CMPE 275- Term Project Report
Cloud Event Center

Team

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Project Information

Link to website: http://54.147.1.156:3000/login
Github link: https://github.com/Adarsh3thy/CMPE275-CloudEventCenter

Introduction

Cloud Event Center (CEC) is an online service to organize online or in-person events. Any person or organization can post events in CEC, and those who are interested can sign up. We also provide capabilities for potential participants to ask questions prior to the events, and share moments with messages and pictures during and after the events. A reputation system will be implemented to rate participants and organizers based on the feedback for each other.

Technology Choices

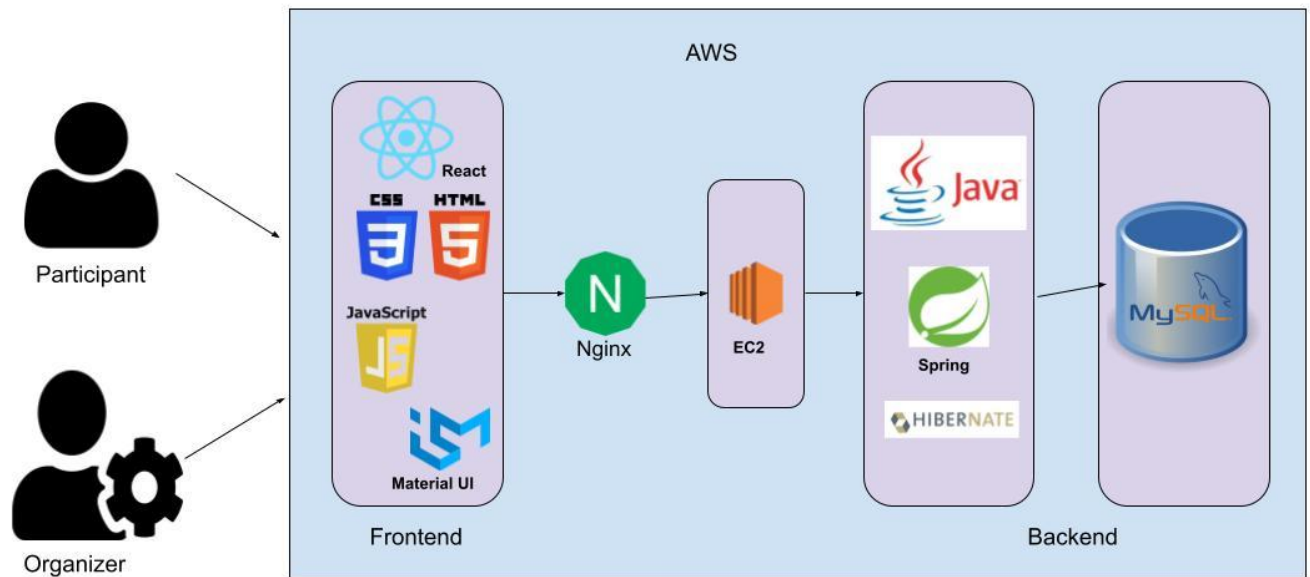1) Frontend
   - HTML
   - CSS
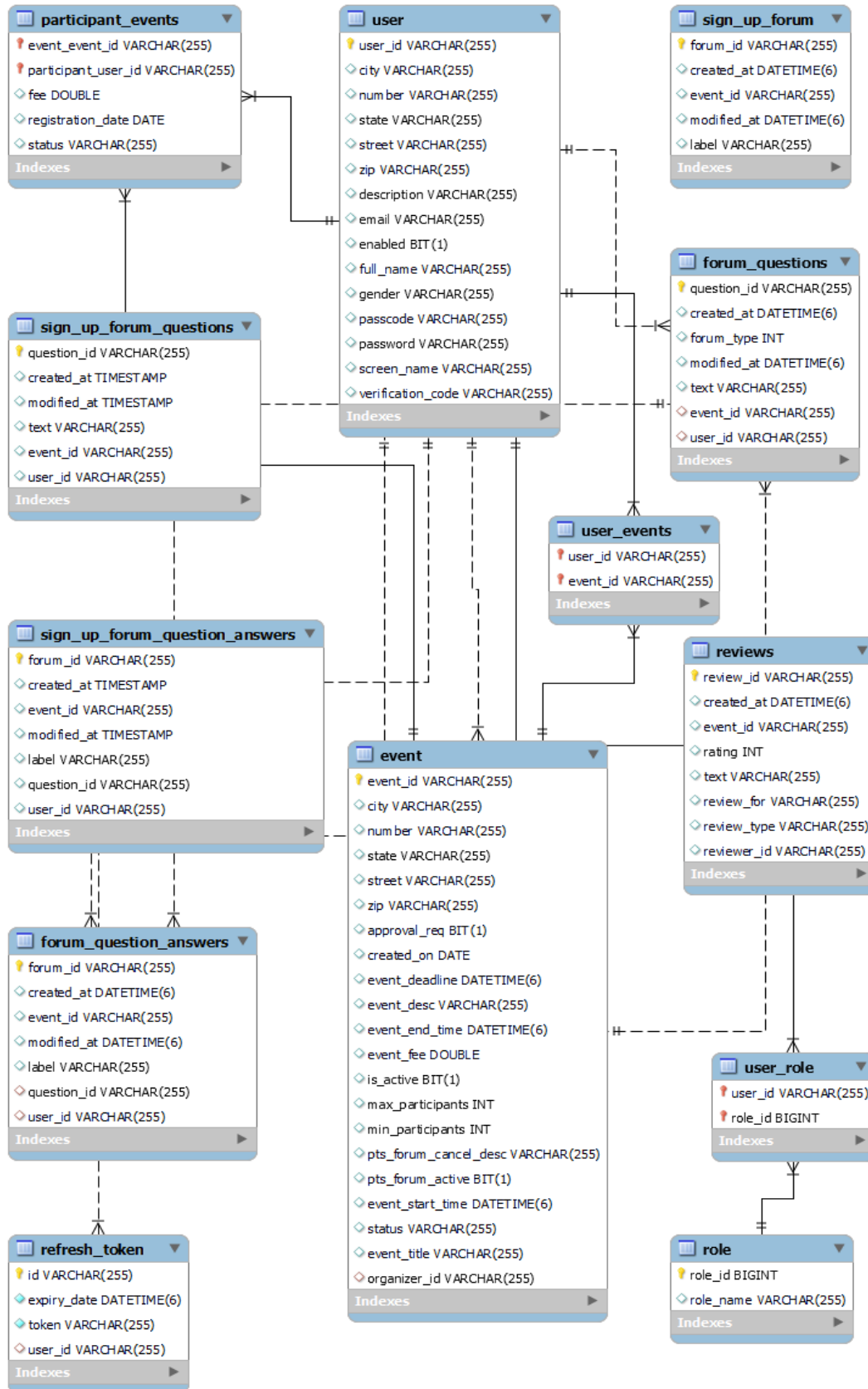   - Javascript
   - React
   - MaterialUI

2) Backend
   - Java - Spring
   - Google OAuth

- JPA
- Email- JMS
- Scheduling- @Scheduler
- Spring Security

3) Database
- MYSQL

4) Cloud Service
- Amazon Web Services (AWS)

Architecture Diagram

ER Diagram

participant_events
- 🔑 event_event_id VARCHAR(255)
- 🔑 participant_user_id VARCHAR(255)
- ◇ fee DOUBLE
- ◇ registration_date DATE
- ◇ status VARCHAR(255)
- Indexes ▶

user
- 🔑 user_id VARCHAR(255)
- ◇ city VARCHAR(255)
- ◇ number VARCHAR(255)
- ◇ state VARCHAR(255)
- ◇ street VARCHAR(255)
- ◇ zip VARCHAR(255)
- ◇ description VARCHAR(255)
- ◇ email VARCHAR(255)
- ◇ enabled BIT(1)
- ◇ full_name VARCHAR(255)
- ◇ gender VARCHAR(255)
- ◇ passcode VARCHAR(255)
- ◇ password VARCHAR(255)
- ◇ screen_name VARCHAR(255)
- ◇ verification_code VARCHAR(255)
- Indexes ▶

sign_up_forum
- 🔑 forum_id VARCHAR(255)
- ◇ created_at DATETIME(6)
- ◇ event_id VARCHAR(255)
- ◇ modified_at DATETIME(6)
- ◇ label VARCHAR(255)
- Indexes ▶

sign_up_forum_questions
- 🔑 question_id VARCHAR(255)
- ◇ created_at TIMESTAMP
- ◇ modified_at TIMESTAMP
- ◇ text VARCHAR(255)
- ◇ event_id VARCHAR(255)
- ◇ user_id VARCHAR(255)
- Indexes ▶

forum_questions
- 🔑 question_id VARCHAR(255)
- ◇ created_at DATETIME(6)
- ◇ forum_type INT
- ◇ modified_at DATETIME(6)
- ◇ text VARCHAR(255)
- ◇ event_id VARCHAR(255)
- ◇ user_id VARCHAR(255)
- Indexes ▶

sign_up_forum_question_answers
- 🔑 forum_id VARCHAR(255)
- ◇ created_at TIMESTAMP
- ◇ event_id VARCHAR(255)
- ◇ modified_at TIMESTAMP
- ◇ label VARCHAR(255)
- ◇ question_id VARCHAR(255)
- ◇ user_id VARCHAR(255)
- Indexes ▶

user_events
- 🔑 user_id VARCHAR(255)
- 🔑 event_id VARCHAR(255)
- Indexes ▶

reviews
- 🔑 review_id VARCHAR(255)
- ◇ created_at DATETIME(6)
- ◇ event_id VARCHAR(255)
- ◇ rating INT
- ◇ text VARCHAR(255)
- ◇ review_for VARCHAR(255)
- ◇ review_type VARCHAR(255)
- ◇ reviewer_id VARCHAR(255)
- Indexes ▶

forum_question_answers
- 🔑 forum_id VARCHAR(255)
- ◇ created_at DATETIME(6)
- ◇ event_id VARCHAR(255)
- ◇ modified_at DATETIME(6)
- ◇ label VARCHAR(255)
- ◇ question_id VARCHAR(255)
- ◇ user_id VARCHAR(255)
- Indexes ▶

event
- 🔑 event_id VARCHAR(255)
- ◇ city VARCHAR(255)
- ◇ number VARCHAR(255)
- ◇ state VARCHAR(255)
- ◇ street VARCHAR(255)
- ◇ zip VARCHAR(255)
- ◇ approval_req BIT(1)
- ◇ created_on DATE
- ◇ event_deadline DATETIME(6)
- ◇ event_desc VARCHAR(255)
- ◇ event_end_time DATETIME(6)
- ◇ event_fee DOUBLE
- ◇ is_active BIT(1)
- ◇ max_participants INT
- ◇ min_participants INT
- ◇ pts_forum_cancel_desc VARCHAR(255)
- ◇ pts_forum_active BIT(1)
- ◇ event_start_time DATETIME(6)
- ◇ status VARCHAR(255)
- ◇ event_title VARCHAR(255)
- ◇ organizer_id VARCHAR(255)
- Indexes ▶

user_role
- 🔑 user_id VARCHAR(255)
- 🔑 role_id BIGINT
- Indexes ▶

refresh_token
- 🔑 id VARCHAR(255)
- ◈ expiry_date DATETIME(6)
- ◈ token VARCHAR(255)
- ◇ user_id VARCHAR(255)
- Indexes ▶

role
- 🔑 role_id BIGINT
- ◇ role_name VARCHAR(255)
- Indexes ▶

Features and Screenshots

1) User Sign up

The user can sign up to the application in either of two ways
a) Email
b) Google account

In both cases, an email will be sent to the user's email address for verification. Only after the account is verified, the user will be able to sign in the application
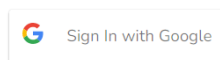
CEC

Organizing events has never been that easy.

Get started with CEC!

| Full Name |
| Email Address |
| Password |
| Account type * ▾ |

↑ Sign Up

Or

G Sign In with Google

Already have an account? **Sign in**

👤 **Cloud Event Center** <cmpe275zhangproject@gmail.com>   Sun, May 22, 4:56 PM (3 days ago)   ↩
to me ▾

Dear user,

Thank you for signing up to Cloud Event Center. Please verify your email by clicking the link on the verification email.

Best,
CEC

Cloud Event Center <cmpe275zhangproject@gmail.com>

to me ▾

•••

Dear Organizer ,
Please click the link below to verify your registration:

VERIFY

Thank you,
CEC

Cloud Event Center <cmpe275zhangproject@gmail.com>

to me ▾

Dear user,

Thank you for verifying your email address.
You will be able to sign-in to our website now.

Best,
CEC

2) **Login Screen**
The user can login to the application in two ways, depending on the option that he chose for registration. In case of standard email/password, the credentials will be compared against the values in the database. In case of incorrect credentials, error will be thrown.

If the user chooses to sign-in through google, his oAuth token will be sent to google for validation and on success he will gain access to the application.

3) **Update User Information**

When the user log's in for the first time, he must provide below information:

    a) Full Name(*): full name of the user

    b) Screen Name(*): screen name that will be displayed on the profile

    c) Gender: optional, and applies to persons only.

    d) Description: optional text to describe the user.

e) Address: Street and number (optional), City, State, Zip Code.

4) Create New Event

Any user can create an event, he must provide the below information:

i.   Title: brief text to name the event.

ii. Descrition: text to describe the event.

iii. StartTime: date and time for the event to start. Must be in the future.

iv. EndTime: Must be after the start time.

v.   Deadline: date and time that participants must sign up before. A deadline must be no later than the start time. This is also the time the sign-up forum closes for new postings and entering read-only mode.

vi. Address: Street and number (optional), City, State, Zip Code.

vii. MinParticipants: (inclusive) the minimum number of participants that must sign up before the deadline, or the event will be canceled.

viii. MaxParticipants: (inclusive) capacity of the event; if reached, no new sign-ups are accepted.

ix. Fee: amount in USD. An event can either be free or paid - only an event created by an organization can require a fee. If the fee is provided as 0, it is assumed to be free.

x.   Admission Policy: Either 'First come first server' in which case approval is not required by the user, or 'Approval required' when approval is required by the organizer.

The organizer will receive a notification on successful creation of the event.

Event Successfully created! ⟩ Trash ✕

Cloud Event Center <cmpe275zhangproject@gmail.com>   Sun, May 22, 11:30 PM (3 days ago)
to me ▾

Dear Organizer,

The event **kite flying event** has been successfully created.Users will be able to singup for the event now.
Best of luck with your event!

Best,
CEC

5) **Events Search**
The user can search for available events and sign-up for them. He has the below filters for searching:
   a) Location: It will be set to the user's city by default. He can provide a different value if required.
   b) Status: the following three statuses are allowed
      i) Active: An event that has not been canceled and has not finished is considered active.
      ii) OpenForRegistration : events that are open for registration
      iii) All : all events including past and canceled events.

c) StartTime & EndTime: (EndTime is optional, defaults to infinite future) Only events that occur within the given time window will be shown in the filtered results. The StartTime defaults to the current time, if not given.

d) Keyword: This search needs to partially match (be a substring of) against the title and description fields. Case is ignored for matching. When not given, it is ignored, hence matches everything.

e) Organizer: this is used to partially match against (be a substring of) the screen name of organizers, also in a case insensitive way. When not given, it matches every organizer.

Events

<div style="text-align:right">**+ NEW EVENT**</div>

City	Keyword	Status: All ▾

Start time 📅	End time 📅	Organizer

Title	Time	Location	Organizer	Current Status
287 Exam Event	2022-06-26 - 2022-06-26	899, , SJ, CA, 95126	Supreeth C	Reg open
test event	2022-05-28 - 2022-06-01	838 Cinnabar Street, , San Jose, CA, 95234	organizer 2	Reg closed
Kite Flying	2022-05-28 - 2022-05-28	Branham Lane, , Milpitas, CA, 56555	Vigova	Cancelled
SJSU Virtual Event	2022-05-30 - 2022-05-31	one washington square, sjsu campus, san jose, ca, 95126	Anay Naik	Reg open
Google Cloud Event	2022-05-28 - 2022-05-29	838 cinnabar, 301, san jose, ca, 95126	Anay Naik	Reg open

6) Event Details

The user can view the details of the event such as Description, Min/max participants, fee, current number of participants by clicking on the event in the event search results.

The user can even access the sign-up forum from here, where he can ask questions about the event.

He can also view the reviews of the organizer for the event.

The user can register for the event by clicking on 'Sign up for the event'.
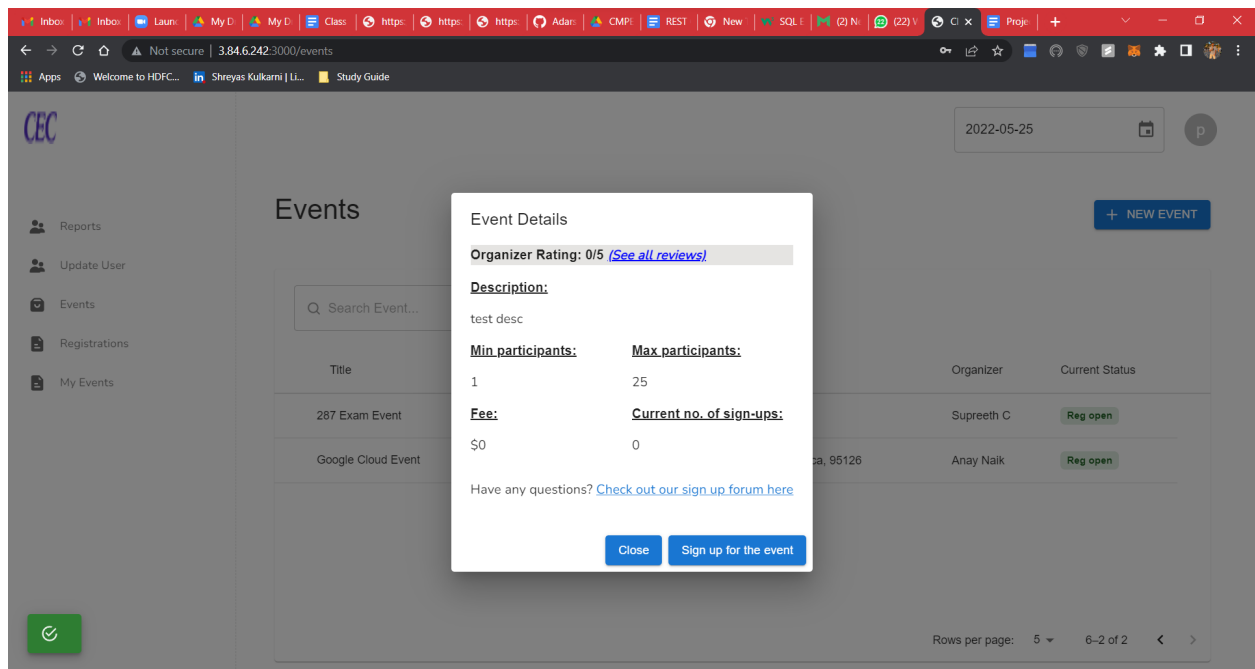
7) Sign-up for events

After the user clicks on 'Sign up for the event', the user will be taken to a confirmation screen. If the event involves any fee, a notification will be displayed below. Clicking on 'Confirm' registers the user to the event if the event has auto approval, else it is sent to the organizer for approval.
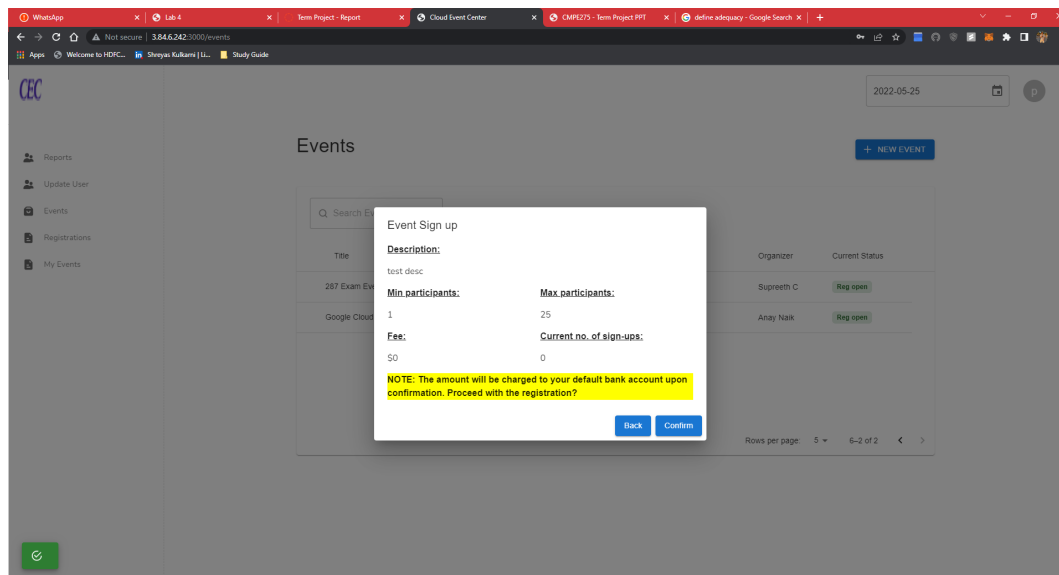
Notification to event organizer:

Cloud Event Center <cmpe275zhangproject@gmail.com>   Sun, May 22, 4:59 PM (3 …
to me

Dear Organizer,

A new user,**participant 3** has signed up for the event, **kite flying event** that you are organizing.
Best of luck with your event!

Best,
CEC

Notification to registered user:

CEC   Cloud Event Center
        cmpe275zhangproject@gmail.com   25-05-2022 2…

Subject: Thank you for signing up to the event!

Dear user,

Thank you for signing up for the event, **YellowStone Trekking**. The event starts at **2022-05-28T01:16:41**, and you can access the participant forum on **2022-05-27T00:19:41**.
See you soon at the event!

Best,
CEC

8)   events page
The user can access all the events that he has registered for from 'My events' page. He can even view the status of his registration from here.

9) My Events

The organizer can access all the events that he has organized from My events page. He can approve/reject participants for the event from this page by clicking on any event.

10) Post a review
The organizer can post reviews for the participants who participated in the event, likewise the participant can provide review for the organizer of the event.

Post new review

★★★★☆

Please select an event *

test event

Write something... *

Good organizer

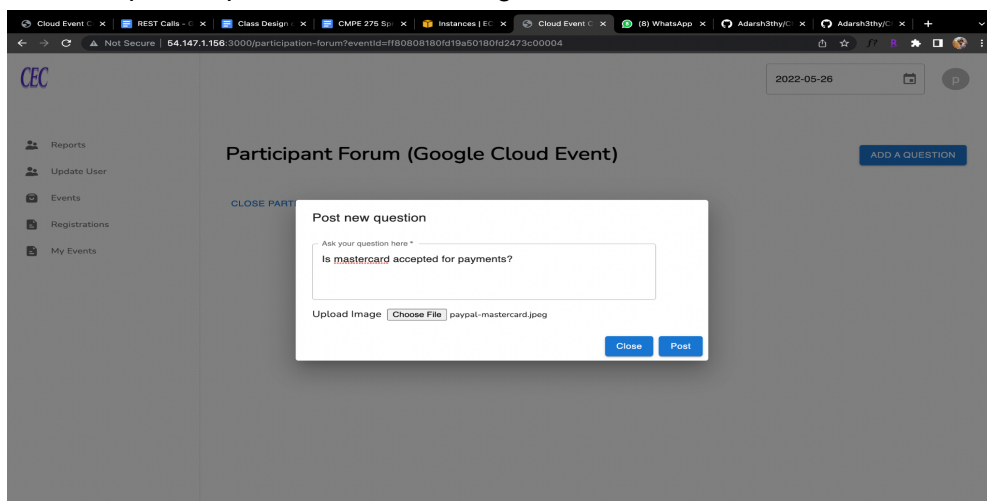You havent partipated in this event

Close   Post

11) Sign-up Forum

Sign-up forum is open to every user once the event has been created.

a) Everyone can post questions and answer questions.

b) Messages from the organizer are marked in the UI so that it is obvious that the sender is the organizer.

c) Messages should allow a mix of text and pictures.

d) The sign-up forum becomes closed for posting of new messages once the event registration deadline passes, or the event has been canceled.
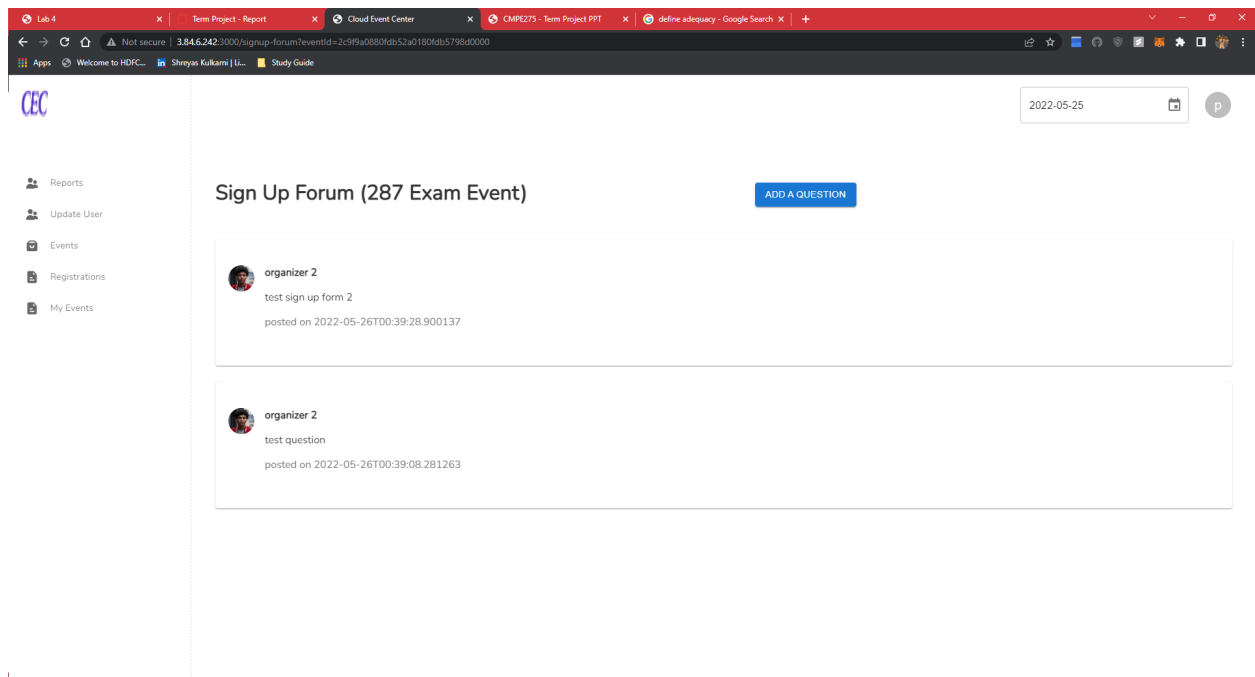
12) Participant Forum

User can post a question and add images if he/she wants

Participant Forum (YellowStone Trekking)

CLOSE PARTICIPANT FORUM

clive
Hi

posted on 2022-05-26T05:00:35

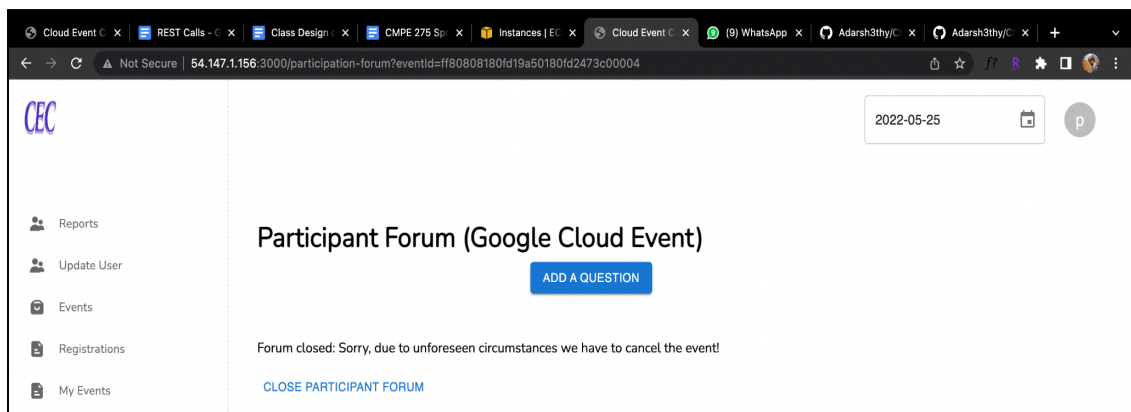He/she can also cancel the forum and give a reason for cancellation

Add a reason for cancellation

Participation Forum Cancel description *

Sorry, due to unforeseen circumstances we have to cancel the event!

Close   Post

CEC

2022-05-25   p

Reports

Update User

Events

Registrations

My Events

Participant Forum (Google Cloud Event)

ADD A QUESTION

Forum closed: Sorry, due to unforeseen circumstances we have to cancel the event!

CLOSE PARTICIPANT FORUM

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13) Virtual Date
To enable testing, the user can change the date to a future date within 12 months of the current date. The time cannot be changed, it will default to the current time.

2022-05-25   p

14) Event in Progress
Immediately, when the event is in progress participants will receive a notification that the event has started.

15) Event Cancellation

An event will be auto canceled if it fails to have the minimum number of participants before the event deadline. Email notification will be sent to all registered users, notifying them of the cancellation.

16) Reports

i) System Report

System event report: available to every user. This report shows the following numbers of from the last 90 days (based on the current virtual time):

a) Number of created events (based on creation time) and the percentage of paid events.

b) Number of canceled events (based on registration deadline) and total number of participation requests (regardless of approval or not) divided by the total number of minimum participants for such events.

c) Number of finished events (based on finishing time), and the average number of participants of these events.

System Report

Created Events	5
Paid Events (%)	0
Cancelled Events	2
Participant Event Cancel Requests	0.3333333333333333
Finished Events	0
Finished Events Average Participants	0

ii) Participation report.
- a) Number of signed-up events (based on singing-up time).
- b) Number of rejects and approvals (based respective action time).
- c) Number of finished events (based on finishing time).

Participant Report

Signed Up Events	1
Rejects	0
Approvals	1
Finished Events	0

iii) Organizer Report
- a) Number of created events (based on creation time) and the percentage of paid events.
- b) Number of canceled events (based on registration deadline) and total number of participation requests (regardless of approval or not) divided by the total number of minimum participants for such events.
- c) Number of finished events (based on finishing time), and the average number of participants of these events.
- d) Number of paid events finished (based on finishing time) and total revenue from these events.

Organizer Report

Created Events	1
Paid Events	2
Paid Events (%)	100
Cancelled Events	1
Participation Requests by Minimum	0.5
Finished Events	0
Finished Events Average Participants	0
Finished Paid Events	0
Finished Paid Events Revenue	0

Testing Plan and Execution Results

Test Case	Status
Register to the application using email	Pass
User registered via email must receive an email for successful registration	Pass
User registered via email must receive an email for email verification	Pass
The verification email must contain a link to verify and show success message on clicking the link	Pass
After email verification, the user must be able to sign in by giving his credentials	Pass
On login, user must be directed to update his details and must be able to save it successfully	Pass
Event search must display all available events and user must be able to filter it based on city, status, keywords	Pass
Any user must be able to create event by clicking on the create event button	Pass
User must be able to view the events that he has registered for in 'My events' tab	Pass
User must be able to reset the data by clicking on date at top right corner	Pass
User must be able to view the current virtual time at top right corner	Pass
If an event requires approval, the event must be sent to approver for approval	Pass

The organizer must be able to approve/reject events that require approval	Pass
The organizer must be able to access all events that he is organizing	Pass
The user must be able to access sign up forum from the event	Pass
The user must be able to post questions/answers in sign up forum	Pass
The user must be able to post images in sign-up/participant forum	Pass
The participant forum must be accessible after event deadline	Pass
The organizer must be able to close participant forum after event closure	Pass
The participant forum must get autoclosed if organizer does not close it 72 hours after event closure	Pass
If the event does not have minimum participants before event deadline, it must be auto canceled	Pass
On event cancellation, all registered users must receive email notification	Pass
All registered users must receive email notification on start of event	Pass
Registered user must receive email notification on approval/rejection by organizer	Pass
Organizer must receive email notification on event creation	Pass
Organizer and participant must receive email notification on event sign up	Pass
Organizer must be able to post review and rating for participants	Pass
Participant must be able to post review for the organizer	Pass
Check system reports	Pass
Check organizer report	Pass
Check participant report	Pass

Lessons Learned

- We learned the adequacy of Spring and the necessity for dependency injection while developing enterprise applications.
- We learned how to work in a team to push modularized code.
- We learned how to implement Oauth, Notifications, Abstract time and data modeling.
- We learnt how to send emails using Java Mime messages integrated with Google mail server.
- We learned that applications need to be tested end-to-end, both frontend and backend together.
- We learned to plan for unexpected events and breakages.

Future Work

- Improve frontend design.
- Refactor code.
- Add desktop notifications and mobile notifications.
- Implement payment gateways like paypal.
- Implement Oauth for Facebook
- Provide limited timed discounts
- Allow an user to choose a profile picture
- Provide the user to examine the organizer's or other user's profile