UNIVERSITY OF AGRICULTURE, FAISALABAD

Department of Computer Science

PROGRESS REPORT - VERSION 2.0

CampusBridge UAF

Centralized Student E-Services & Workflow Routing Platform

Working system | **Interactive prototype** | **13 database tables**

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COVERS	Working PHP site (Student E-Services Portal v2.0), updated prototype, 13-table database, chatbot assistant, updated documents
INCLUDES	Architecture, use case and data flow diagrams, database summary, what changed since the first report, demo guide

1 Summary of Progress

CampusBridge UAF digitizes student e-services (Wi-Fi, university email, ID card, library card, DMC, fee instalments, LMS credentials) and routes each application to the correct desk of the correct campus. Since the first report the project has moved from a design and prototype to a **working PHP application (Student E-Services Portal v2.0)**. The prototype and all documents in this package were updated to match it.

11 Modules

13 Database tables

8 Default roles

7 E-services

34 Prototype screens

Result. The system now covers registration with CNIC and email verification, login protection, the full request workflow, student and user management, six report types, site settings with backup and audit logs, an installable web app and a chatbot assistant that also tracks applications.

2 Deliverables

No.	Deliverable	Status	Where
1	Project proposal	Completed, updated	3_Documents / 2_Project_Proposal
2	System development document (modules, workflows, security, plan, testing)	Completed, updated to v2.0	3_Documents / 3_System_Development_Document
3	Database design: ER diagram, data dictionary	Completed, regenerated from the live schema	2_Database
4	Database implementation: 13 tables, foreign keys, seed data, upgrade script	Completed and import-tested	2_Database / SQL scripts
5	PHP web application: student, staff, Campus Admin and Super Admin portals	Working	Live site / source code
6	Chatbot assistant with application tracking (code, or AG No. + CNIC)	Working	Live site (index.php, chatbot.js)
7	Interactive prototype (public, student, staff, Campus Admin, Super Admin)	Updated	1_Prototype / index.html
8	Installer and deployment scripts (install.php, create_superadmin.php)	Working	Source code

3 What Changed Since the First Report

Area	Earlier design	Now
Roles	Student, desk staff, Super Admin	Adds **Campus Admin** (all services, own campus only) and per-staff **manageable statuses**
Registration	Name, email, campus, department	Adds **CNIC**, password policy, optional email OTP, **forgot / reset password**
Login	Email and password	Registration no. or email, show/hide password, **lockout after repeated failures**, forced password change for admin-issued passwords
Requests	Review, approve, return, reject	Edit and resubmit returned requests, official form PDF, ZIP download of PDF and attachments, remarks, completion fields and message template per service
Administration	Staff, roles, services, campuses	Adds **Manage Students**, **Manage Users**, profile page for every role, six-tab reports with CSV / PDF export, audit tab
Site settings	Name and banner	Branding, contact, email switches, announcement banner, **SMTP with test email**, **maintenance mode**, **backup and restore**, audit logs, system reset
Database	12 tables	**13 tables** (adds auth_throttle), users.cnic, must_change_password, manageable_statuses, campus address, department code
Assistant	Simple help popup	Floating **chatbot**: services, how to apply, tracking, contact. Rate limited, shows no personal data
Deployment	Manual setup	Single-file **installer** for local and live servers, security headers, installable PWA

4 Technology Stack

Layer	Technology
Front-end	HTML5, CSS3, Bootstrap 5, JavaScript, Chart.js, Progressive Web App
Back-end	PHP 8.1+ with MVC-style controllers and helper functions, PDO prepared statements
Database	MySQL 8 / MariaDB (InnoDB, utf8mb4), 13 tables with foreign keys
Email and PDF	PHPMailer over SMTP; TCPDF + FPDI for application PDFs
Security	CSRF tokens, security headers and CSP, hashed passwords and OTPs, login throttling, idle timeouts, audit log
Tools	Git/GitHub, phpMyAdmin, VS Code, XAMPP/Apache

5 System Architecture

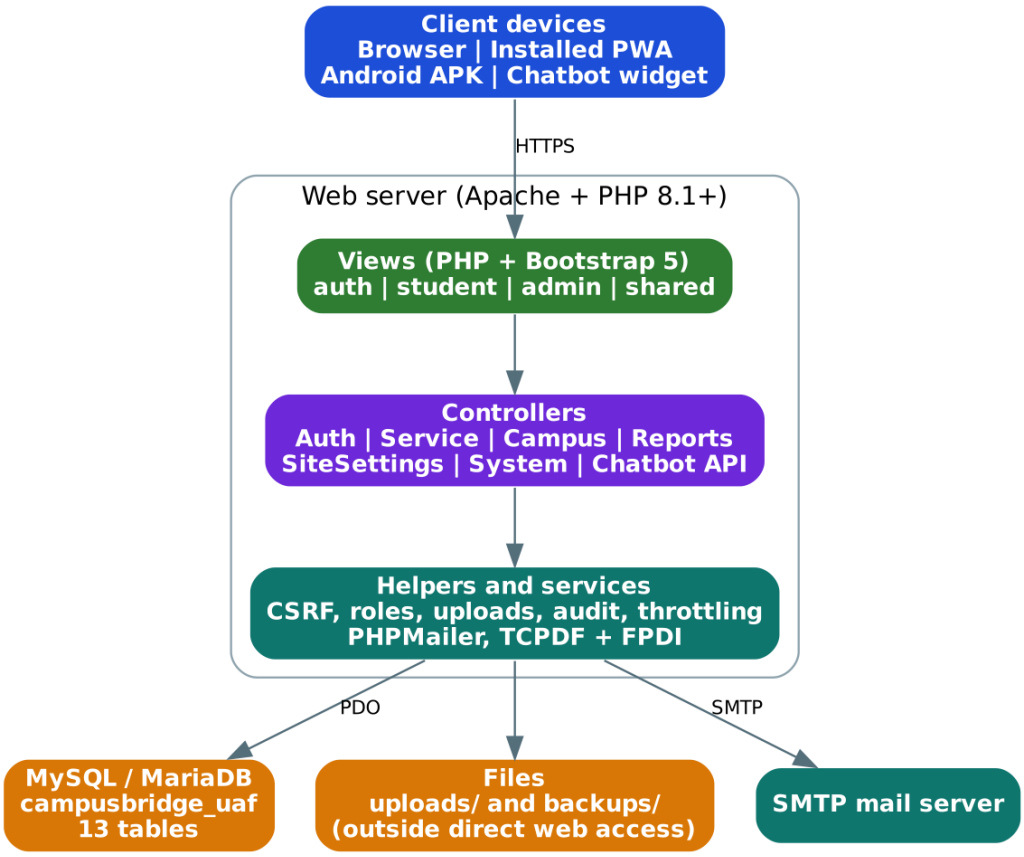

Fig. 1 - Three-tier architecture. Uploaded files are stored outside direct web access and served by a controller after a role and campus check.

6 Use Cases

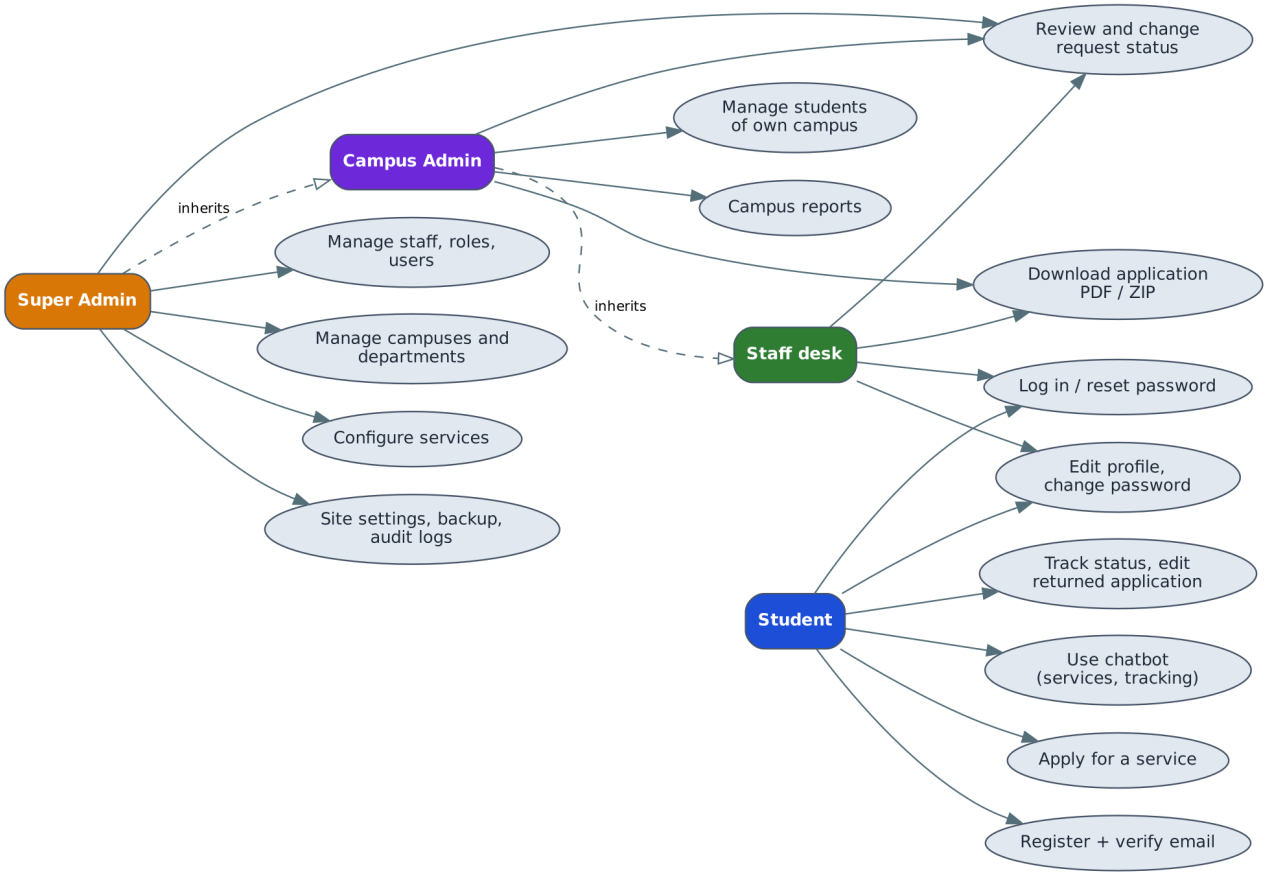

Fig. 2 - Use cases of the four actors. Campus Admin inherits the staff abilities for one campus; Super Admin inherits all of them.

7 Data Flow Diagrams

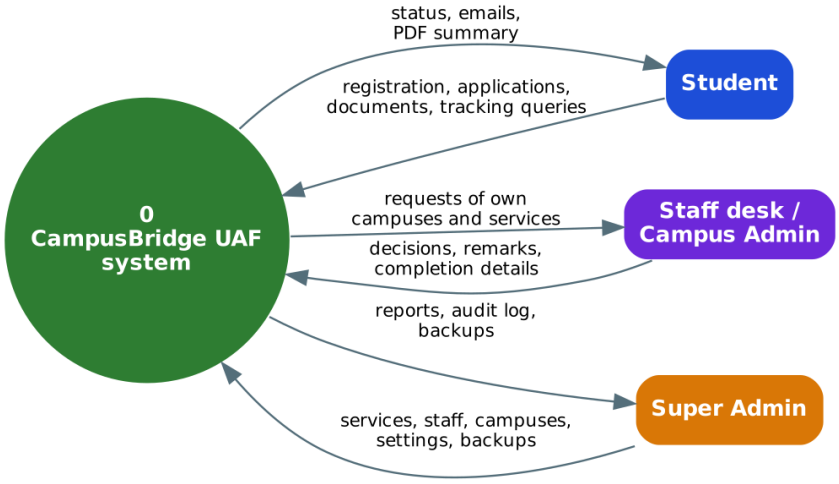

Fig. 3 - Level 0 context diagram.

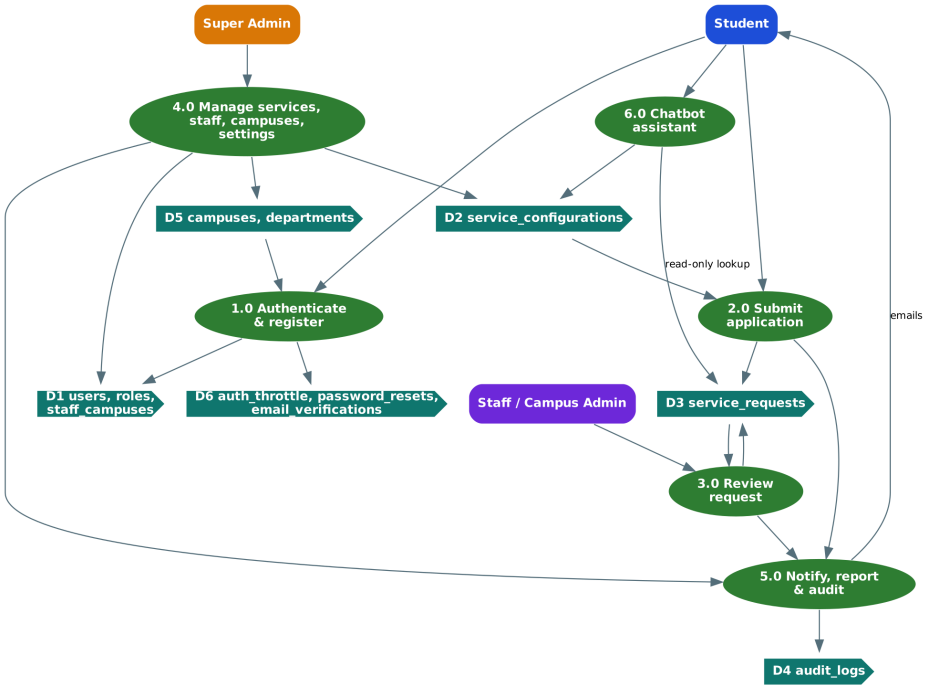

Fig. 4 - Level 1. Process 5.0 records every important event in the audit log; process 6.0 (chatbot) only reads.

8 Request Workflow

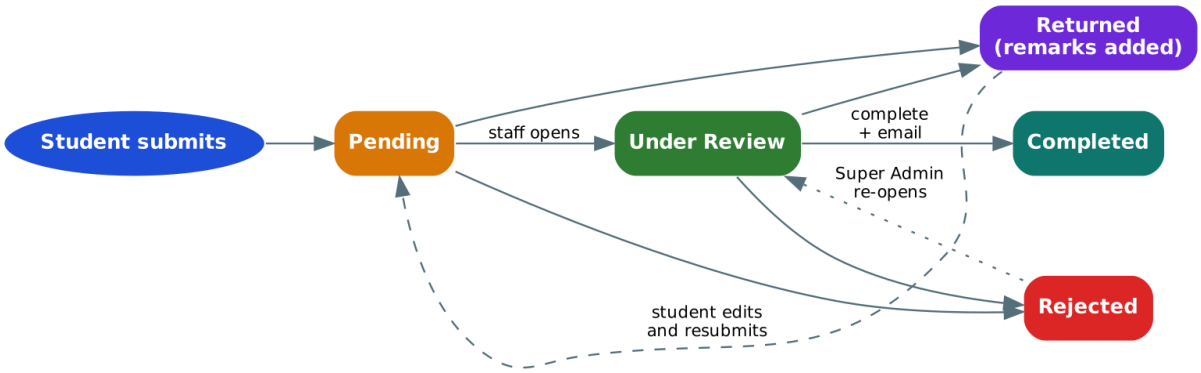

Fig. 5 - Request status lifecycle. Restricted staff move a request one step at a time and cannot reject.

9 Database Summary

The database **campusbridge_uaf** has 13 tables. Services are data, not code: each service is a row in `service_configurations` with form fields stored as JSON. Campuses and departments are data too. Every request carries the campus of the student. `auth_throttle` stores login lockout counters. The ER diagram and data dictionary are in 2_Database.

Group	Tables
Access	users, roles, staff_campuses
Campus model	campuses, departments
Services and requests	service_configurations, service_requests, credentials_dispatch
Security	auth_throttle, password_resets, email_verifications
System	site_settings, audit_logs

10 Prototype and Demo Guide

Open **1_Prototype/index.html**. Use the switcher at the top: Public, Student, Staff desk, Campus Admin, Super Admin. Suggested demo (about 10 minutes):

- Public: landing page with the chatbot (open it, choose Track status, enter `CB-WIFI-000021`, or AG No. 2023-ag-10110 with CNIC 33100-1234567-1). Then Get Registered, Login (type "wrong" five times to see the lockout), Forgot password.
- Student: dashboard filters, Services, Apply, Details (Download PDF), Profile with change password.
- Staff desk and Campus Admin: requests limited to the assigned campus, review screen with completion fields from the service settings, Campus Admin student management.
- Super Admin: Users, Staff (with campus access and allowed statuses), Campuses, Roles, Services and Builder, six-tab Reports with CSV export, Site settings (SMTP, maintenance, backup and audit log).

11 Testing Done and Remaining Work

Item	Status
Database script import on MariaDB 10.11 (13 tables, seed data)	Done
Schema compared column by column with the live site schema	Done
Upgrade script from an earlier database, run twice (idempotent)	Done
Prototype opened on desktop and phone width with no script errors	Done
User acceptance testing with real students and desk staff	Remaining
Load test and backup/restore drill on the live server	Remaining
User manual and short training video	Remaining

Percentages are not used in this report because the working system is already deployed. The remaining work is acceptance testing, hardening on the university server and documentation for desk staff.