Kanban Group Project

Description

In this project, you need to use Kanban methodology to implement a business website. The business can offer products, services or a combination of both. Students can work in teams of up to 4 students.

Requirements

All projects should have a minimum of 3 tables and implement Create, Read, Update, and Delete (CRUD) operations. It should also use the **W3.CSS library** that we learned in class. The minimum requirements are as follows:

Administration: A main menu to Add, edit, view, and delete entities (customers, products, etc.) Depending on the type of business, it should also include search by specific criteria, as well as customer's actions such as order, make reservation, watch content, etc.

User: User registration, authentication, password reset.

Kanban: The Kanban agile methodology must be used throughout the entire software development process to obtain credit. The recommended platform is Trello, but Jira can also be used.

Deliverables

The submission should be a zip file called KanbanXYZ.zip (replace XYZ for the first and last name of each team member). This zip must include:

- All php, css, and JavaScript files used in the project.
- A sql file with an export of the database used. The sql file should contain the entire database schema as well as the sample data.
- An image file (jpg or png) showing the database schema.
- Everything listed in the Required Kanban Submissions section.

Required Kanban Submissions

For each stage listed in the table below, you must submit the artifact(s) described. If using Trello, you can print the Kanban board as pdf and also export the json file.

1. The Kanban board at different stages.

Stage	Submission Artifact	Description
1. Beginning (10-15% of Project Time)	Initial Board Setup Screenshot & Document	Verifies they set up the columns, defined their Workflow Stages (e.g., "To Do," "Research," "Drafting," "Review," "Done"), and added an initial Backlog of tasks.
2. Mid-Point (40-60% of Project Time)	Mid-Project Snapshot & Narrative	Requires a screenshot showing cards distributed across the "In Progress" columns. The narrative must explicitly mention WIP Limits and how they managed a Bottleneck (e.g., "The 'Review' column hit its WIP limit of 2, so the rest of the team worked on an upstream task instead of starting a new one").
3. End (Final Submission)	Final Board Screenshot & Retrospective Report	Verifies the final state and the "Done" column is full. The report is the crucial part (see below). Students should share the board link/invite the professor as a viewer.

2. Key Verifiable Elements on the Board

Detailed Cards: Tasks are not vague ("Do research"). They should be detailed, e.g., "Find 3 articles on X and summarize in 5 bullet points."

Assignments & Due Dates: Every card in the "In Progress" column must have an Assignee and a due date or completion date.

Activity/History Log (ESSENTIAL). For each card, you must submit a log indicating who created it, and when. This log should show movement over time.

WIP Limits: Every column should clearly show its WIP limit.

3. The Kanban Retrospective Report (The Most Important Artifact)

The final submission should include a short report reflecting on the process, not just the product. It should be a MS Word document containing all the sections listed on the table below.

Section	Required Content & Verification
1. Workflow Definition	Explain their column structure and the "Definition of Done" for moving a card from one column to the next (e.g., "To move from 'Drafting' to 'Review,' the document must be spell-checked by one other group member").
2. Metrics & Flow	Use Jira or Trello data (if available) or manual tracking to report: Throughput (Total cards completed) and Average Cycle Time (How long it took a card, on average, to move from "In Progress" to "Done").
3. Bottleneck Analysis	Identify one specific column that became a bottleneck (where cards piled up). What was the cause, and what was the team's Kanban solution?
4. Continuous Improvement	List three changes they would make to their Kanban board or process if they were to do a similar project again.

Sample Projects

The following list of sample projects provided as a guide. Students are free to choose other business ideas, but they should still contain similar features.

Business Idea	Project Focus	Key features (CRUD & Database)
Movie Streaming	Movie catalog and review	**Admin**: Add/Edit/Delete Movies and members. Allow to search by movies by genre or by main actors. Track members' playback history, and watchlists.
Gift Shop or Craft Store	Product Catalog & Review System	**Admin**: Add/Edit/Delete Categories and Products. Manage/Approve User Reviews. User: User Login. View Products by Category. Submit a Product Review (stored in DB).
Rental Car Business	Vehicle & Reservation System	**Admin**: Add/Edit/Delete Cars (Inventory CRUD). View Booking Calendar/List. User: Search for cars by date range (must check for availability). User Registration. View/Cancel upcoming reservations.
Restaurant	Online Table Reservation System	**Admin**: Manage tables (e.g., 5 tables of 4, 3 tables of 6). View daily/hourly reservations to check for overbooking. User: User Registration. Book a table

		for a specific date and time, view reservation history (must check if it is available).
Pet Grooming / Salon	Appointment Scheduling System	**Admin**: Manage services and staff schedules. Block out dates/times when the shop is closed. User: Browse services/prices. Book an appointment with a specific date/time/staff member (if applicable).
Freelancer Portfolio Agency	Project Portfolio & Contact Management	**Admin**: Add/Edit/Delete Projects (Project CRUD), including images and descriptions. View/Manage leads from the contact form (store leads in the DB). User: Browse projects. Submit a detailed contact inquiry form.