Final Project Report
Calendar Web Application

Due: 20.01.2021

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1. Project Description

This project aims to create a virtual planner for all students starting from their studies, event activities or interviews. The web application called StudentPad provides notifications for the interview section by using flask libraries. This website offers comfortability with all types of users. Users can easily sign up or login to the website with only username and password required. Users can register events like: Deadlines, Exam Dates, Interview Dates, Contacts too. The project uses Python language, Flask web application framework, and PostgreSQL as a database. ElephantSQL is used as a browser tool for SQL queries. Database is accessed via dbapi2 compatible driver.
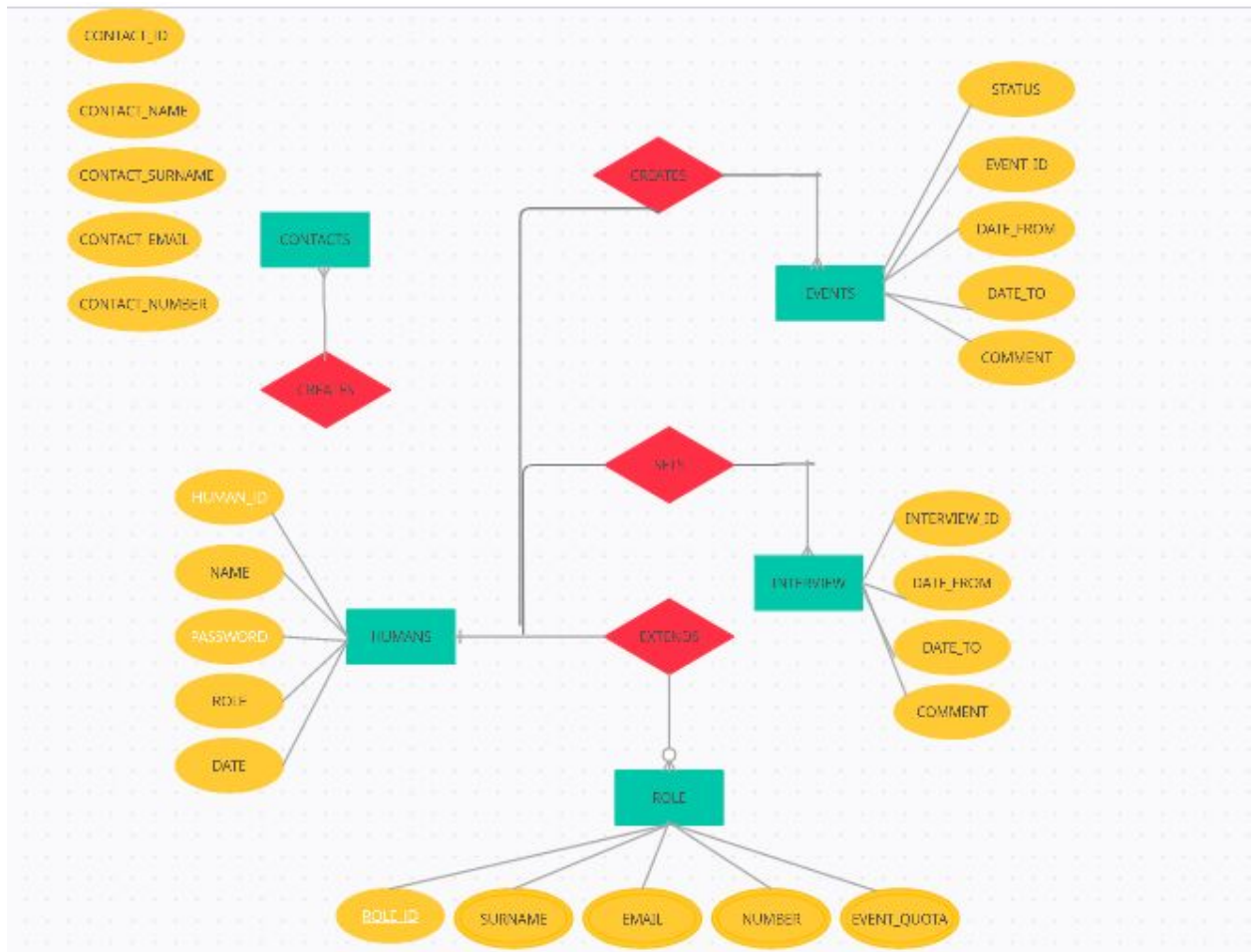

Figure1: Database and Website Framework.
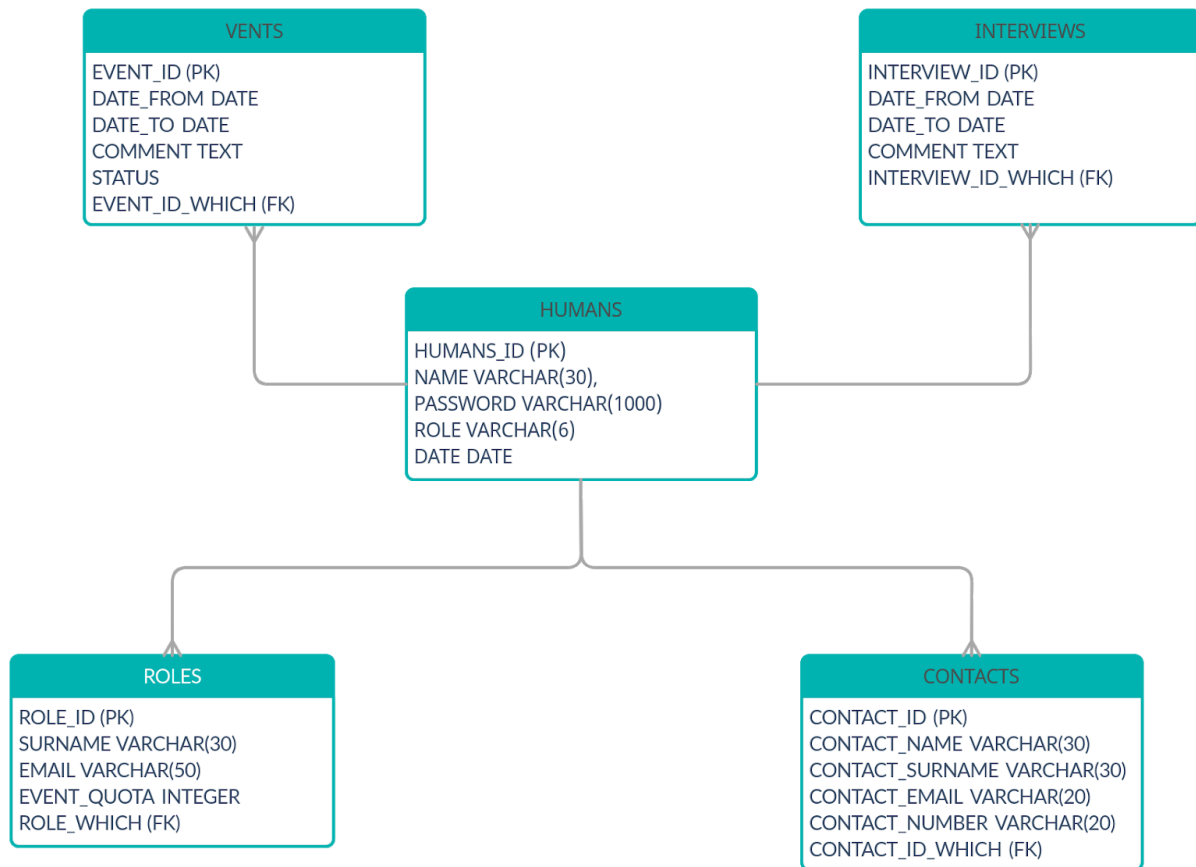
2. Data requirements and E/R Design

Detailed data requirements of the application:

- An user can create one or more events.
- An user can save more than one interview.
- An user can create a contact list.
- An user can extend his personal information by creating his system role.

Due to the limitation of component usage in the free Creately website for E/R diagram HUMANS component is supposed to be connected to CREATES relation and also the attributes are colored in yellow.

3. Logical Design/Normalization

VENTS

EVENT_ID (PK)
DATE_FROM DATE
DATE_TO DATE
COMMENT TEXT
STATUS
EVENT_ID_WHICH (FK)

INTERVIEWS

INTERVIEW_ID (PK)
DATE_FROM DATE
DATE_TO DATE
COMMENT TEXT
INTERVIEW_ID_WHICH (FK)

HUMANS

HUMANS_ID (PK)
NAME VARCHAR(30),
PASSWORD VARCHAR(1000)
ROLE VARCHAR(6)
DATE DATE

ROLES

ROLE_ID (PK)
SURNAME VARCHAR(30)
EMAIL VARCHAR(50)
EVENT_QUOTA INTEGER
ROLE_WHICH (FK)

CONTACTS

CONTACT_ID (PK)
CONTACT_NAME VARCHAR(30)
CONTACT_SURNAME VARCHAR(30)
CONTACT_EMAIL VARCHAR(20)
CONTACT_NUMBER VARCHAR(20)
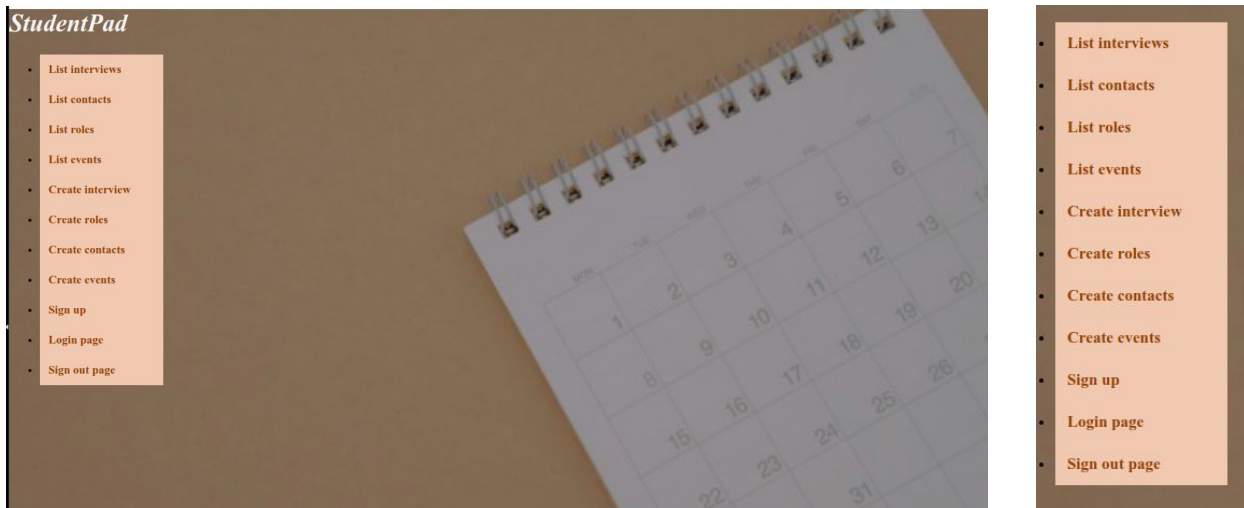CONTACT_ID_WHICH (FK)

4. User Interface

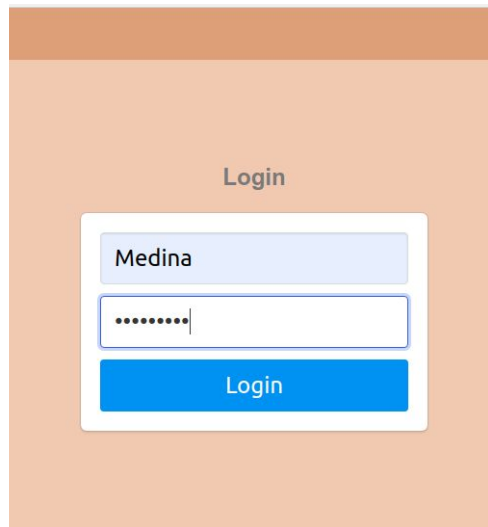Figure2: Frontal view of the website and menu options.
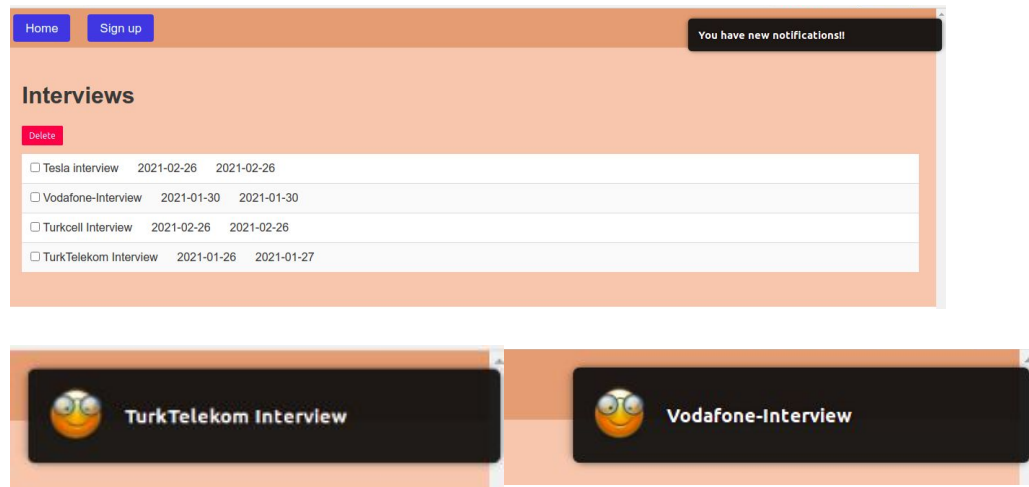

Figure3: Login Page.

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Figure4: Redirection to Interview page and Notification system of current month's interview.

The website doesn't show an advanced front-end framework. Bulma is used as an open source CSS framework based on Flexbox and built with Sass. Passlib.hash library is used as a crypt method to hash passwords which supports a variable-length salt and a variable number of rounds. Subprocess library is used in order to handle notification systems.

5. Database Creation and Connection.

Since PgAdmin II had lack of functionality in my Ubuntu 16.04 and PHP Admin couldn't be installed due to the software packages missing in my platform I used ElephantSQL as a browser tool for raw SQL queries and supportive of PostgreSQL too. As an online database hosting service ElephantSQL is an user friendly system where we can create, read, delete or update queries. The only thing required is a valid email and a password. One requirement that was part of Project handout was connecting postgres. Psycog2 as a PostgreSQL adapter for Python language should be installed via pip commands:

Figure5: Installing psycopg2 library.

ElephantSQL provides in your account a database URL where your queries and operations are saved.

Figure6: Database URL.

Figure7: Connecting Database to Python.

The online service provides you a SQL browser where you can type query statements and execute them.

Figure8: SQL browser.

Figure9: User Queries.

6. Outside the scope

SQLAlchemy is an open source SQL object-relational mapper for Python. It's a very efficient tool and high-performing for database access. The website has been coded earlier using SQL-Alchemy but due to the **unacceptance** from the project requirement the website had to be re-coded again from scratch using raw SQL query statements. The front-end part looks more advanced and has more functionalities due to the long time that was planned for the website starting from the middle of semester. Below I will be attaching some screenshots :

Staff

Search . . .
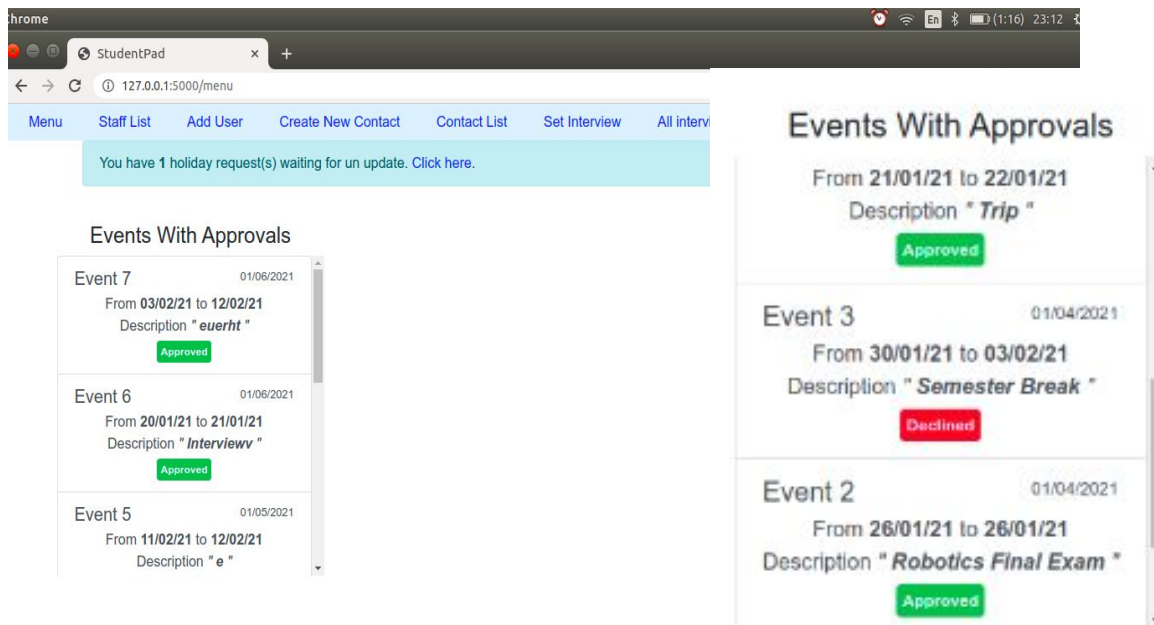
Full Name	Email	Quota	Approved	Pending	Balance	System Role	Disabled
medina zaganjori	medinazaganjori11@gmail.com	30 days	17 days	3 days	13 days	Admin	
Olsi Zaganjori	medinamedinazaganjori@gmail.com	100 days	0 days	0 days	100 days	User	

Chrome   En (1:16) 23:13

StudentPad   ×   +

← → C ⓘ 127.0.0.1:5000/calendar   ☆ ⬤ 🎲 ★ 🅖 Paused

| Menu | Staff List | Add User | Create New Contact | Contact List | Set Interview | All interviews | Request Event | Calendar | Logout |

StudentPad

January 2021

‹ › today   month week day

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20 Interviewv	21 Trip	22	23
24	25	26 Robotics Final Exam	27	28	29	30
31	1	2 euerht	3	4	5	6

Add New User

Name

Surname

Email

System Role

2) User

Holidays quota

Add user

Add New Contact

Name

Surname

Email

Phone Number

Save

Contacts

Search . . .

Full Name	Email	Phone Number	Permission
Med Zag	medinamedinazaganjori@gmail.com	12324234	🗑
euerht			
Interviewv			
e			
Trip			
Semester Break			
Robotics Final Exam			
New year break			

Interviews

Search . . .

Title	From	To	Permissions
Vodafone-Interview	2021-01-28	2021-01-28	🗑
TESLA-interview	2021-01-01	2021-01-01	🗑

medina zaganjori

ID	Requested	From	To	Comment	Status	Select Contact
7	01/06/2021	03/02/21	12/02/21	*euerht*	Approved	🗒
6	01/06/2021	20/01/21	21/01/21	*Interviewv*	Approved	🗒
5	01/05/2021	11/02/21	12/02/21	*e*	Approved	🗒
4	01/04/2021	21/01/21	22/01/21	*Trip*	Approved	🗒
3	01/04/2021	30/01/21	03/02/21	*Semester Break*	Declined	🗒
2	01/04/2021	26/01/21	26/01/21	*Robotics Final Exam*	Approved	🗒
1	01/04/2021	01/01/21	03/01/21	*New year break*	Pending	🗒