

September 28, 2020

## **FOMD Learning Sciences Interactive Scheduler**

### **Project Overview**

Currently, members of the Faculty of Medicine and Dentistry (FoMD) at the University of Alberta use a third-party calendar system that is limited to hosting curriculum content/schedules because it does not support the automation of adding events as they are created. With the system having roughly 1000 daily concurrent users from the FoMD, we have been tasked with building a new interactive scheduler that instructors and students can use as a master database for all their informational needs. The envisioned system's core functionalities still include hosting and linking curriculum content; however, it will also integrate assessment activities onto events through links to link to other systems. As well, it will have the ability to integrate this system's calendar into Google Calendar. Furthermore, the new system will enable creation and querying functionality of detailed curriculum events that hosts meta-information, participants and instructors.

## **Project Glossary**

**Admin** - individual(s) who create the calendars and assign the students / instructors to breakout groups. They can add, edit or delete events.

**Block** - a course that must be completed by students, each of which represents a body system. Used interchangeably with Course.

**Breakout Group** - a group of students and/or instructors, belonging to a single course.

**Calendar** - a chart that shows the days, weeks, months, and year along with any scheduled event.

**Course** - a group of events associated with a specific topic that has a definable start and end date which encompasses any length of time. A student is typically only completing events from one course (or block) at a time with the exception of a few courses (i.e. Physicianship, Career Planning, etc.) which are year-round.

**Event** - an organized time that hosts lectures, small group sessions, skills sessions, exams, and/or seminars, or an assessment that a student can complete on their own time with a specified due date.

**Filter** - a component that enables students or instructors to search events by date, meta-information, or curriculum content.

**Instructor** - professor and teaching assistants assigned to a particular event. The instructor view is identical to the student view.

**Event Attachment** - link or file attachment associated with an event in the calendar.

**Meta-information** - tags and properties that identify specific information about an event.

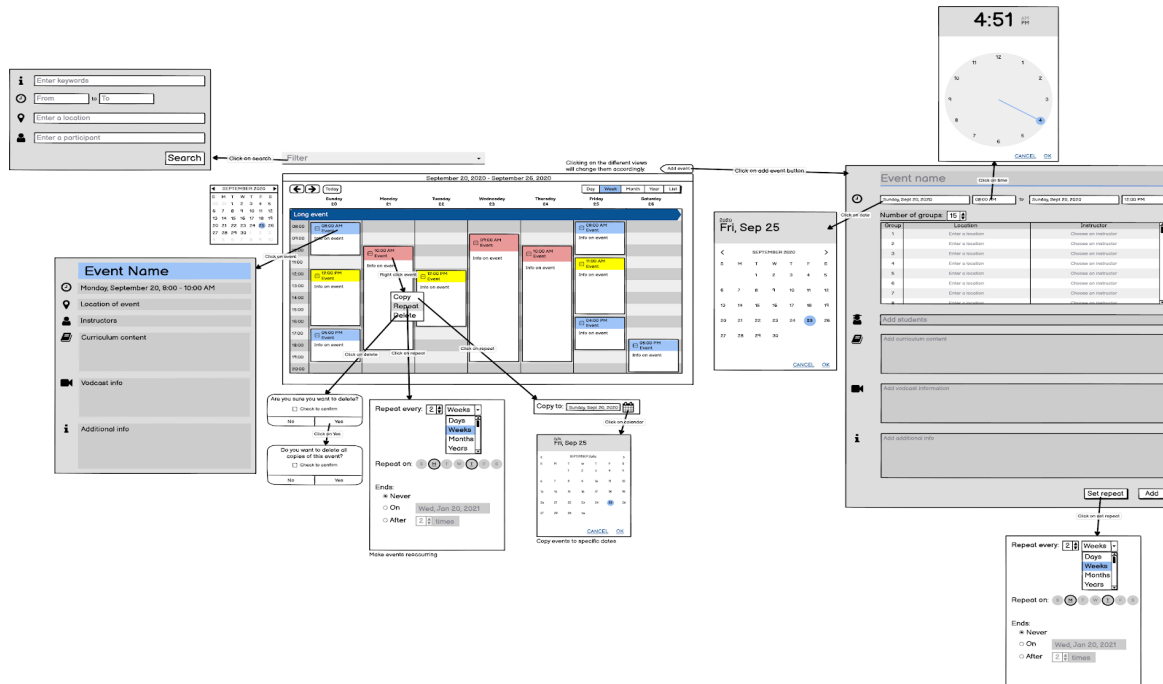
**Student** - an individual who is enrolled in a FoMD program and can view the events on the calendar that breakout groups they are a part of have been assigned to.

**User** - an individual who has logged in and is using the functionality of the application.

## Storyboarding

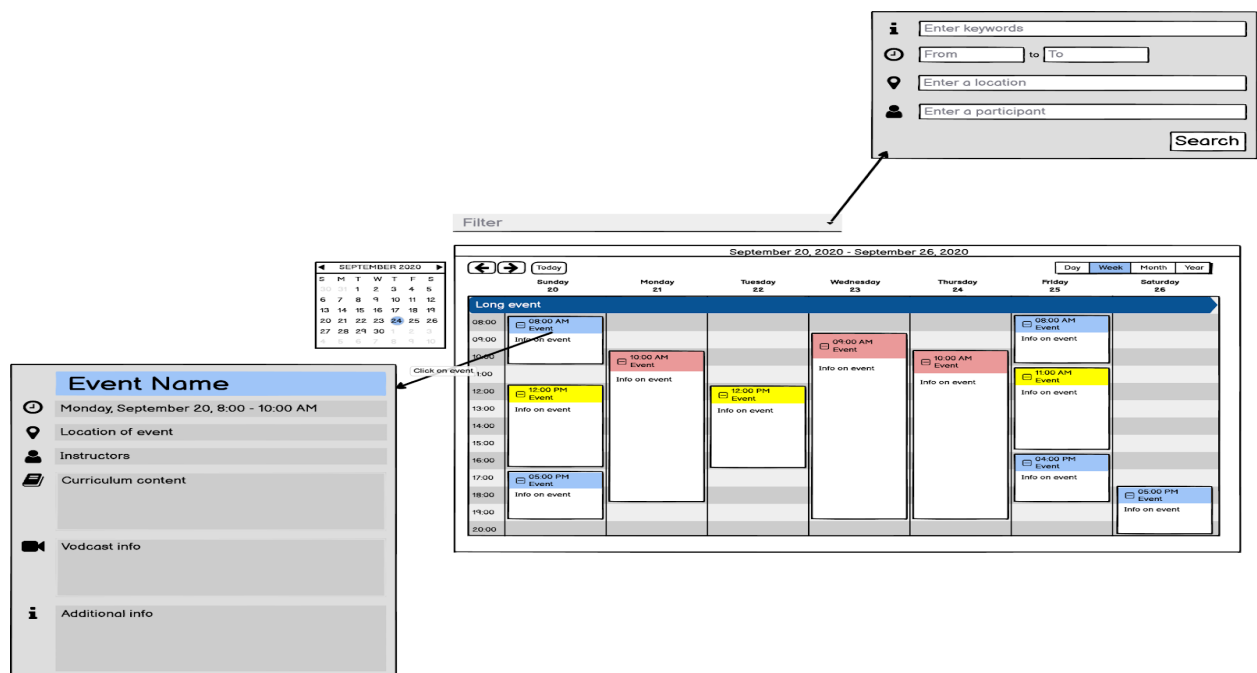
### Admin View

#### Higher resolution image



### Student/Instructor view

#### Higher resolution image



## Monthly view

[Higher resolution image](#)

SEPTEMBER 2020						
Day Week Month Year List						
S	M	T	W	T	F	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
08:00 AM Event	10:00 AM Event	12:00 PM Event	09:00 AM Event	10:00 AM Event	08:00 AM Event	05:00 PM Event
12:00 PM Event					12:00 PM Event	
05:00 PM Event					05:00 PM Event	
27	28	29	30	1	2	3
4	5	6	7	8	9	10

## Day/List view

[Higher resolution image](#)

September 21, 2020			
Day Week Month Year List			
Monday, Sept 21, 2020	08:00 - 10:00 AM	Blue event category	Location - Instructor
	12:00 - 02:00 PM	Yellow event category	Location - Instructor
	05:00 - 08:00 PM	Blue event category	Location - Instructor
Tuesday, Sept 22, 2020	10:00 - 05:00 PM	Red event category	Location - Instructor
Thursday, Sept 24, 2020	All day	Green event category	Location - Instructor
Tuesday, Sept 29, 2020	08:00 - 10:00 AM	Blue event category	Location - Instructor
	12:00 - 02:00 PM	Yellow event category	Location - Instructor
	05:00 - 08:00 PM	Blue event category	Location - Instructor
Friday, Oct 2, 2020	10:00 - 05:00 PM	Red event category	Location - Instructor
Saturday, Oct 3, 2020	All day	Green event category	Location - Instructor
Wednesday Oct 7, 2020	08:00 - 10:00 AM	Blue event category	Location - Instructor
	12:00 - 02:00 PM	Yellow event category	Location - Instructor
	05:00 - 08:00 PM	Blue event category	Location - Instructor

## Balsamiq File

## Use Case / User Stories

### **As an Admin ...**

- 0.1.\* **I want** to create and add an event to the calendar **so that** students and other instructors can view the events.
- 0.2.\* **I want** to add meta-information, students, instructor team and location **so that** people know who are involved and where the event is held.
- 0.3. **I want** to add curriculum content and podcast information to the event **so that** students can access the information directly from the calendar event.
- 0.4. **I want** to add and link assessment from other systems to events **so that** information will be synchronized in all systems.
- 0.5. **I want** to delete an event with confirmation **so that** I can ensure error prevention.
- 0.6. **I want** to copy an event and content from one time or location to different events **so that** I can efficiently reuse information.
- 0.7. **I want** to have the ability to clone an event to a set of child events **so that** I can reduce monotonous work.
- 0.8. **I want** to search events by date, meta information and curriculum content **so that** I am able to filter by desired category type.
- 0.9. **I want** to edit events and update meta information **so that** I can ensure event information is accurate and up to date.
- 0.10. **I want** to create, edit and delete breakout groups consisting of students and instructors **so that** I don't need to individually add each student and instructor to an event.

### **As a Student Or Instructor ...**

- 1.1. **I want** to view events individually **so that** I can see the fine details of an upcoming event.
- 1.2. **I want** to view events in calendar form **so that** I can see my schedule in a high overview of that specific month.
- 1.3. **I want** to view events in query form **so that** I filter events by desired meta-information.

## As a developer ...

- 2.1. **I want** to ensure that the back-end servers can handle 1000 concurrent users **so that** user experience stays high even at peak hours.
- 2.2. **I want** to add detailed documentation to relevant code **so that** future developers can adapt our system.
- 2.3. **I want** to have Intuitive User Interface **so that** the client doesn't have to train users on how to use the program.
- 2.4. **I want** to run the application on Windows Server 2016 **so that** the program conforms to the client's current tech stack.

## Nice to Have User Stories

- 1.4. As a student, **I want** to apply themes to change my calendar colours **so that** the calendar is accessible and customizable.
- 1.5. As an instructor, **I want** to send email notifications to all participants when an event is added, deleted, or modified.
- 1.6. As an instructor, **I want** to use google maps to select a location **so that** the location format is consistent and the location is easy for event participants to find.

## Notes

- " \* " Denotes: Required task requested by the client

## Technical Resources

### Technical Resources

- **Back-end:** Django, MySQL
- **Front-end:** React
- **Deployment:** Docker, Github Actions (for CI)
- **Project Management:** Github Projects, Github Issues
- **Third-Party Integrations:** TechSmith, Google Calendar

### Similar Projects

- **Google Calendar**
  - Client requires custom functionality related to events.
  - Client wants to integrate the calendar to their own system and have it be actively adapted overtime.
- **Bryntum**
  - Client prefers not to use any paid services

### Open-Source Projects

- [Nextcloud](#)
  - Visually appealing and functionally simple User interface.
- [Thunderbird](#)
  - Good built in functions in regards to Event Organization.

## Authors

- Justin Tan
- Oran Rohoman
- Ny Tran
- Nicole Hagerman
- Kevin Li
- Payas Singh