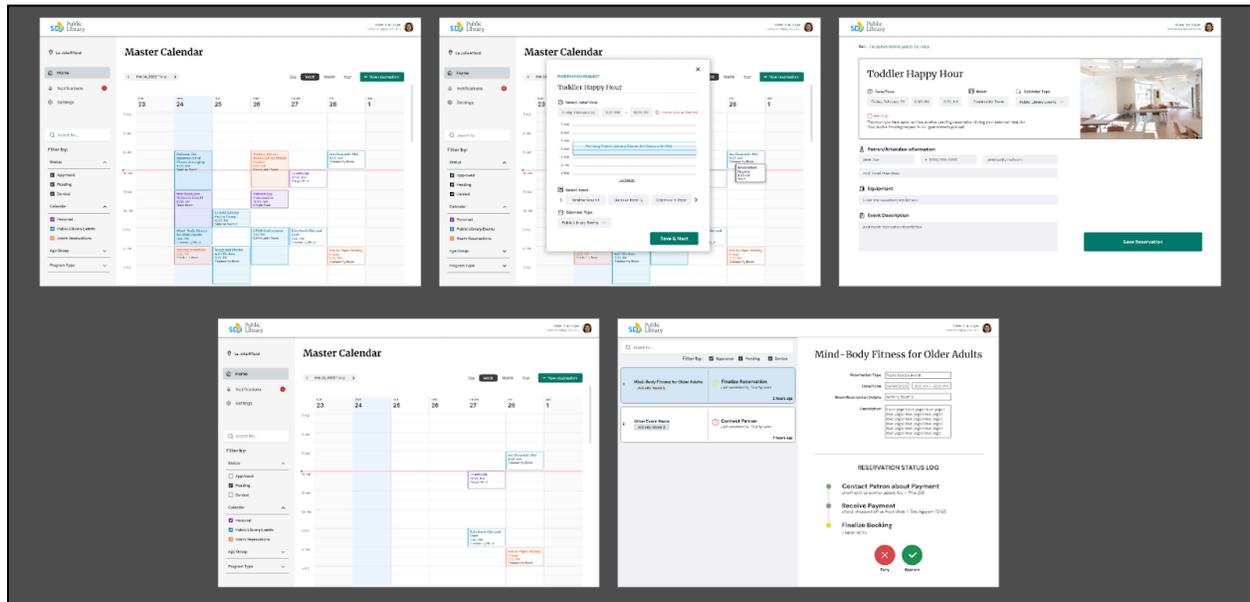# High Fidelity Prototype

Once we established our plan for the next steps, it was finally time to iterate upon our user feedback and combine our 2 low-fidelity prototypes into an **ultimate hybrid high-fidelity prototype**. We strategically narrowed down the screens in this prototype to include only the most preferred features across the 2 low-fis as well as several design changes to address confusions, challenges, and suggestions from our user testing participants (**Figure 1**).

Figure 1: User testing helped us narrow down and combine 26 total low-fidelity screens to a simple 5 (Link to Figma File + Prototype)

UX Flow Implementation

Our high-fidelity prototype implements screens for each of the 3 original UX flows we created in Milestone 3 (Create reservation, Check status/Filter for pending, and Manage reservation updates). However, we decided to change **Flow #2** (Checking status for specific event) and remove the 4th UX flow (Web Integrations) that we introduced in Milestone 4. **Flow #2** had the user hover over an event in the calendar to see more information regarding its status (pending, approved, or denied). We changed **Flow #2** to simply filtering reservations for a certain status, e.g., filtering for pending reservations because during user testing, our first user had overlooked the hover feature entirely in Prototype B and most users felt the checkbox filter with visual indicators for reservation status was more intuitive (**Figure 2**). Our user testing results also led us to re-evaluate Flow #4's value in our prototype as the feature seemed irrelevant to users' key needs and was also misunderstood across the user test participants (**Figure 3**). Ultimately, we found it to be a non-priority feature, resulting in its removal for this high-fidelity prototype.
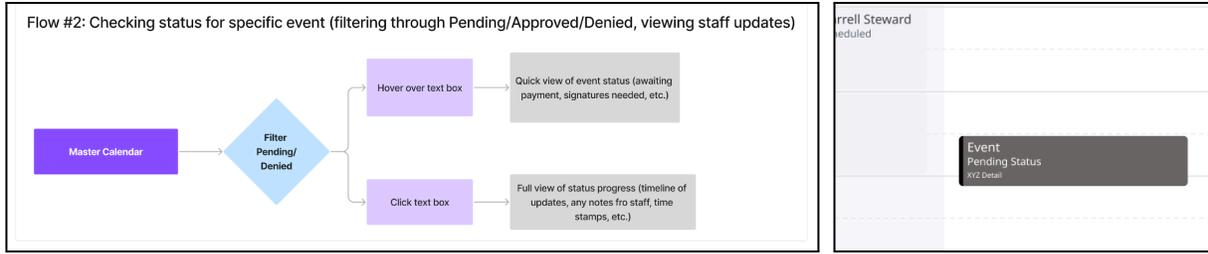
Figure 2: Flow #2 (left) compared to its implementation in Prototype B (right)
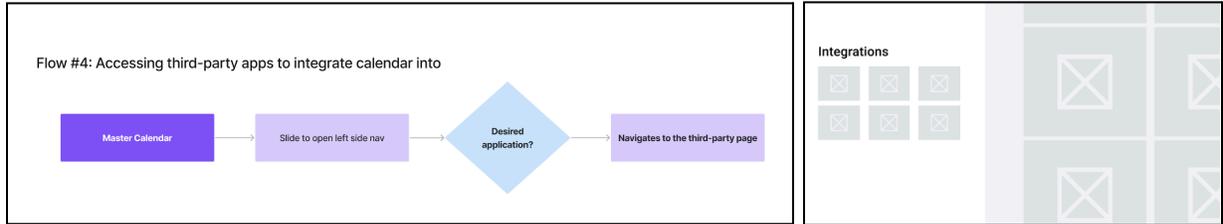

Figure 3: The web integrations user flow (left) compared to its implementation in Prototype A (right).

Homepage/Master Calendar (Screen 1)

Screen 1 is our Homepage/Master Calendar for Library Market, which allows users to seamlessly view and filter between approved, pending, and denied reservations as well as multiple types of calendars including Personal, Public Library Events, and Room Reservations. The screen features a simple side navigation bar with tabs for Branch, Notifications, Settings, Search, and Filter (**Figure 4**).
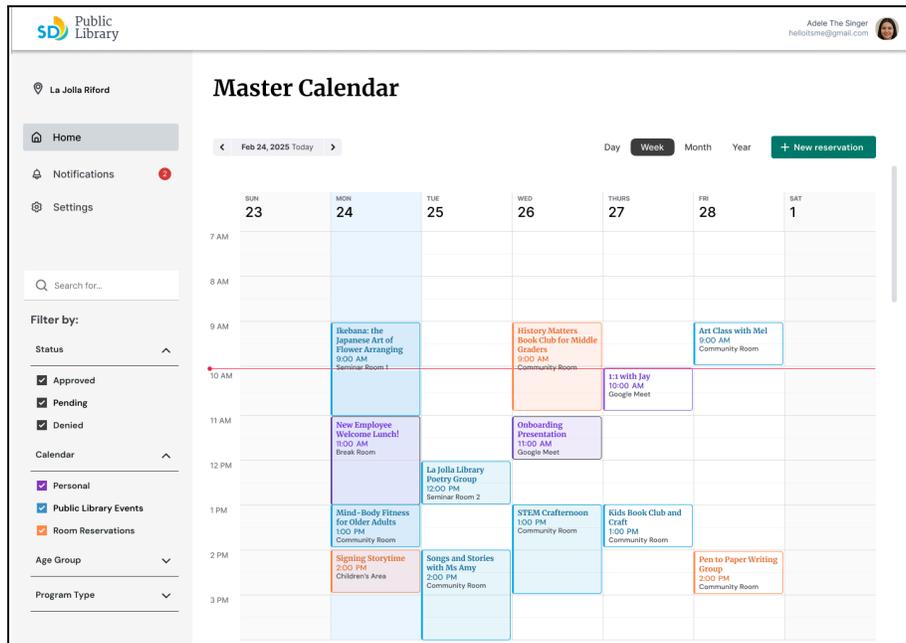

Figure 4: *Screen 1 is the homepage of our Library Market Master Calendar, which displays reservations across multiple types of calendars/reservation types.*

Reflecting on our user testing findings, we combined Prototype A and B homepages into one screen by keeping Prototype B's overall calendar layout, but changing specific features such as the **type of view** (day/week/month), **display of multiple calendars**, and **how to distinguish between approved and pending reservations**. We chose a weekly view as the default view because our users valued a sufficient overview of reservations without sacrificing the level of detail displayed on each reservation. Because users also valued customization, we made it an option to toggle between the three views. One user was overwhelmed by Prototype B's layout of having all four calendars displayed in different columns for a single day, so instead we opted to incorporate Prototype A's status filter system for the calendar type as well. For this to work, we also incorporated the use of visual indicators that users strongly appreciated from Prototype A to distinguish the calendar types as well as between approved and pending reservations. In addition, we decided to keep Prototype B's notification design as users thought it was easier to find than Prototype A's. These changes were made with our user testing findings in mind to make viewing, understanding, and using the calendar a more efficient and intuitive experience.

Create a Reservation (Screen 2–3)
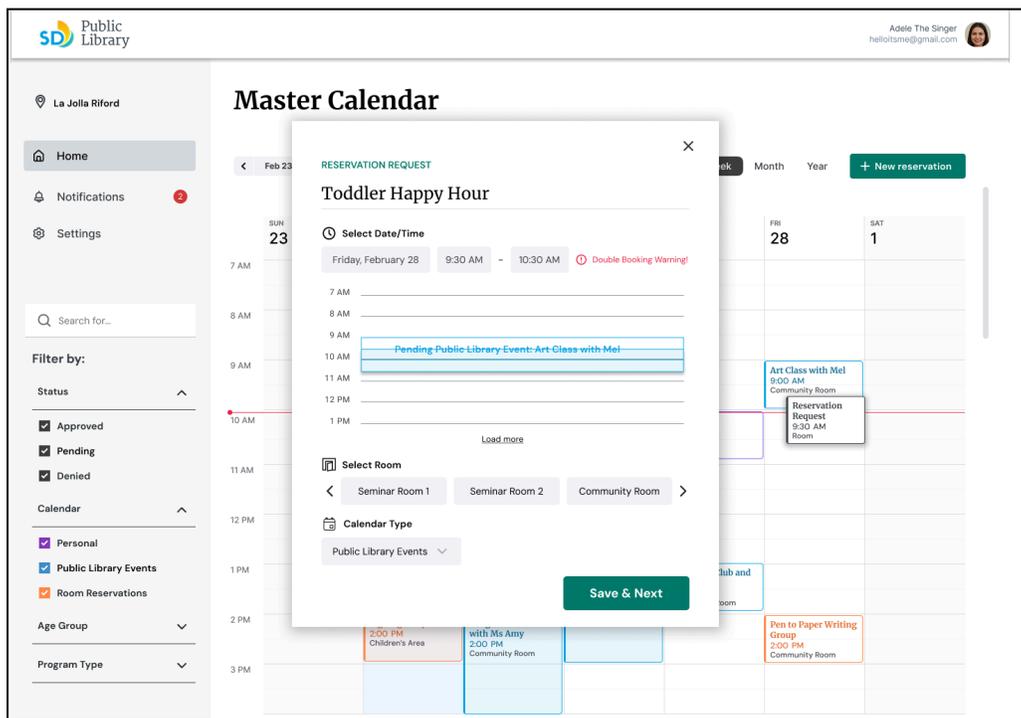
Figure 4: *Screen 2 displays a pop-up screen after the user selects 'New Reservation.' It allows the user to input quick details such as the name of the event, date, time, room, and the type of event (e.g. public library event, personal, or room reservation).*
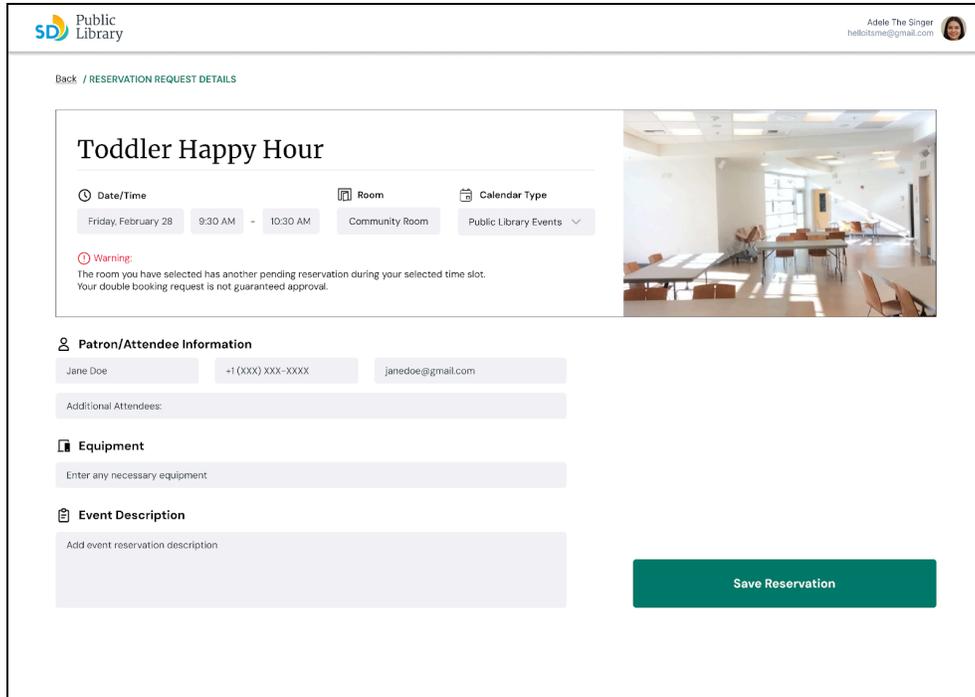
Figure 5: *Screen 3 continues the reservation request process where the user enters more personal information, description of the event, and overall confirms the selected details from Screen 2.*

Based on the user testing findings from Milestone 5, we wanted to maintain the reservation creation flow from Prototype A since that was favored among our stakeholders. An important feature in Screens 2 and 3 was the double booking warning to inform users that their request is overlapping with a pending reservation. Not only did we include the warning in Screen 2 when users first make the reservation request, but we ensured it was apparent in Screen 3 as they confirm the details as well. Additionally, the user testing findings emphasized the importance of the clean navigation in Prototype B, so we kept that in mind as we created these screens for the high–fidelity prototype. Overall, our point–of–view statement remains true for this section of the design to focus on the information architecture and efficient flow for creating reservations.

Filter for Pending (Screen 4)
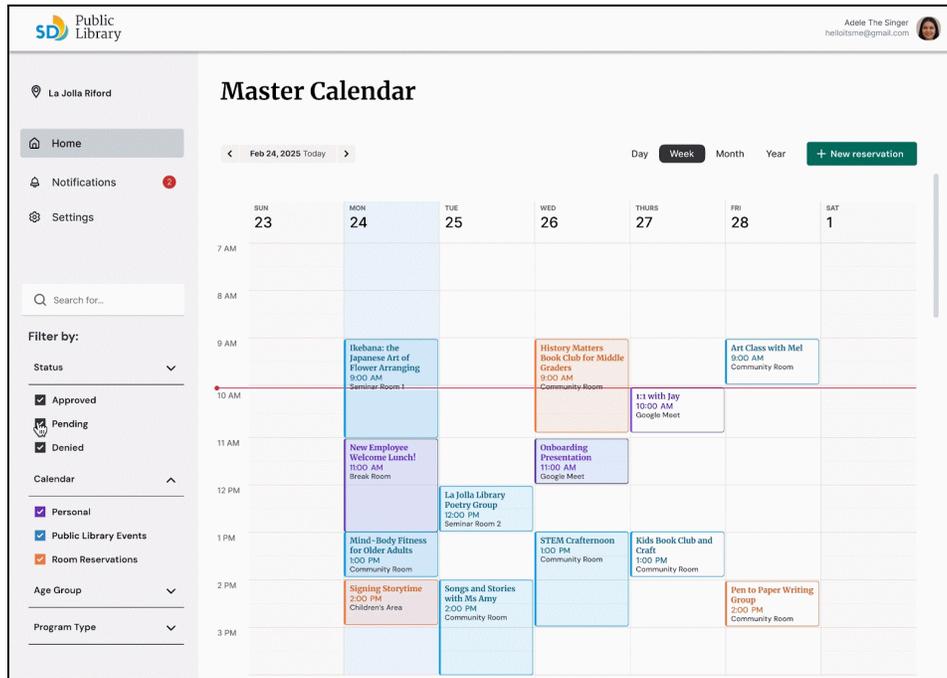
Figure 6: *Filter feature to display pending events only on the master calendar*

      The pending view of the Master Calendar helps staff quickly identify and manage incomplete reservations. As mentioned above, we leveraged a 'Filter By' system attached to the side navigation in order to increase visibility and accessibility. Based on our usability testing findings, our stakeholders had issues finding with our original hover state implementation. By filtering for pending events, library staff can focus on requests that need action, ensuring an efficient approval process. The side panel's filtering options help streamline navigation, allowing staff to refine their workflow. This design decision prioritizes efficiency and clarity, making it easier to track and process pending reservations promptly.

Manage Reservation Updates (Screen 5)
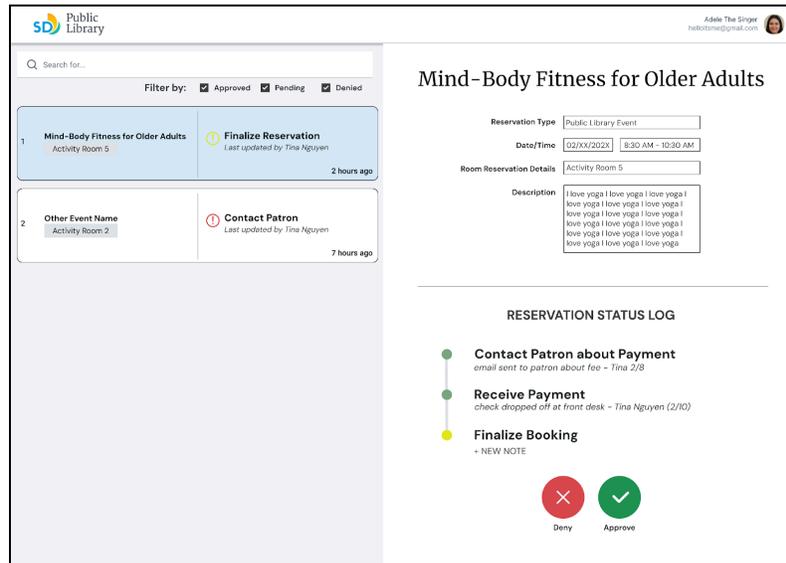
Figure 7: Screen 5 allows users to filter, search, and manage through pending events

Screen 5 serves as our notification screen, which prioritizes reservation update history and detailed event visibility, featuring a structured split-screen layout. The left panel presents a clear, color-coded list of reservations, displaying key details such as event name, room assignment, and the latest update timestamp to help staff quickly assess the status of each request. The right panel provides a comprehensive view of the selected reservation, including essential data such as reservation type, event date and time, room assignment, and a detailed description. Additionally, a chronological reservation status log tracks key updates, such as patron communication, payment confirmations, and any modifications made to the booking.

We implemented this feature in response to stakeholder feedback, as many staff members expressed a need for better tracking of reservation updates to improve internal communication and coordination. By incorporating a history-driven approach, this design ensures that users can review past actions, understand the progression of a reservation, and make well-informed decisions regarding approvals. The inclusion of large, easily recognizable call-to-action buttons for approval or denial streamlines workflow efficiency, allowing staff to take immediate action when necessary.

Exploring Alternative Design Decisions

‘Reservation Request’ Alternative
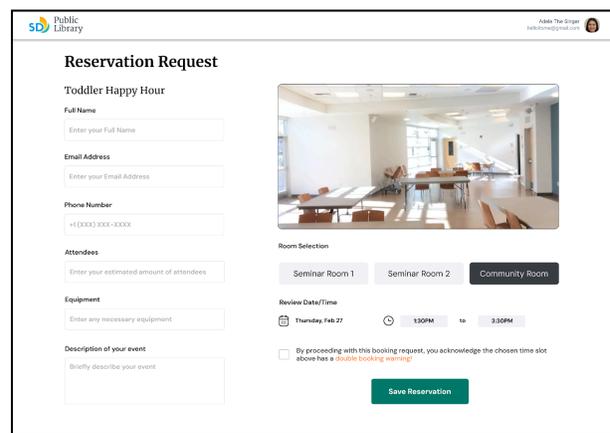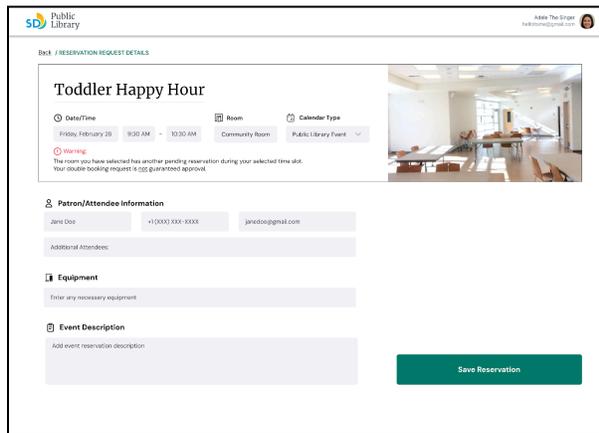
Figures 8 (left) and 9 (right): *The image on the left is the original screen of the reservation request, and the image on the right is the alternative screen.*

This portion of the user flow aims to allow a space to input all the necessary information to make the reservation request. Besides inputting the basic information about the user and their event, they need to select the room then confirm the selected date and time.

In the alternative screen, the first change we made was the format of the basic information. By changing the placement of where users need to fill their information, it naturally created a separation in the screen. The information hierarchy was prioritized in the alternative screen to help facilitate a logical flow of information for the user. Additionally, another change implemented was the display of rooms for users to have a preview of how their event could look in the space. We believed that being able to quickly toggle between the different room options could be a beneficial feature that addresses a pain point mentioned by one of our stakeholders. Then, another difference in the alternative screen is the confirmation box that requires the user to acknowledge that the time slot they selected will result in a double booking. For context, the user can put in this reservation request since the event that overlaps is only currently pending and not completely approved yet. Therefore, the new confirmation box we implemented allows the user to understand that their request is not guaranteed to be approved because there could be a double booking issue. Compared to the original screen, the double booking warning is just a statement, so the alternative screen takes an extra step to ensure the user has not skipped over the crucial note.

We made these changes in hopes that next week's feedback from users could clarify which format is easier to navigate, whether the grouping of content improves usability, and if the room preview or confirmation box enhances the reservation request process. Also, it'd be interesting to learn which informational hierarchy the users prefer and for us to gain more insight on the strong points of each screen to possibly combine for the final prototype.
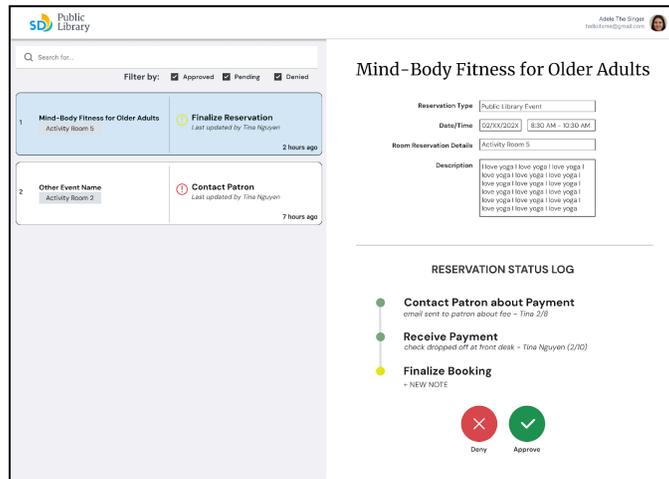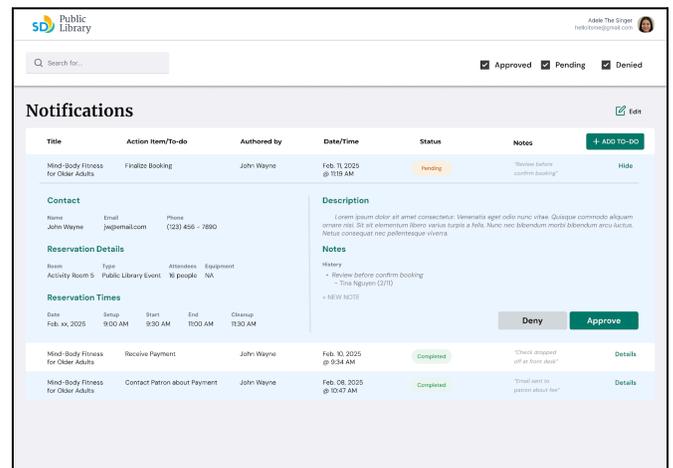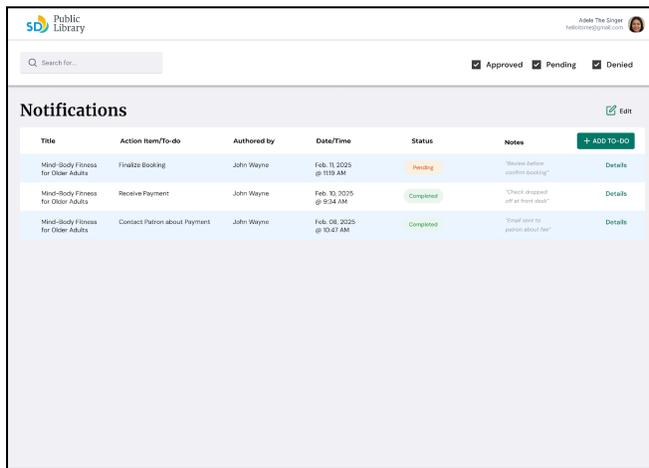
<u>'Notification of pending events' Alternative</u>

Figure 10: *Original Notification of Pending Events Screen*

Figures 11 (left) and 12 (right): *Alternative Notification of Pending Events Screen*

The 'notification of pending events' aimed to address issues with low visibility when managing and viewing the status of events. During our deliberation of possible solutions based on usability testing results, we determined that each variation must contain reservation details, the status of an event, and call-to-action buttons. While the original version's core functionality is to view reservation update history, the alternative variation is task-oriented and prioritizes action items, structuring them like a to-do list.

Our team explored various layouts to accommodate all necessary information while maintaining clarity. We leveraged a list view with the most recent action item at the top to highlight updates on completed actions. We incorporated an accordion-style interaction, allowing users to expand reservation details by clicking the "Details" button. It is important to note that there are key

trade-offs and affordances that justify our design decisions. The alternative version reduces the immediate visibility of reservation details in favor of a task-focused, traditional-list layout. However, this implementation minimizes clutter and shifts the user's focus toward task management. Additionally, the inclusion of an "Add To Do" button enhances usability by enabling staff to add action items to the list.

Our goal when implementing a task-oriented approach to view pending events is to assess the usability of the two variations. More specifically, assessing whether a hands-on system that emphasizes task management is a better solution to our stakeholder's pain point. Additionally, we hope to understand whether decreasing the visibility of reservation details in favor of highlighting action items will result in an improved workflow for our stakeholders.