

CZU KNOWLEDGE SHARE TECHNICAL DOCUMENTATION

CZU knowledge share is platform that will allow all CZU students to help each other by sharing their self-study papers, drafts instead of throwing them away after study, so that other students can use those papers for their self-study and research as well.

And this web application provide REST API endpoints to allow communication with C# (Window Form) application for some functionality that will be described below.

1. TECHNOLOGY & TOOLS USED

- C# (Window Form)
- PYTHON (DJANGO WEB FRAMEWORK & DJANGO REST FRAMEWORK)
- HTML
- CSS (BOOTSTRAP)
- JAVASCRIPT
- PostgreSQL DATABASE (OBJECT RELATIONAL MAPPING(**ORM**))
- GIT (For code versioning)
- HEROKU (For web hosting)
- LUCIDCHART (For database ERD structuring)
- FIGMA (Web UI Wireframe design)

2. LINKS TO WEB APP & CREDENTIALS FOR TESTING

- CZU knowledge share web: <https://czu-knowledge-share.herokuapp.com/>
- REST API Documentation for connecting with C# (Window Form) : <https://czu-knowledge-share.herokuapp.com/api/v1/documentation/>
- REST API Testing(SWAGGER) : <https://czu-knowledge-share.herokuapp.com/api/v1/swagger/>
- LOGIN PAGE: <https://czu-knowledge-share.herokuapp.com/userLogin/>

Admin credentials :

- **Username** : brozek04
- **Password** : admin123

Students credentials :

- **Username** : adelite04
- **Password** : student123

- **Username** : unruh04
- **Password** : student123

3. PROJECT FUNCTIONALITY

This web application project is divided into three parts:

○ **Administration**

- Admin is able to view total students registered, total files students have shared..... and other information.
- Admin is able to CRUD (Create, Read, Update, Delete) faculties, subjects.

○ **Students**

- Student is able to upload his/her PDF file that contains all images for his/her self-study papers, drafts and the link to the PDF file is stored in Database.
- Once student uploads file is able to set permissions over his file where he can set it to be public or private (means when some students need the file, they will have to request for it, and student who is owner of the file will be able to grant permission or refuse actually to student who have requested for it).
- When student has permission to view shared file or file is set to public by its owner, student will be able to comment (share his idea) and view other student's comments.
- When student opens the shared file page, the system will record in database that student has viewed the file, and the system will avoid to record this more than once in case the same student is viewing the shared file again.

- When student is sharing file that contains self-study papers, is able to select the subject that file belongs to.
- **C# (Window Form)**
 - This application allows to assign task to one of administrators of this web application using REST API communication in JSON format (The logic behind this, is that C# app sends **title** and **description** of the task to the endpoint with POST HTTP request, and on the server side with PYTHON , all admins registered in DB are selected and the system choose one to assign task randomly and send back response to **C#** application with the name of the admin the task is assigned to) .
 - This application allows to display all tasks that are in DB using GET HTTP request and shows the status of these task (It means **DONE** or **PENDING**).

4. DIRECTORIES EXPLANATION

DATABASE

- **DB -> structure.png**: ERD image of relational database diagram for this project.

C# WINDOW APPLICATION

- **C#-TASK-ASSIGN -> CZU-TaskAssign -> CZU-TaskAssign -> Form1.cs**: C# file that contains codes for the C# window form application.

PYTHON DJANGO WEB APPLICATION

- **knowledgeShare -> share -> views.py** : File that contains all business logic for the web application. It is written in python programming language.
- **knowledgeShare -> share -> models.py** : File that contains codes for DB model in form of objects, to allow object relational mapping .

- **knowledgeShare -> share -> urls.py** : File that contains configurations of urls for this web application.
- **knowledgeShare -> share -> forms.py** : File that contains code for model forms creation.
- **knowledgeShare -> share -> decorators.py** : File that contains functions for checking Logged In users and give provide permission for some pages.
- **knowledgeShare -> share -> templates -> share ->** : This directory contains all html files for this web application.

PYTHON REST API

- **knowledgeShare -> share -> api -> views.py** : File that contains all business logic for the REST API and contains OpenAPI codes for documentation. It is written in python programming language.
- **knowledgeShare -> share -> api -> serializers.py** : File that contains codes to serialize and deserialize data.
- **knowledgeShare -> share -> api -> urls.py** : File that contains codes for Endpoints configuration for this REST API.

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