Instivent

-An event manager

Title: Instivent

Team members:

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Goal:

To create an android app for students which facilitates interaction between institute's clubs and club members by maintaining a record of all events of clubs and informing the club's members about the future events so that they can participate in the them.

Functionality and features:

- There are two levels of privileges based on which only particular sections are made available to the users of the app i.e., user can be - Admin or User
    - Admin of the club can create and edit posts about events of that club
    - Users will be able to
        - see the posted events
        - like and comment on the posts
        - participate in the events by forming groups of specified size with other students
- There are few Admins for each club and all others are given User privilege
- When the "Instivent" app is first opened, a Login interface is shown
- If the student is not registered yet, he can sign up by clicking a button "No account yet? Create one" when he will be shown a signup form to fill details
- While filling sign up form, the password must be at least 4 characters. Otherwise an error message is shown
- After logging in, the user is shown an interface having a drawer on left side which the user has to drag out to enter into the list of clubs
- The drawer also has a "Logout" button to logout of the app and on clicking that button user will be redirected to the login interface

- When “clubs” button is clicked, the clubs of the institute are displayed in a list format which can be scrolled
- Each club entry has an image related to that club and the status of that user A or U is shown based on whether he is Admin(A) or User(U)
- When the user clicks “Enter” button on club entry, list of events of that club will be displayed
- Each event entry has an image related to it, “Like” button to like the event, “Comment” button to write comment about the event and “Participate” button to form a group of specific size with other students to participate in the event
- A mentor is allocated for each group participating in an event
- If the user is Admin, he will be shown an additional button “Create event” at the top to post information about new events to be organised by the club
- Admin will also be shown “Edit” button on each post entry so that he can edit the posts if required
- When the user clicks on the “Comment” button, he will be shown a form where he can write his comments and post them
- The images are stored locally by downloading from server
- There is a local sqLite database to store data including path to the image in the mobile phone’s file system

Setup and run:

Database:

- Create the database used by the app by following instructions given in README.txt
- Run the psql server on the database created using the command:
    - /usr/lib/postgresql/9.5/bin/pg_ctl -D ~/Database/dbis -l logfile start

Server:

- Use eclipse neon Java EE
- Put “src/dblab0.0” folder in eclipse workspace
- Open the project "dblab0.0" from eclipse by browsing to eclipse workspace
- Add required jars to the project’s build path and run configurations
  We have used:
  commons-codec-1.7.jar
  commons-fileupload-1.3.jar
  commons-io-2.4.jar
  java-json.jar
  postgresql-9.4.1209.jre6.jar

tomcat-7.0.26.el-api.jar.zip
tomcat-jsp-api-7.0.42-sources.jar.zip
tomcat-servlet-api-7.0.6.jar.zip

- Then start tomcat server: Go to WebContent->login.html. Right-click on it and Run on server

Android application:

- Start android studio and open android project folder ”src/Instivent” from it
- Choose location of your Android SDK
- Now launch the “Instivent” app on an android mobile phone running os version at least kitkat by clicking on “Run”
- Use ldap id to sign up and login for the app
- The database currently contains two roll numbers of two users-140050051 and 140050055. So, use these as userids and also as passwords for logging in

Database design(Tables):

#STUDENT: Students of the institute

```
create table student(
        id char(9),                     //Ldap id of the student
        first_name varchar(15),
        last_name varchar(15),
        primary key(id)                 // primary key is id
        );
```

#PASSWORD: Encrypted passwords stored in this relation

```
create table password(
        id char(9),                     // student id
        password varchar(64),           //student’s hashed password
        primary key (id),
        foreign key (id) references student
        );
```

#CLUB: Clubs of IIT Bombay which can conduct any number of events

```
create table club(
        id varchar(5),                  // id of the club
        name varchar(20),               // name of the club
```

```
    focus varchar(20),          // main focus of club (innovation, aero, coding etc)
    img_url varchar(300),       // link to an image related to that club
    primary key(id)             // primary key is id
    );
```

#MEMBER: Binary relation between ‘club’ and ‘student’ which tells about membership of a student in a club

```
create table member(
    s_id char(9),               // student id
    c_id char(5),               // club id
    role varchar(1),            // role of the student s_id in the club
    primary key(s_id,c_id),
    foreign key(s_id) references student,
    foreign key(c_id) references club);
```

#EVENT: Events organized by clubs

```
create table event(
    id varchar(6),              // id of the event
    name varchar(64),           // name of the event
    image_url varchar(300),     // link to an image related to that event
    event_date timestamp,       //Time when the event will be conducted
    num_participants integer,   //Number of students required to form a group
    created_time timestamp,     // timestamp when the admin created the event
    primary key(id)             // primary key is id
    );
```

#ORGANISES: Binary relation between ‘club’ and ‘event’

```
create table organizes(
    ev_id varchar(6),           // event id
    c_id varchar(5),            // club id
    primary key (c_id,ev_id),
    foreign key (c_id) references club,
    foreign key (ev_id) references event
    );
```

#LIKES: Students who liked a particular event

```
create table likes(
    s_id char(9),
    ev_id varchar(6),
    primary key (s_id,ev_id),
    foreign key (s_id) references student,
    foreign key (ev_id) references event
    );
```

#COMMENTS: Comments about an event written by students

```
create table comments(
        comment_id integer,
        s_id char(9),
        ev_id varchar(6),
        comment varchar(64),
        comment_time timestamp,
        primary key (comment_id),
        foreign key (s_id) references student,
        foreign key (ev_id) references event
        );
```

#GROUPS: Students who want to participate in an event form into groups

```
create table groups(
        g_id varchar(6),
        ev_id varchar(6),
        name varchar(20),
        primary key(g_id),
        foreign key (ev_id) references event
        );
```

#PARTICIPATES: Binary relation between ‘group’ and student which tells which students formed that group

```
create table participates(
        s_id    char(9),
        g_id    varchar(6),
        primary key (s_id,g_id),
        foreign key (s_id) references student,
        foreign key (g_id) references groups
        );
```

#VENUE: List of venues in the institute

```
create table venue(
        v_id varchar(6),
        room varchar(20),
        primary key (v_id)
        );
```

#EVENT_VENUE: Venue of a particular event

```
create table event_venue(
        ev_id varchar(6),
        v_id varchar(6),
```

```
primary key (ev_id,v_id),
foreign key (ev_id) references event,
foreign key (v_id) references venue
);
```

Future Work:

If we had more time, we would have improved the application so that

- Students can ‘follow’ clubs they are interested in where the students will be notified about the events of the club
- Students can show ‘interest’ in events where the students will be notified and updated with the recent information about that particular event
- Ranks can be given to the groups participated in an event
- Students can rate the events they participated in
- Display only few events and load more events on scrolling the list of events
- If we have access to IITB database of students, students can directly login to the app without signing up
- There can be another privilege overall co-ordinator above Admin and User who can create new clubs and assign an Admin for the newly created club
- The passwords of the users are encrypted and stored in the database
- When the user is to be authenticated while logging in, the password he types is converted to hash and is then compared with the stored hash in the database
- We can have some description about clubs and events apart from images

Future Scope:

Yes, our project can become a product. But it is for service and not making money. However we can replace clubs with technical subjects like StackOverflow does and replace events with posts related to those subjects. Now the app can be made available to anyone and we can use ads for making money