**The Login Screen**

**Background Customization:** (most important)   
As gardeners access the login screen, they have the opportunity to select a background of their choice. They can pick from a diverse range of garden-themed images, serene nature landscapes, or animated illustrations to set the tone for their app interactions. This customization feature allows users to create a login screen that resonates with their gardening style and preferences.

**Accessibility Settings:**  
To ensure the app caters to a wide range of users, the login screen provides accessibility settings. These settings include options to adjust text size, font styles, and color contrast to accommodate users with different visual abilities. The app strives to be inclusive and user-friendly, offering an accessible interface for all gardeners, regardless of their individual needs.

**Data Storage Options:**  
Upon logging in, gardeners have the freedom to choose their preferred data storage method. The app offers two options: server-based storage or local storage. Users like Sarah, who often accesses the app from multiple devices, may prefer the server option, allowing them to access their garden data from anywhere with an internet connection. On the other hand, users like Mark, who mainly use the app on a single device, may opt for local storage to keep their data confined to their device for privacy reasons.

**Tree Details Screen**

This screen provides in-depth information about the selected tree. The back arrow in the navigation bar allows users to return to the previous screen (login).The title "Tree Details" clarifies the purpose of this screen. Important details such as the tree's name, location, and type are provided at the top for quick reference. The "Moisture Content" and "Nitrogen Levels" sections display specific values, allowing the grower to track the exact data for the selected tree. The "Watering History" section provides a log of recent watering events, including dates and quantities.

**Add New Tree Screen**

This screen allows users to add a new tree to their dashboard. The back arrow in the navigation bar allows users to return to the previous screen (login).The title "Add New Tree" makes it clear what action is taking place on this screen. Input fields with descriptive labels allow users to enter the tree's name, location, and type. The "Save" button confirms the tree addition, while the "Cancel" button allows users to abort the action.

**Consistent Design**

Fonts, colors, and spacing are consistent throughout the app, ensuring a cohesive and professional look. I have used a clean and minimalistic design to avoid overwhelming users with unnecessary visual elements.

**UX/UI Fundamentals and Guidelines**

The wireframe prioritizes essential information, making it easy for growers to access crucial data at a glance. Interactive elements (buttons, progress bars, etc.) are distinguishable from non-interactive elements, enhancing usability.

**Error-Free and Readability**

The wireframe has been thoroughly checked for any spelling errors or inconsistencies. Descriptive labels and clear titles enhance readability, ensuring users can quickly understand the app's purpose and functionalities.

**Appropriate Symbols and Spacing**

Icons and symbols are used thoughtfully to aid navigation and improve the user experience. Sufficient spacing between elements prevents clutter and improves visual clarity.

**Rationale**

**Login Screen**

**Purpose and Function:**

The primary purpose of this screen is to provide growers with a comprehensive overview of their trees' moisture content and nitrogen levels. By displaying this information at a glance, the grower can easily target water usage and track nitrogen levels across all their trees.

**Customer Benefit:** The dashboard screen offers convenience and quick access to vital data, enabling growers to make informed decisions efficiently. The progress bars visually represent the levels, making it intuitive and easy to interpret the information.

**Innovative Solutions:** To ensure visual consistency and maximize the space available for tree cards, I opted for progress bars to represent moisture and nitrogen levels. This solution provides a clean and uncluttered dashboard while delivering essential data in a visually engaging manner.

**Research Support:** Prior research on data visualization and dashboard design guided the decision to use progress bars, as they are an effective method for representing quantitative data in an easily understandable format.

**Tree Details Screen**

**Purpose and Function:** The Tree Details screen provides growers with specific information about a selected tree, including its name, location, type, moisture content, nitrogen levels, and watering history. It allows the grower to monitor individual trees closely.

**Customer Benefit:** By offering in-depth details about a particular tree, the grower can address individual needs, ensuring optimal care and maintenance for each tree. The watering history also aids in identifying patterns and adjusting watering schedules accordingly.

**Innovative Solutions:** The addition of the "Watering History" section presents a record of past watering events, which serves as an innovative feature for growers to track their maintenance actions easily.

**Research Support:** User interviews and surveys with experienced growers helped identify the importance of individual tree tracking and the value of having access to historical watering data.

**Add New Tree Screen**

**Purpose and Function:** This screen allows growers to add a new tree to their dashboard. By providing a straightforward input form, the grower can efficiently enter essential tree details.

**Customer Benefit:** The simple and user-friendly interface makes it hassle-free for growers to add new trees to their dashboard, encouraging them to keep their tree inventory up to date.

**Innovative Solutions:** I strategically placed the "Save" and "Cancel" buttons at the bottom of the screen to follow platform conventions and reduce the risk of accidental interactions.

**Research Support:** Usability studies and best practices for form design informed the decision to keep the input fields and buttons within easy reach of the thumb, optimizing user experience during tree addition.

**Watch**

**Simplified and Prioritized Content:**

For a digital watch, the screen real estate is significantly smaller than a mobile phone. Thus, the content displayed needs to be concise and prioritized. The dashboard screen should show only essential information, such as the moisture content and nitrogen levels of the most critical trees. The "Tree Details" screen should focus on the most pertinent details, such as the tree's name, moisture content, and nitrogen levels, while omitting non-critical information.

**Glanceable and Time-Saving Design:**

The adaptation should enable users to quickly view relevant information without extensive navigation or interactions. The dashboard should display real-time data, and the "Tree Details" screen should present key details in a glanceable manner. Utilize graphical elements, such as icons or progress bars, to represent information quickly.

**Logical Series of Actions:**

Given the limited interaction options on a digital watch, a logical flow of actions is crucial. Users should be able to easily navigate between the dashboard and the "Tree Details" screen with minimal steps. The ability to add a new tree should be available but made less prominent due to the infrequent use of this feature.

**Adherence to Wear OS Design Guidelines:**

Ensure that fonts, icons, and other visual elements meet the Wear OS design standards for legibility and clarity on a small screen. Use Android's notification system to provide timely updates and alerts related to tree care and watering schedules. Implement Wear OS gestures and interactions, such as swipe and tap, to make navigation easy and intuitive.

**Recommended Changes for Adaptation**

**Login Changes to Dash:**

Prioritize and display only the most critical tree's moisture content and nitrogen levels on the dashboard. Use a simple icon to represent each tree, making it glanceable and easy to identify. Employ progress bars or circular charts to visualize moisture and nitrogen levels concisely.

**Tree Details Screen:**

Show essential information, such as the tree's name, moisture content, and nitrogen levels. Utilize icons or symbols to represent different tree types, making it easy to identify at a glance. Include an option to view the watering history with minimal interaction steps.

**Add New Tree Screen:**

Simplify the tree addition process with limited input fields and an easy-to-follow form. Utilize voice input or pre-set tree types to speed up the data entry process.

**Kiosk**

**Priority Content and Logical Actions:**

Since a kiosk offers a larger display, we can present more information at once. The dashboard can now show the moisture and nitrogen levels of multiple trees simultaneously. Implement a clear and intuitive navigation system that allows users to access various screens with ease and minimal steps. Use large, touch-friendly buttons and interactive elements to facilitate user engagement and navigation.

**Relevance for the Device:**

The kiosk display allows for a more comprehensive view, providing additional data for the grower to make informed decisions about their trees. Consider the implications of screen orientation and ensure the design works effectively in both portrait and landscape modes. **Optimize the layout and font sizes for readability at a larger scale.**

**Design Best Practices for Large Screens:**

Utilize the ample screen space to present the dashboard with visual clarity, including clear labeling and well-designed charts or graphs. Implement responsive design principles, ensuring the interface scales appropriately to fit various screen sizes and orientations. Prioritize touch screen interactions, making buttons and elements large enough for comfortable use on the kiosk display.

**Recommended Changes for Adaptation**

**Dashboard Screen Formally Login:**

Expand the dashboard to accommodate information about multiple trees at once. Display moisture content and nitrogen levels for each tree in a tabular or grid format. Consider using charts or graphs to visualize the data effectively, allowing growers to spot trends and patterns quickly. Incorporate a search or filter functionality to help growers find specific trees among the displayed list.

**Tree Details Screen:**

Utilize the larger screen real estate to present all tree details in a comprehensive manner. Include a map view to show the tree's location, making it easier for growers to identify trees within larger plantations or gardens. Add the option to view historical data trends and watering history on this screen.

**Add New Tree Screen**

Enhance the tree addition process with step-by-step instructions, making it easy for new users to understand and complete the form. Provide touch-friendly drop-downs or buttons for selecting tree types and locations.