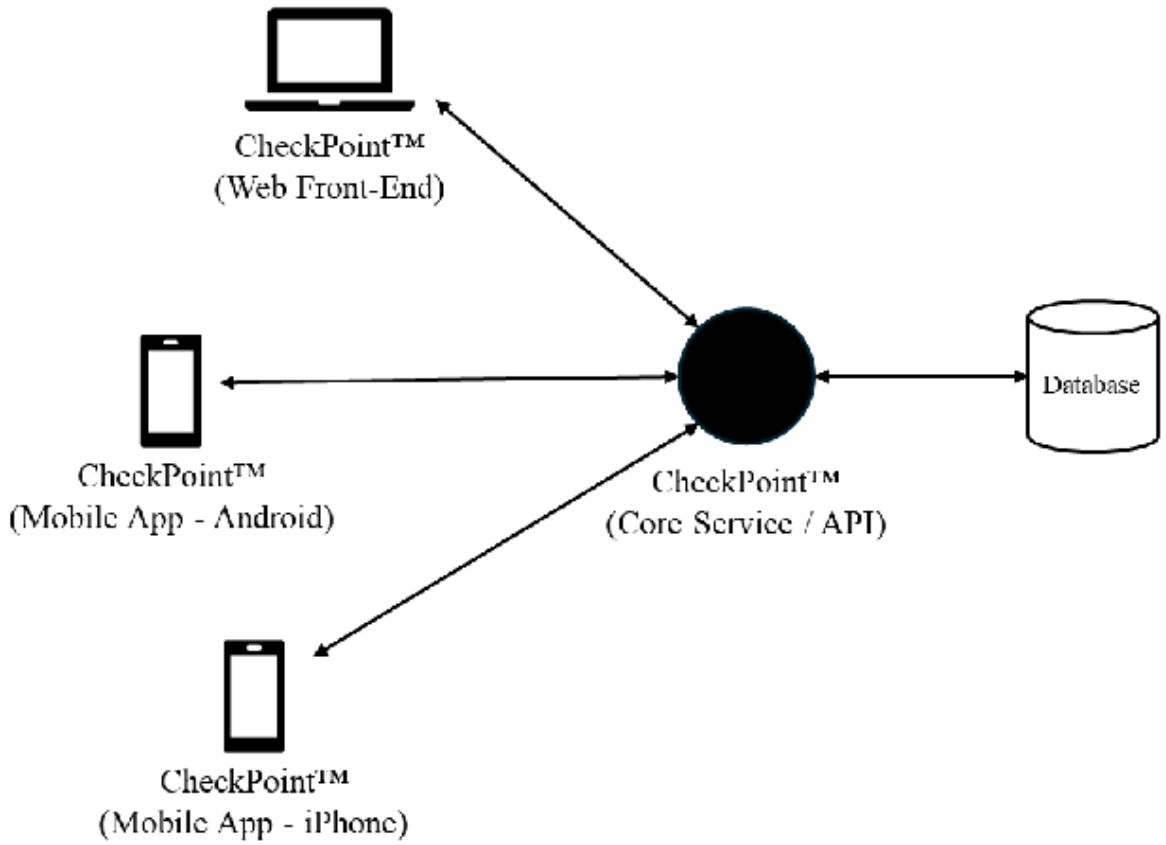
**System description:**

CheckPoint™ is an equipment management system designed to streamline the process of sharing departmental resources with computer science students. The system provides a way to check out and return equipment, while maintaining a detailed record of usage. This will ensure accountability through reminders and notifications for overdue items.

CheckPoint™ supports two types of users: regular users and admins. Regular users can check-in/check-out equipment from a list of available equipment. Regular users can also see their personal history of previously or current borrowed equipment. Admin users can manage the list of borrowable equipment. Admin users can also generate reports that show current and past equipment usage, and reserve equipment for future classroom use.

**Architecture Overview:**




**Functional Requirements:**

- Check-In/Check-Out Equipment: Regular users can borrow and return equipment.
- See Personal Borrowing History: Regular users can view their personal history of borrowed equipment, including check-in/check-out dates, and due dates.
- List Department Equipment: Regular users can view a list of all department equipment including item status, availability dates, and other item details.

- Manage Equipment: Admins can add and remove departmental equipment from the system.
- Manage User Permissions: Admins can toggle user roles (regular vs. admin permissions).
- Generate Usage Reports: Admins can generate detailed reports showing the statuses of all equipment, the users that currently have equipment out on loan, and return dates.
- Automated Reminders and Notifications: The system should send automated reminders when due dates approach. Past-due notifications should be sent to both users and admins. Admins should also be alerted when equipment is checked-in and checked-out.
- Equipment Status Verification on Return: Following equipment return, admins should have the ability to assert that they have checked the equipment and that the most recent user returned the equipment in good condition. If the item was returned damaged, then admins can enter additional information describing the damage.

**Non-functional Requirements:**

- CheckPoint™ must be accessible via a web interface; however, a mobile application may optionally be developed to improve the user experience during the check-in/check-out process.
- Each piece of equipment must be assigned a unique identifier to ensure accurate tracking.
- Admins can perform all actions available to regular users, in addition to the actions that are only available to admins.
- All users must have login credentials before they can access the system.
- The system must support user authentication to ensure secure system usage and to differentiate between admins and regular users.

**Technologies and Frameworks:**

- HTML - website structure
- CSS - website styling
- JavaScript - website functionality and interactivity

**Minimum Viable Product:**

- Check-In/Check-Out Equipment
- Regular users can borrow and return equipment through a simple interface.
- See Personal Borrowing History
- Regular users can view their borrowing history, including check-in/check-out dates and due dates.
- List Department Equipment
- Users can view a list of all department equipment, including availability.
- Secure login system regardless of user status.
- Manage Equipment (Admin Only)
- Admins can add or remove departmental equipment.
- Automated Reminders and Notifications
- Send email reminders for due dates and past-due notifications.

**Preliminary Road Map:**
Obtain functionality on the front end through hard coded values.
Once this is achieved we will communicate to the database group and connect the two into one product.

Sprint 1: structure all the basic html pages and start working on login page and start working on the equipment history page

Sprint 2: finalize login page and finalize the equipment history page and start on admin controls

Sprint 3: finalize admin management page, start and finalize personal equipment log (start coordinating with the database group)

Sprint 4: start and finish check-in/ check-out and reservation pages, also start on notifications and reminders for equipment.

Sprint 5: buffer week to make sure everything is finalized and works perfectly.

Sprint 6: make the complete product pretty.