasibility, tech alignment |