



# **CSE6224 Software Requirement ENG Project Part 1**

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

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

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# 1 Material Context Objects

**Table 1.1 : Material Context Objects**

<b>Object</b>	<b>Subject Facet</b>	<b>Usage Facet</b>	<b>IT System Facet</b>
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