CS5010 Spring 2025
Tiantian Ma
Project 2 - Functional Programming

Community Event Finder

Business Requirement

Note: nouns verbs

As a student and a student ambassador on the Oakland campus, keeping up with events and activities on campus and in the community is not as easy as it may seem. Event information is often scattered across multiple platforms, such as emails, posters, social media, making it difficult for students to stay informed and find relevant activities efficiently. Moreover, identifying whether an event is relevant can take time. While having many activities is beneficial, it also increases the time required to filter through them. Although the Khoury community uses Viva Engage as a platform to curate events, where academic advisors and student ambassadors share timely and relevant events they know about, the curation process for ambassadors is still inefficient.

This project aims to develop a community event finder that allows users to filter events based on event type (e.g. lectures, social events), virtual or in-person mode, duration, and related topics, given an event database. The application will display all the filtered events for the next week in chronological order, helping users easily find relevant activities that will occur soon.

Fundamental features:

1. Filtering: users can filter based on specific fields: event type, mode, duration, and related topics.
2. Event listings: all filtered events for the upcoming week will be displayed in chronological order.

Advanced and optional features:

3. Event registration tracking: users can mark events they have registered for and filter events based on their registration status.
4. Timeline visualization: the filtered events will be displayed on a timeline, providing a more intuitive way to view these events.

The application should have a web user interface.

Target Audience

- Current target audience:
    - College students
    - Student ambassadors and whoever needs to curate campus events
- Potential future target audience:
    - Anyone who is interested in searching events in their community

Rules[1]

Event Data Rules:

- Events must have the following required fields: title, start time, end time, mode (in-person or virtual), location (if in-person), duration, event type, and related topics.
- Events must have start time and end time.
- Events must be categorized under at least one event type (e.g., lecture, social event)
- Each event must have at least one related topic.

Filtering Rules:

- Users must be able to filter events based on event type, mode, duration, and related topics.
- If no events match the selected filters, the system should display a “No events found” message.

Event Listing Rules:

- Events must be displayed in chronological order, from the earliest to the latest.
- Events that have already ended must not be displayed.
- The event list should be refreshed whenever the user changes the filter criteria.

Other Rules (Optional Features):

- Events must be positioned proportionally on the timeline based on their start time.
- Users can mark/unmark events they have registered for.
- Registration status should be persistent (stored and retrievable).
- If a user filters by “Registered Events”, only marked events should be displayed.

Challenges

- Where does the data come from?
    - Currently, since there is no available API for bay area or campus events, data is stimulated at this stage.

[1] See “Index: Use of AI” #1

    - In the future, data can be collected, or if there is any API available, the application can be refined to use the available APIs.
- Does the application analyze an event to get its type, mode, duration, and topics?
    - The information of event type, mode and topics should come from the database. The application will calculate the duration based on the start time and end time information from the database.
- Does the application display only the events for the upcoming week? Can I see more events?
    - The application only shows events for the upcoming week at this stage. If there is a need, it can be adjusted to have an option to show different time views in the future development iterations.
- Does the application require a log-in?
    - Currently no.

Nouns and Verbs

Nouns	**Verbs**
~~event finder~~ ~~type~~ (lectures, social events) ~~mode~~ ~~duration~~ ~~topics~~ ~~database~~ next week chronological order ~~activities~~ tracking ~~users~~ ~~registration status~~ ~~timeline~~ visualization web, ~~user interface~~	~~filter,~~ ~~display,~~ find, occur ~~mark~~, ~~registered~~ displayed

Classes, Attributes, and Associations

Modules	**Attributes**	**Methods**	**Associations**

eventFinder	• type • mode • duration • topics	• filter • display • register (optional)	evetFinder get data from database, and provide results to userInterface
database	• activities • users • registration status (optional)	• mark (optional)	
userInterface	• timeline (optional)	• display	

Use Cases

Dimensions

1. **User intent for event search**
2. **Preference of events**
3. Tendency of time management

User Personas & User Stories

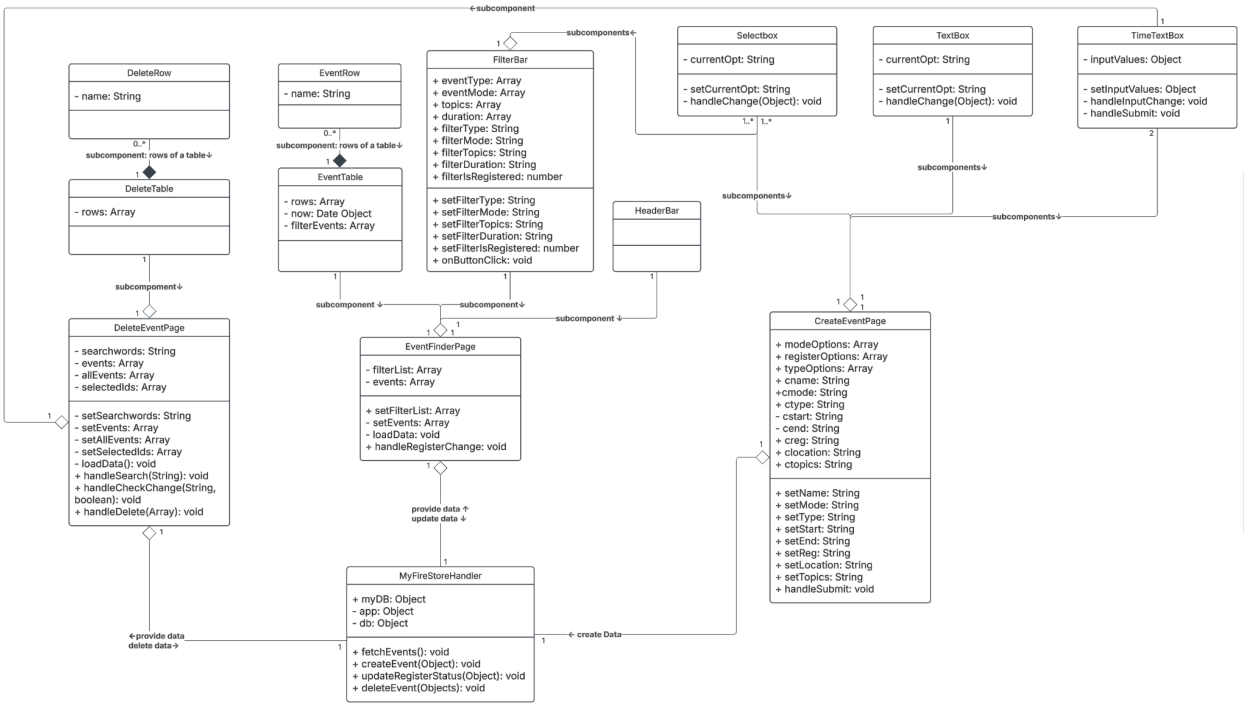
- Katy - Academic Explorer
    - Age: 26
    - Background: Katy is a graduate student studying Computer Science with a busy academic schedule. She participates in several campus events related to her field of study but also likes to explore social gatherings when she has time.
    - Dimensions:
        - User intent for event search: participate in events that helps her studies and have opportunities to connect to professionals in the industry
        - Preference of event type: lectures and workshops related to Computer Science, networking and social events
    - User stories:
        - (1) As a graduate student, I want to discover events that are only relevant to my field of study, so that I can quickly find and attend events that help with my professional development.

        - (2) As a busy student, I want to know events that are less than 30 minutes so that I can attend short events that fit into my tight schedule.
        - (3) As a student, I want to see the filtered events in chronological order, so that I can easily plan and attend them based on their timing.
- Elizabeth - Newbie Discoverer
    - Age: 22
    - Background: Elizabeth is a new undergraduate student. She's eager to explore campus life but isn't sure where to start. She enjoys both social and club activities but finds it difficult to discover what's happening around campus.
    - Dimensions:
        - User intent for event search: explore and discover events
        - Preference of event type: clubs activities, social events
    - User stories:
        - (4) As a student, I want to easily look up campus events and event information, such as event type, relevant topics, date and time, and whether it is virtual or in-person on a platform, so that I do not need to gather information from multiple sources.
        - (5) As a new student, I want to focus on discovering social events on campus, so that I can meet new people and make friends.
        - (6) As a student, I want to mark my registration status for events so that I can keep a record.
- Jack - Busy Professional
    - Age: 30
    - Background: Jack is a working professional who is also pursuing a part-time degree. He has limited time and prefers to attend events that are relevant to his career or professional development online.
    - Dimensions:
        - User intent for event search: participate professional events
        - Preference of event type: events related to his career, virtual
    - User stories:
        - (7) As a part-time student with work, I want to discover virtual campus events so that I can participate and stay connected with the campus community.
        - (8) As a part-time student with work, I want to discover only in-person conferences and lectures so that I can focus on attending the most important events.

        - (9) As a student, I want to filter events that I have registered for so that I can see which events I have decided to attend.
- Brian - Community Contributor
    - Age: 25
    - Background: Brian is a graduate student and a student ambassador. His role involves curating events that are likely to interest most students in his college and spreading the word to his classmates and friends.
    - Dimensions:
        - User intent for event search: discover and curate events for other students
        - Preference of event type: related to his college or studies, social events, fun events
    - User stories:
        - (10) As a student ambassador, I want to search for events related to my college that could be useful or interesting to students, so I can curate relevant events easily.
        - (11) As a student ambassador, I want to see events within the upcoming week, so I can focus on short-term tasks.
        - (12) As a student ambassador, I want to view events on a timeline, so I can share event details and remind students in a timely manner.

Diagram

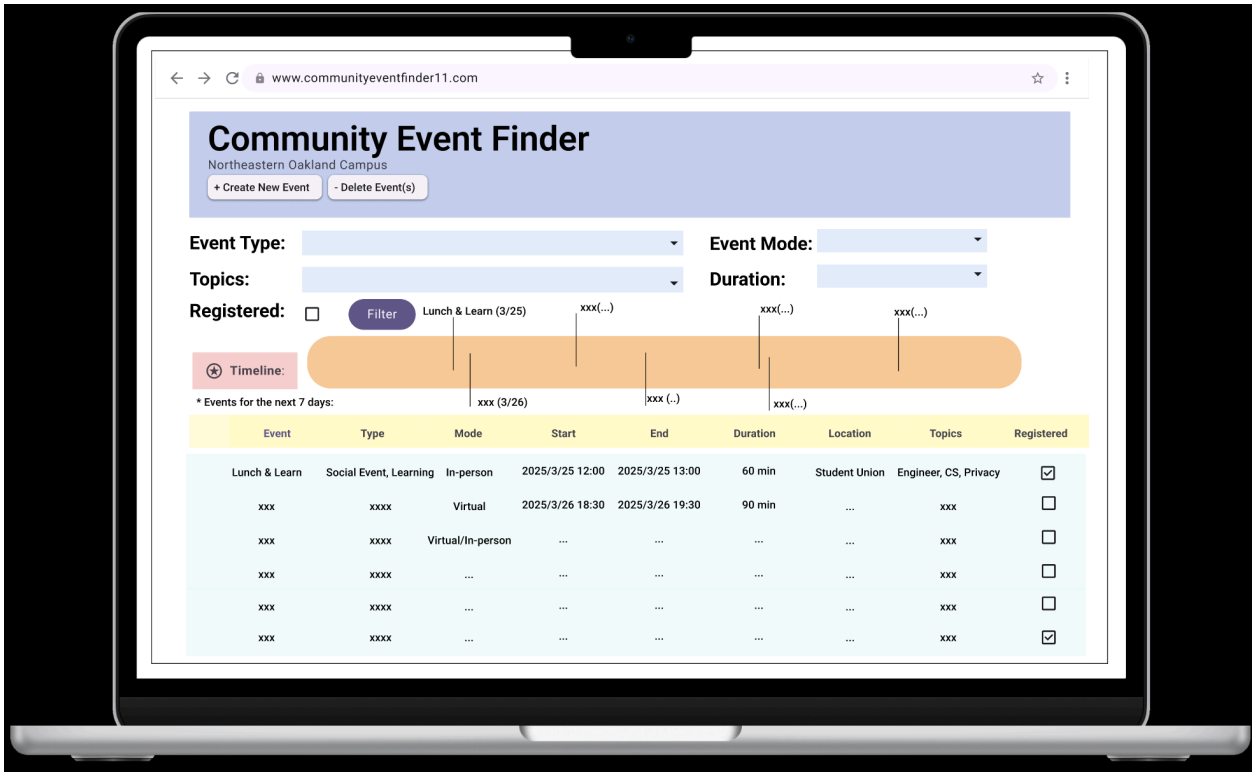
URL:
https://lucid.app/lucidchart/fee285ff-907f-4b1a-bc3a-cbdeb1ef7adb/edit?viewport_loc=-140%2C-583%2C2319%2C1119%2C0_0&invitationId=inv_0e014ad7-cf66-48f7-bc70-d5075f094c5b



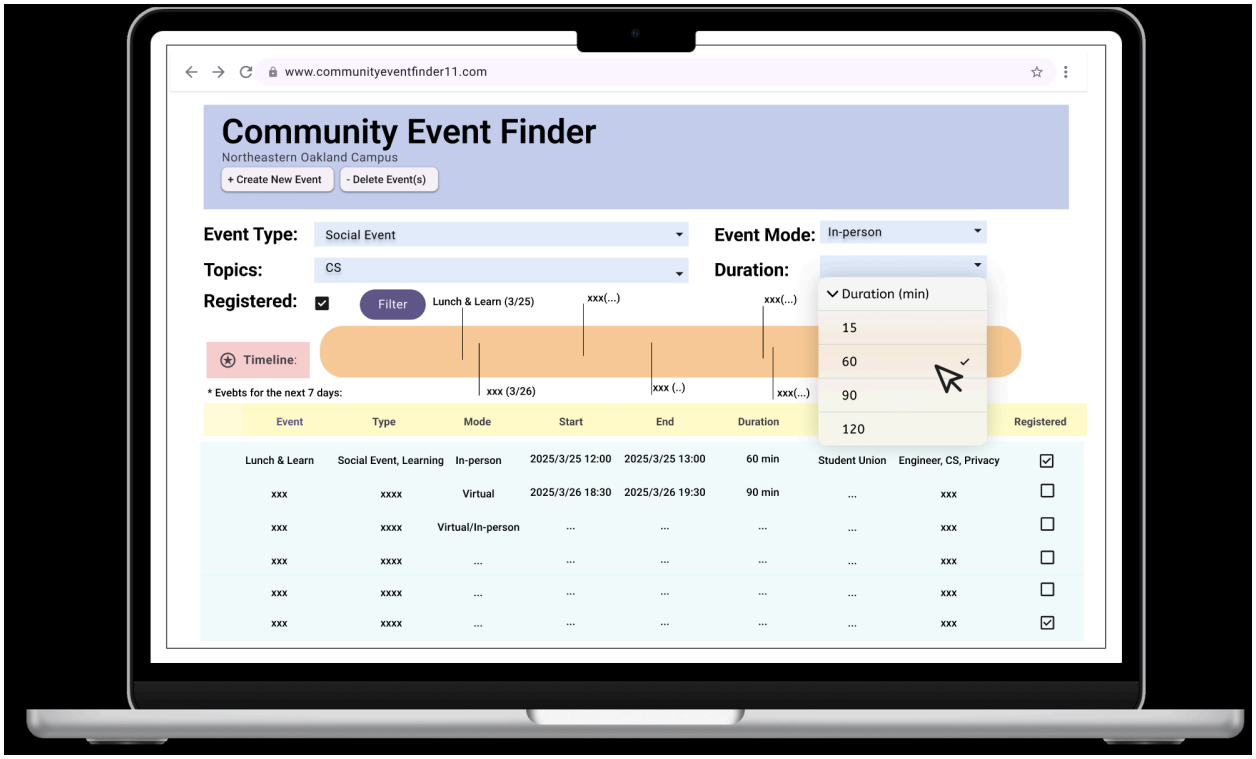
Mockups

URL: https://www.figma.com/design/L13WAOoRMawlsu2mxm0Vnz/Project2-Community-Event-Finder?node-id=0-1&t=i65rLGUAfrD2dtqb-1

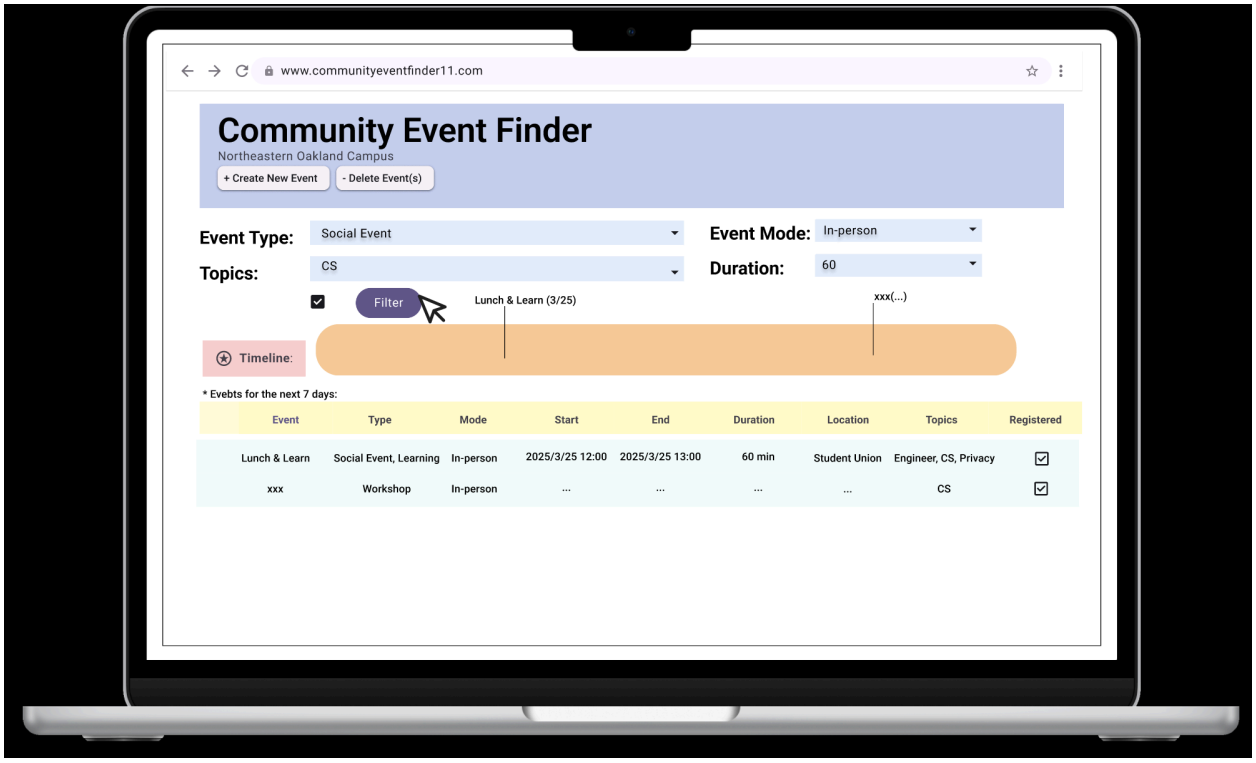
Home Page - Interface 1:



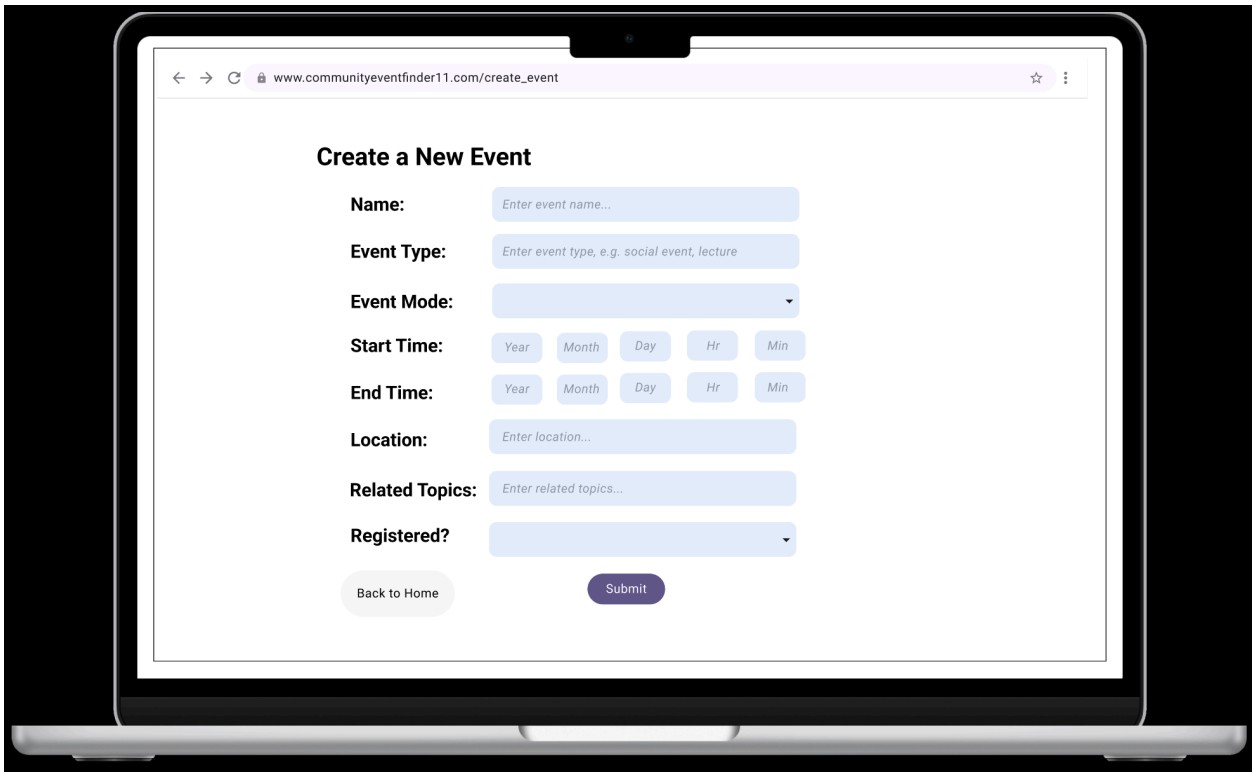
Home Page - Interface 2 - Input filter criteria:



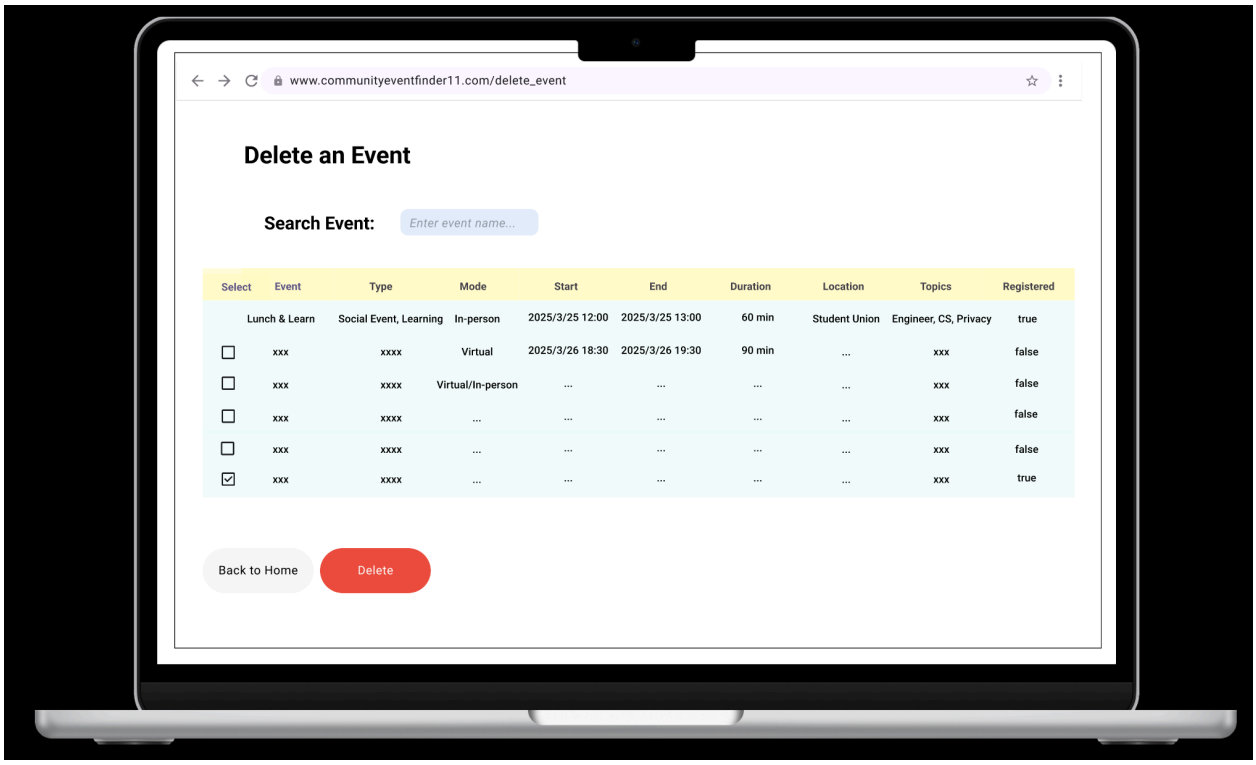
Home Page - Interface 3 - Show filtered results:



CreateEventPage:



DeleteEventPage:

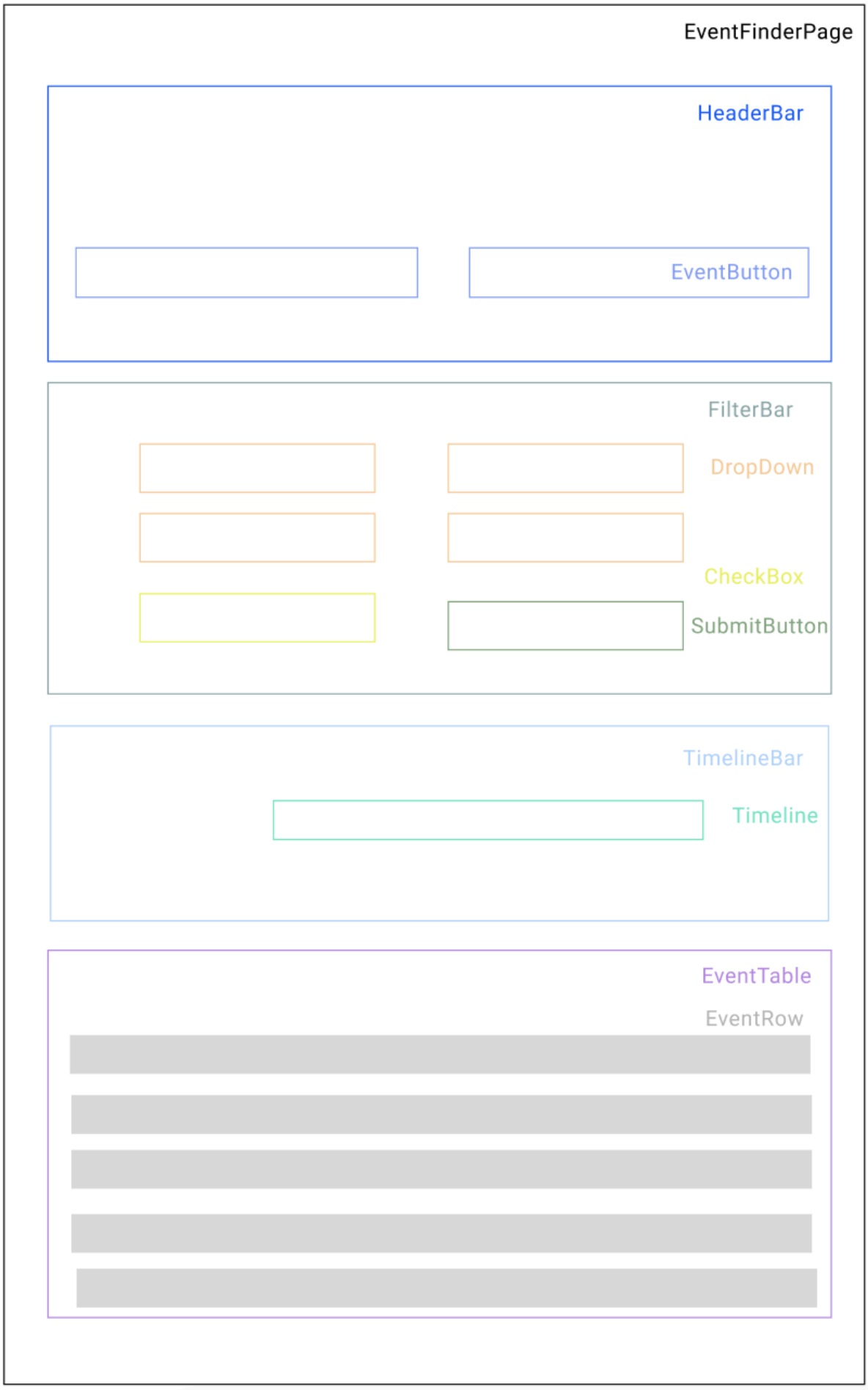


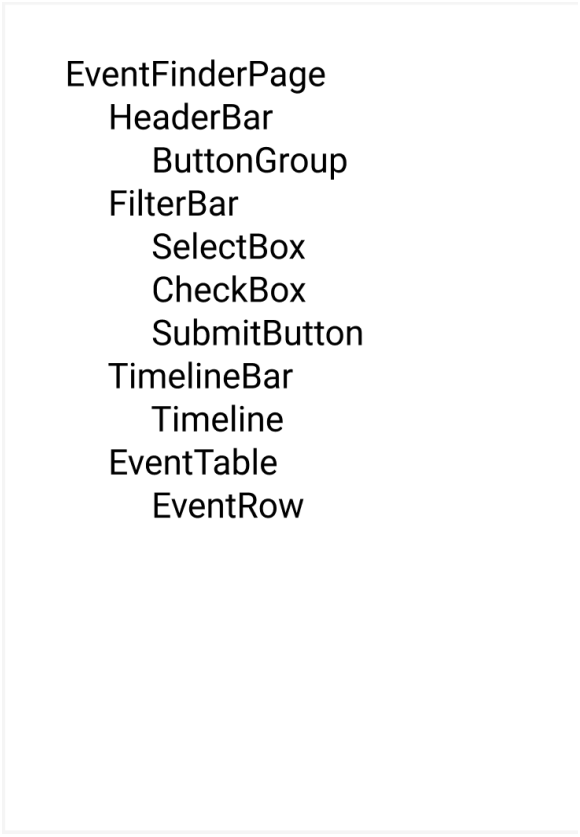
Notes:

Mockup Interface #	**Corresponding User Stories**
Home Page - Interface 1	(4)
Home Page - Interface 2 & 3	(1) - (12) except (4)

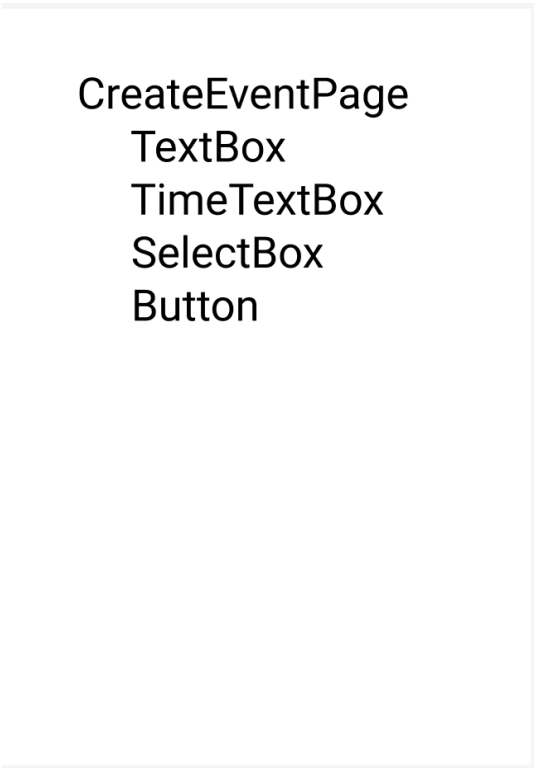
React Hierarchy:

- Home page

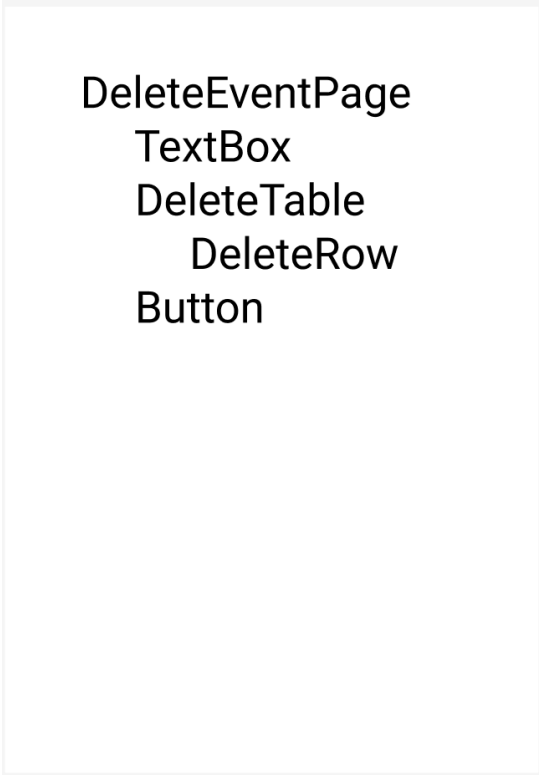

EventFinderPage
HeaderBar
EventButton
FilterBar
DropDown
CheckBox
SubmitButton
TimelineBar
Timeline
EventTable
EventRow



- CreateEventPage



- DeleteEventPage



GitHub Repository

URL: https://github.com/tt5321/Community-Event-Finder

Index: Use of AI

#1 Use ChatGPT to generate rules

- **Prompt**
  "Business Requirement
  Note: nouns verbs
  As a student and a student ambassador on the Oakland campus, keeping up with events and activities on campus and in the community is not as easy as it may seem. Event information is often scattered across multiple platforms, such as emails, posters, social media, making it difficult for students to stay informed and find relevant activities efficiently. Moreover, identifying whether an event is relevant can take time. While having many activities is beneficial, it also increases the time required to filter through them. Although the Khoury community uses Viva Engage as a platform to curate events, where academic advisors and student ambassadors share timely and relevant events they know about, the curation process for ambassadors is still inefficient.
  This project aims to develop a community event finder that allows users to filter events based on event type (e.g. lectures, social events), virtual or in-person mode, duration, and related topics, given an event database. The application will display all the filtered events for the next week in chronological order, helping users easily find relevant activities that will occur soon. Fundamental features: Filtering: users can filter based on specific fields: event type, mode, duration, and related topics. Event listings: all filtered events for the upcoming week will be displayed in chronological order. Advanced and optional features: Event registration tracking: users can mark events they have registered for and filter events based on their registration status. Timeline visualization: the filtered events will be displayed on a timeline, providing a more intuitive way to view these events.
  The application should have a web user interface.
  How to write rules for this business requirements?"

- **Model:** GPT-4o
- **Response**
  "In a Business Requirement Document (BRD), the Rules define constraints, conditions, and operational guidelines that the system must follow. These rules help ensure that the application behaves as expected.
  Steps to Write Rules for This Business Requirement

Since your requirement revolves around event filtering, listing, and visualization, the rules should focus on:

Event Data Management (e.g., how events are stored and categorized)

Filtering Logic (e.g., how filtering should work)

User Interaction (e.g., what users can do with events)

Visualization & Display (e.g., how events should be presented)

Example Business Rules for Your Community Event Finder

1. Event Data Rules

Events must have the following required fields: title, date & time, location (if in-person), mode (in-person or virtual), duration, event type, and related topics.

Events without a date and time cannot be listed.

Events must be categorized under at least one event type (e.g., lecture, social event).

Each event can have multiple related topics (e.g., “technology,” “networking”).

2. Filtering Rules

Users must be able to filter events based on event type, mode, duration, and related topics.

Filtering must be applied before events are displayed in the list or timeline view.

If no events match the selected filters, the system should display a “No events found” message.

3. Event Listing Rules

Events must be displayed in chronological order, from the earliest to the latest within the upcoming week.

Events that have already ended must not be displayed.

The event list should be refreshed whenever the user changes the filter criteria.

4. Timeline Visualization Rules (Optional Feature)

Events must be positioned proportionally on the timeline based on their start time.

Events with overlapping times should be displayed in a way that distinguishes them (e.g., stacked, color-coded).

Users must be able to scroll or zoom in on the timeline to view more details.

5. Event Registration Tracking Rules (Optional Feature)

Users must be able to mark/unmark events they have registered for.

If a user filters by “Registered Events”, only marked events should be displayed.

Registration status should be persistent (stored and retrievable).

How to Format These Rules in Your BRD?

Use a numbered list or bulleted format for clarity.

Each rule should be specific, actionable, and testable (i.e., clear enough to verify if it's implemented correctly).

If applicable, include examples for edge cases (e.g., what happens if an event starts at 11:59 PM?).

Would you like to refine these rules further based on specific requirements or constraints you have in mind? 😊"

- **Use:** Based on the rules provided, I chose some rules and modified them.

#2 Use ChatGPT to generate personas background

- **Prompt:**
  "Katy - Age: 26 Background: Dimensions: Reasons to use the app: User stories:
  Elizabeth - Age: Background: Dimensions: Reasons to use the app: User stories:
  Jack - Age: Background: Dimensions: Reasons to use the app: User stories:
  Brian - Age: Background: Dimensions: Reasons to use the app: User stories:
  How to write these use cases?"

- **Model:** GPT 4o-mini
- **Response:**
  "Katy

  Age: 26

  Background: Katy is a graduate student with a busy academic schedule. She participates in several campus events related to her field of study but also likes to explore social gatherings when she has time.

  Dimensions:

  User Intent for Event Search: Curate events (she likes finding specific events that match her needs, not just browsing).

  Preference of Event Type: She prefers academic lectures, workshops, and professional networking events but is also interested in social events when her schedule allows.

  Preference of Event Mode: Prefers virtual events for flexibility but also attends in-person events when they align with her academic or social goals.

  Reasons to use the app: Katy wants a tool that helps her filter events based on specific types (academic or social), mode (virtual or in-person), and her limited time availability. She needs to stay on top of events that align with her academic interests but also likes to participate in social events when possible.

  User Stories:

As Katy, I want to filter events by type (academic vs. social) so I can focus on events that match my needs.

As Katy, I want to filter by event mode (virtual or in-person) to choose events that best fit my schedule.

As Katy, I want to quickly browse the list of filtered events and select those that are most relevant to me.

Elizabeth

Age: 22

Background: Elizabeth is a new undergraduate student. She's eager to explore campus life but isn't sure where to start. She enjoys both social activities and academic events but finds it difficult to discover what's happening around campus.

Dimensions:

User Intent for Event Search: Browse events (she's not sure what's available and prefers to see a broad list of events to explore).

Preference of Event Type: Interested in a mix of social events and introductory academic events that can help her get settled on campus.

Preference of Event Mode: Prefers in-person events to make connections and socialize but is open to virtual events for convenience.

Reasons to use the app: Elizabeth needs a tool that helps her explore events happening on campus, both academic and social, without spending too much time searching on multiple platforms.

User Stories:

As Elizabeth, I want to browse a variety of events, so I can discover new opportunities to join.

As Elizabeth, I want to filter events by mode (virtual or in-person) to find events that I can attend easily.

As Elizabeth, I want to easily explore social and academic events, so I can quickly find something that interests me.

Jack

Age: 30

Background: Jack is a working professional who is also pursuing a part-time degree. He has limited time and prefers to attend events that are relevant to his career or professional development.

Dimensions:

User Intent for Event Search: Curate events (he has specific goals for attending events, mainly professional networking and career development).

Preference of Event Type: Prefers career-focused events such as professional networking, industry talks, and workshops related to his field.

Preference of Event Mode: Strong preference for virtual events due to his work schedule, though he attends in-person events if they are highly relevant.

Reasons to use the app: Jack needs an efficient way to find career-related events that align with his professional goals and fit his limited time availability.

User Stories:

As Jack, I want to curate events based on professional development, so I can focus on career-building opportunities.

As Jack, I want to filter by virtual mode so I can attend events without disrupting my work schedule.

As Jack, I want to mark events I've registered for, so I can keep track of my professional development activities.

Brian

Age: 24

Background: Brian is a senior student heavily involved in extracurriculars. He organizes and attends various events across campus and is always looking for new activities related to his interests.

Dimensions:

User Intent for Event Search: Browse events (he enjoys seeing a wide range of events to decide which ones are worth attending based on his evolving interests).

Preference of Event Type: Prefers a wide variety of events, including academic lectures, social gatherings, and community engagement activities.

Preference of Event Mode: He enjoys both in-person and virtual events but tends to prioritize in-person events due to his leadership roles in organizing campus activities.

Reasons to use the app: Brian needs a tool that lets him discover events across various categories and track his involvement with ease.

User Stories:

As Brian, I want to browse all upcoming events, so I can discover new activities that might interest me.

As Brian, I want to filter by event type, so I can find academic, social, or community events that fit my schedule.

As Brian, I want to see the events on a timeline, so I can better plan and organize my week."

- **Use:** Kept most of the personas' ages and backgrounds with modifications. Removed 'Reasons to use the app' and rewrote the dimensions and user stories based on mine.