CAMPUS BOOKING SYSTEM

Elicitation Requirements Document

Phase 1 · v1.0 · CBS-ELIC-001

Purpose

This document records the requirements elicitation process for the Campus Booking System Phase 1 prototype. It describes the four elicitation techniques employed, the evidence gathered from each, the requirements they produced, and how those requirements were validated and prioritised. Requirements elicitation ensures the system reflects genuine user needs rather than assumed ones.

Elicitation Overview

#	Technique	Participants	Output
E-01	**Stakeholder Interviews**	Product Owner, Student Users, Tutor Users	Raw requirement statements and pain-point catalogue
E-02	**Observation / Contextual Inquiry**	Facilities Management, Admin Users	Process maps and observed workflow gaps
E-03	**Focus Group Workshop**	Student Users, Tutor Users, Academic Services (External)	Prioritised feature wishes and MoSCoW classification
E-04	**Document Analysis**	University IT Department, Compliance Team	Policy constraints, data protection requirements, existing system specs

E-01 — Stakeholder Interviews

Technique Description

Structured one-to-one and small-group interviews were conducted with representatives of each primary stakeholder group. A semi-structured interview guide was prepared by the Requirements Lead (Umaya Hassan), covering current pain points, desired functionality, and success criteria.

Participants

- Jason Myers — Product Owner (priority and scope framing)
- 3 student volunteers — representing undergraduate and postgraduate users
- 2 tutors — representing part-time and full-time tutoring staff

Key Findings

- Students reported losing 15–25 minutes per booking attempt navigating current fragmented systems
- Tutors had no way to block unavailable time slots, leading to double-bookings
- Students were unaware of available equipment until physically visiting the department
- Both student groups ranked mobile access as their top priority over web access
- Tutors requested the ability to set recurring availability patterns rather than slot-by-slot entry

Requirements Elicited

Req ID	Requirement Statement	Priority	Source
CBS-REQ-007	Students shall be able to search and filter tutors by subject, rating, and real-time availability from a single screen.	High	E-01
CBS-REQ-008	Each tutor shall have a live availability calendar displaying open, booked, and blocked time slots.	High	E-01
CBS-REQ-012	Students shall be able to filter study rooms by capacity, location, and available equipment in a single search interaction.	High	E-01
CBS-REQ-018	The system shall provide a searchable equipment catalogue organised by category with real-time availability status.	High	E-01
CBS-REQ-024	The system shall send reminder push notifications 24 hours and 1 hour before any confirmed booking.	High	E-01
CBS-REQ-027	Users shall be able to configure their notification preferences (push vs. in-app) within their profile settings.	Low	E-01

E-02 — Observation / Contextual Inquiry

Technique Description

The Design Lead (Syeda Ahmed) and Requirements Lead (Umaya Hassan) conducted direct observation sessions in the campus facilities office and equipment lending desk. The goal was to observe actual workflows rather than rely on self-reported behaviour, uncovering tacit knowledge and hidden inefficiencies.

Participants

- Facilities Management staff — room management and maintenance scheduling
- Equipment desk administrators — lending, return, and condition tracking

Key Findings

- Room bookings were recorded in a physical logbook with no digital synchronisation
- Equipment lending used a two-part carbonless form with no searchable history
- Admin staff spent an average of 40 minutes per day handling booking disputes and double-bookings
- No process existed for communicating room closures or equipment unavailability to students proactively
- Admins manually reconciled booking records at end of day — a process error-prone to transcription mistakes

Requirements Elicited

Req ID	Requirement Statement	Priority	Source
CBS-REQ-013	The system shall display a real-time availability grid for each study room that updates immediately on booking confirmation or cancellation.	High	E-02
CBS-REQ-020	The system shall maintain a weekly availability calendar for each equipment item, updated in real time.	High	E-02
CBS-REQ-022	Administrators shall be able to mark any room or equipment item as unavailable with a reason and estimated restoration date.	Medium	E-02
CBS-REQ-025	The system shall automatically notify all affected students when an admin cancels or modifies a booking.	High	E-02
CBS-REQ-028	The admin dashboard shall display a real-time overview of resource utilisation across all rooms, equipment, and tutors.	High	E-02
CBS-REQ-031	The system shall generate exportable utilisation and booking frequency reports for facilities planning.	Medium	E-02

E-03 — Focus Group Workshop

Technique Description

A 90-minute facilitated focus group workshop was conducted by the Scrum Master (Bassel Taleb) and Design Lead (Syeda Ahmed). Participants used sticky-note affinity mapping followed by MoSCoW dot-voting to prioritise a longlist of potential features. The workshop produced a

consensus feature priority map that directly informed the Feature Set Document (CBS-FEAT-001).

Participants

- 6 student users — mixed undergraduate, postgraduate, and international students
- 2 tutor users — one subject tutor, one language support tutor
- 1 Academic Services representative (External) — provided institutional equity perspective

Key Findings

- Students unanimously ranked single-tap booking confirmation as the highest-value feature
- International students raised multilingual interface support as an unmet need
- Tutors prioritised the ability to see their booking history and upcoming sessions in one view
- The Academic Services representative flagged accessibility (WCAG 2.1 AA and VoiceOver) as non-negotiable
- Students expressed strong preference for ratings and feedback visibility before choosing a tutor
- QR code check-in for rooms was rated positively but ranked as extended ('Should Have') rather than core

Requirements Elicited

Req ID	Requirement Statement	Priority	Source
CBS-REQ-009	The system shall provide instant booking confirmation upon successful reservation of any resource.	High	E-03
CBS-REQ-011	Each tutor's profile shall display their bio, qualifications, subjects, and aggregated ratings from past students.	High	E-03
CBS-REQ-033	Students shall be able to submit a star rating and written review after each completed tutor session.	High	E-03
CBS-REQ-034	Tutor ratings and reviews shall be displayed aggregated on the tutor profile view.	High	E-03
CBS-REQ-037	The application shall meet WCAG 2.1 AA accessibility standards and be compatible with iOS VoiceOver.	High	E-03
CBS-REQ-039	The application shall support both English and Arabic interface languages.	Low	E-03

E-04 — Document Analysis

Technique Description

The Tech Lead (Saad Alzamzami) and Requirements Lead (Umaya Hassan) conducted a structured review of existing university policy documents, data protection guidelines, IT architecture standards, and comparable booking system specifications from peer institutions. This passive elicitation technique uncovered implicit requirements not surfaced through interviews or observation.

Documents Analysed

- University Data Protection and Privacy Policy (v3.2)
- IT Infrastructure Standards — Mobile Application Guidelines
- University Accessibility Policy — Digital Services Annex
- Comparable booking systems: LibCal (Springshare), Skedda, Microsoft Bookings
- ISO/IEC 25010:2023 Software Quality Characteristics

Key Findings

- University policy mandates TLS 1.3 encryption for all data in transit and AES-256 for data at rest
- All digital services must meet WCAG 2.1 AA as a minimum institutional standard
- Role-based access control is required under the university's IT security framework
- Audit logs are legally required for any system handling personal student data
- Comparable systems demonstrated that session cancellation policies (24-hour notice) are industry standard
- ISO/IEC 25010 Maintainability and Reliability characteristics must be addressed in non-functional requirements

Requirements Elicited

Req ID	Requirement Statement	Priority	Source
CBS-REQ-002	The system shall implement secure credential-based login with session token management and automatic expiry.	High	E-04
CBS-REQ-003	The system shall enforce role-based access control differentiating Student, Tutor, and Admin permissions.	High	E-04
CBS-REQ-032	The system shall maintain a full, immutable audit log of all booking events, admin actions, and data changes.	High	E-04
CBS-REQ-038	All user data shall be encrypted in transit (TLS 1.3) and at rest (AES-256), complying with university data protection policy.	High	E-04

Req ID	Requirement Statement	Priority	Source
CBS-REQ-010	The system shall enforce a configurable cancellation and rescheduling policy window (default: 24 hours notice).	Medium	E-04
CBS-REQ-017	The system shall enforce maximum room booking duration and advance booking window limits per university policy.	High	E-04

Elicitation Sign-Off

All elicited requirements have been reviewed, consolidated, and baselined in the CBS Requirements Database (CBS-REQDB-001). The following team members confirm the elicitation process was conducted in accordance with the CBS Document Control Policy (CBS-POL-DC-001).

Name	Role	Sign-Off / Date
Umaya Hassan	Requirements Lead	_____
Jason Myers	Product Owner	_____
Saad Alzamzami	Tech Lead	_____
Bassel Taleb	Scrum Master	_____

Document ID: CBS-ELIC-001
Version: 1.0
Requirements Lead: Umaya Hassan
Phase: Phase 1