

LOC Evaluation for Iteration 1

Information in the columns A-I are copied from the student's submitted tracking file

Teacher to fill the evaluations in the columns K-M, then might use Excel pivot to have total LOC for each student

| # | Screen / Function | Feature | Screen/Function Description | In Charge |
|---|-------------------|-------------------------|--|-----------|
| 1 | Login | Auth | BE: API POST /auth/login. Xác thực email/password (hash). Tạo Access Token (JWT 15p) & Refresh Token (7 ngày). Trả về User Profile + Role. FE: Form đăng nhập (React Hook Form + Zod(validation library)). Lưu Token vào LocalStorage/Cookie. Lưu User State vào Zustand. Điều hướng dựa trên Role (Admin/Student). | BangDC |
| 2 | RefreshToken | Auth | BE: API POST /auth/refresh. Verify Refresh Token trong DB/Redis. Cấp lại token mới. Chặn Reuse Token. FE: Cấu hình Axios Interceptor: Tự động catch lỗi 401, gọi API refresh token, retry lại request cũ mà user không biết. | BangDC |
| 3 | ResetPassword | Auth | BE: API POST /auth/forgot-password (Sinh OTP, gửi Mail) và POST /auth/reset-password (Verify OTP, update Pass mới). FE: Màn hình "Quên mật khẩu". Form nhập email -> Form nhập OTP & Pass mới (Có đồng hồ đếm ngược gửi lại OTP). | BangDC |
| 4 | UpdateProfile | Manage user (User) | BE: API PATCH /users/avatar. Sử dụng Multer nhận file, upload lên Cloudinary, lấy URL update vào bảng User. FE: Component AvatarUploader. Cho phép Crop ảnh trước khi up. Hiển thị Progress bar khi đang upload. | KhuongTM |
| 5 | View actor | Manage roles (IT Admin) | Xem danh sách các role trong hệ thống | BangDC |
| 6 | Add/Update actor | Manage roles (IT Admin) | Add/update permission actor for screen | BangDC |
| 7 | Manage Roles | Admin | dynamic permission CRUD in screen Có thể chuyển sang sprint 3, 4 | |

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|----|---------------------------|-------------------------|--|-----------|
| 8 | View User | Manage users (IT Admin) | View danh sách user | KhuongTM |
| 9 | ImportUsers | Manage users (IT Admin) | BE: API POST /users/import. Dùng thư viện exceljs đọc buffer. Validate từng dòng (Email đúng format? Trùng DB không?). Insert Batch (dùng Transaction). Tạo Wallet mặc định. FE: Button "Import Excel". Popup chọn file. Hiển thị thanh tiến trình xử lý. Hiển thị bảng kết quả: Số dòng thành công/thất bại (cho phép tải file log lỗi). | KhuongTM |
| 10 | Update/delete user | Manage users (IT Admin) | Update/delete user: quyền truy cập, chặn | KhuongTM |
| 11 | GlobalErrorHandler (Tech) | System | BE: Class AllExceptionsFilter (NestJS). Catch toàn bộ HttpError, DatabaseError. Format response chuẩn {statusCode, message, timestamp, path}. Ghi log ra file error.log. FE: hiển thị form các lỗi. | OanhNTK |
| 12 | SetupSocketIO(Tech) | System | BE: Cấu hình SocketIO. Handle sự kiện connection, disconnect. Xác thực JWT qua Handshake header (đảm bảo user login mới connect được). FE: Cấu hình SocketProvider (Context) ở root app. Kết nối socket khi App khởi động. | HuyHM |
| 13 | CloudinaryService (Tech) | System | BE: Viết Service Wrapper cho Cloudinary SDK. Hàm uploadImage(file), deleteImage(publicId). Cấu hình biến môi trường. FE: Không có. | HuyHM |

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|----|---------------------------|-------------------------------------|---|-----------|
| 14 | SeedMasterData (Tech) | Tool | BE: Viết Script chạy lệnh (CLI). Dùng faker.js sinh 1000 SV, 100 GV, 50 Phòng, thiết bị, môn học, khung chương trình. Logic random nhưng đảm bảo ràng buộc (SV K17 phải học Curriculum K17). FE: Không có. | HuyHM |
| 15 | View Subject list | Manage subjects (Academic staff) | BE: CRUD API Subjects. Validate unique subject_code. FE: Màn hình "Subject List". Modal "Create Subject" (Nhập Tên, Mã, Số tín chỉ). | ThatTM |
| 16 | Create subject | Manage subjects (Academic staff) | Create các môn học | ThatTM |
| 17 | Update/delete subject | Manage subjects (Academic staff) | Update/delete các trường thông tin liên quan | ThatTM |
| 18 | Filter/sort | Manage subjects (Academic staff) | Filter/sort by name và by code_subject | HuyHM |
| 19 | ConfigurePrerequisites | Manage subjects (Academic staff) | BE: API POST /subjects/prerequisite. Logic đệ quy kiểm tra vòng lặp (A cần B, B cần C, C không được cần A). Insert vào bảng trung gian. FE: UI chọn môn học dạng "Dual Listbox" (Trái: List môn, Phải: Môn tiên quyết đã chọn). | ThatTM |
| 20 | View Curriculums | Manage Curriculums (Academic staff) | View Curriculums BE: CRUD API Curriculums. Logic Clone khung chương trình cũ. API POST /curriculums/:id/subjects add môn vào từng kỳ. FE: Màn hình "Curriculum Manager". UI dạng Board (Kéo thả môn học vào các cột Học kỳ 1, 2, 3...). | ThatTM |
| 21 | Add Subject to curriculum | Manage Curriculums (Academic staff) | Add Subjects to Curriculum | ThatTM |
| 22 | Add Curriculum | Manage Curriculums (Academic staff) | Add | ThatTM |

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|----|---------------------------------|-------------------------------------|--|-----------|
| 23 | Update/Delete Curriculums | Manage Curriculums (Academic staff) | Update/delete | ThatTM |
| 24 | View ConfigureTuitionFees | Manage Finance (Kế toán) | View BE: API PUT /settings/tuition. Lưu cấu hình giá tiền/tín chỉ theo khóa học. FE: Form cấu hình bảng giá. Input nhập tiền (Format VND). | HuyHM |
| 25 | Add/Delete ConfigureTuitionFees | Manage Finance (Kế toán) | Add/update Fees follow semeter | HuyHM |
| 26 | View Rooms | Manage Rooms (Admin) | View BE: CRUD Rooms. Validate capacity > 0. FE: Form thêm phòng học. | HuyPVQ |
| 27 | Create Rooms | Manage Rooms (Admin) | Create | HuyPVQ |
| 28 | Update/delete Rooms | Manage Rooms (Admin) | Update/delete | HuyPVQ |
| 29 | Filter/sort Rooms | Manage Rooms (Admin) | Filter/sort | HuyPVQ |
| 30 | View TimeSlots | Manage TimeSlots (Admin) | View BE: CRUD Slots. Validate không được trùng giờ (Slot 1: 7h-9h, Slot 2 không được bắt đầu lúc 8h). FE: Bảng cấu hình ca học. Time picker chọn giờ bắt đầu/kết thúc. | HuyPVQ |

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|----|-------------------------|--------------------------|---|-----------|
| 31 | CreateTimeSlots | Manage TimeSlots (Admin) | Create | HuyPVQ |
| 32 | Update/Delete TimeSlots | Manage TimeSlots (Admin) | Update/Delete | HuyPVQ |
| 33 | View Majors | Manage Majors(Admin) | View BE: CRUD Majors. FE: Danh sách Ngành đào tạo. | OanhNTK |
| 34 | Create Majors | Manage Majors(Admin) | Create | OanhNTK |
| 35 | Update/Delete Majors | Manage Majors(Admin) | Update/delete | OanhNTK |
| 36 | ManageSystemSettings | System | BE: API lưu Logo, Tên trường vào Redis/DB. FE: Màn hình "General Settings". Upload Logo trường. save .env | KhuongTM |
| 37 | BackupData | System | BE: Script dump dữ liệu database ra file .sql, nén .zip và upload lên S3-backup bucket. FE: Button "Backup Now" trong Admin Dashboard. | KhuongTM |
| 38 | Database | | | ThatTM |
| 39 | Project Design | | | OanhNTK |
| 40 | Logout | All role | | BangDC |
| 41 | View profile | All role | Xem thông tin chi tiết của account | KhuongTM |
| 42 | Home view | Student, parent user | Hiển thị các tác vụ sinh viên và phụ huynh được thực hiện | OanhNTK |
| 43 | Search task | Student, parent user | Tìm kiếm tác vụ trên trang home | OanhNTK |
| | | | | |

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| # | Screen / Function | Feature | Status | SRS | SDS | Complexity |
|---|-------------------|-------------------------|--------|-----|-----|------------|
| 1 | Login | Auth | To Do | | | Medium |
| 2 | RefreshToken | Auth | To Do | | | Simple |
| 3 | ResetPassword | Auth | To Do | | | Simple |
| 4 | UpdateProfile | Manage user (User) | To Do | | | Simple |
| 5 | View actor | Manage roles (IT Admin) | To Do | | | Simple |
| 6 | Add/Update actor | Manage roles (IT Admin) | To Do | | | Simple |
| 7 | Manage Roles | Admin | To Do | | | Medium |

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| # | Screen / Function | Feature | Status | SRS | SDS | Complexity |
|----|---------------------------|-------------------------|--------|-----------|-----------|------------|
| 8 | View User | Manage users (IT Admin) | To Do | | | Simple |
| 9 | ImportUsers | Manage users (IT Admin) | To Do | | | Medium |
| 10 | Update/delete user | Manage users (IT Admin) | To Do | | | Simple |
| 11 | GlobalErrorHandler (Tech) | System | To Do | Sub chart | Sub chart | Simple |
| 12 | SetupSocketIO(Tech) | System | To Do | | | Simple |
| 13 | CloudinaryService (Tech) | System | To Do | | | Simple |

Chart: Client => Router => Si
Vẽ: Sub sequences

Có thể chuyển sang sprint 3

LOC Evaluation for Iteration 1

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| # | Screen / Function | Feature | Status | SRS | SDS | Complexity |
|----|---------------------------|-------------------------------------|--------|-----|-----|------------|
| 14 | SeedMasterData (Tech) | Tool | To Do | | | Medium |
| 15 | View Subject list | Manage subjects (Academic staff) | To Do | | | Simple |
| 16 | Create subject | Manage subjects (Academic staff) | To Do | | | Simple |
| 17 | Update/delete subject | Manage subjects (Academic staff) | To Do | | | Simple |
| 18 | Filter/sort | Manage subjects (Academic staff) | To Do | | | Simple |
| 19 | ConfigurePrerequisites | Manage subjects (Academic staff) | To Do | | | Simple |
| 20 | View Curriculums | Manage Curriculums (Academic staff) | To Do | | | Simple |
| 21 | Add Subject to curriculum | Manage Curriculums (Academic staff) | To Do | | | Simple |
| 22 | Add Curriculum | Manage Curriculums (Academic staff) | To Do | | | Simple |

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|----|---------------------------------|-------------------------------------|--------|-----|-----|------------|
| 23 | Update/Delete Curriculums | Manage Curriculums (Academic staff) | To Do | | | Simple |
| 24 | View ConfigureTuitionFees | Manage Finance (Kế toán) | To Do | | | Simple |
| 25 | Add/Delete ConfigureTuitionFees | Manage Finance (Kế toán) | To Do | | | Simple |
| 26 | View Rooms | Manage Rooms (Admin) | To Do | | | Simple |
| 27 | Create Rooms | Manage Rooms (Admin) | To Do | | | Simple |
| 28 | Update/delete Rooms | Manage Rooms (Admin) | To Do | | | Simple |
| 29 | Filter/sort Rooms | Manage Rooms (Admin) | To Do | | | Simple |
| 30 | View TimeSlots | Manage TimeSlots (Admin) | To Do | | | Simple |

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| 32 | Update/Delete TimeSlots | Manage TimeSlots (Admin) | To Do | | | Simple |
| 33 | View Majors | Manage Majors(Admin) | To Do | | | Simple |
| 34 | Create Majors | Manage Majors(Admin) | To Do | | | Simple |
| 35 | Update/Delete Majors | Manage Majors(Admin) | To Do | | | Simple |
| 36 | ManageSystemSettings | System | To Do | | | Simple |
| 37 | BackupData | System | To Do | | | Medium |
| 38 | Database | | To Do | | | Simple |
| 39 | Project Design | | To Do | | | Simple |
| 40 | Logout | All role | To Do | | | Simple |
| 41 | View profile | All role | To Do | | | Simple |
| 42 | Home view | Student, parent user | To Do | | | Simple |
| 43 | Search task | Student, parent user | To Do | | | Simple |
| | | | | | | |

Chuyển sang sprint 3 haocwj

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