

WeSolve

Documentation

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Our Team

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Important comment:

We have updated the website with some new features according to the notes that we got during after the presentation in class.

This mark (***) represent a place where we implemented one of the notes given in class.

Our Idea

WeSolve is a platform for sharing and ranking solutions for university exams.

Our goal is to create a learning community and help students to study better and pass the exams successfully.

Students can register to **WeSolve**, upload solutions to questions from past exams, watch other students' solutions, and label/tag/rank solutions.

Crowd is what it's all about - We use crowdsourcing to add the credibility dimension to existing exam solution sharing platforms such as Google Drive.

Login Page



The image shows a login page for 'WeSolve', described as 'A learning community'. It features a central form with a light blue background. The form contains a 'Username*' label above a text input field with the value 'ido'. Below this is a 'Password*' label above a password input field represented by a series of dots. A blue 'Login' button is positioned below the password field. At the bottom of the form, the text 'Or [Create an Account](#)' is displayed in blue, with 'Create an Account' being a clickable link.

WeSolve

A learning community

Username*

ido

Password*

.....

Login

Or [Create an Account](#)

In the login page one can use his existing user or “Create an Account”.

Sign Up Page

Create Your WeSolve Account

Username*

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email address*

Password*

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

Password confirmation*

Enter the same password as before, for verification.

First name*

Last name*

User image

☐ בחירת קובץ ☐ לא נבחר קובץ

[Or Login](#)

All fields are mandatory except user image.

Only users with TAU email account can register to the website. (***)

Main Page - About Us

WeSolve

[Search](#) [Profile](#) [About Us](#) [Contact Us](#) [Logout](#)

What is **WeSolve**?

WeSolve is a platform for sharing and ranking solutions for university exams.

Our goal is to create a learning community and help students to study better and pass the exams successfully.

Students can register to **WeSolve**, upload solutions to questions from past exams, and watch other students' solutions to the same question.

In addition, students can contribute to the **WeSolve** community by labeling questions and ranking solutions, in order to improve the studying experience in the website and make it more accurate and efficient.

Why **WeSolve**?

As university students during COVID-19, creating study groups for exams became more difficult since students were not physically in the campus, so making new connections with other students was hard.

WeSolve intends to fill this gap and make the studying experience a little bit more social and cooperative.

Get Started!

The About Us page explains about the project.

From here you can use both “Search” and “Get Started!” buttons to reach the navigation tool.

Also you can reach your Profile Page, Contact Us page and Logout.

User Profile



Alice Cohen

alice@mail.tau.ac.il

⌘ Rank: Freshman ⌘



99/100

Here you can check out your personal data and your rank level and score.

In order to block spammers from harming the website, when a user have a score of -100 points, the account is blocked, so the user have only read permissions at the website.

Eve Smith

xss@mail.tau.ac.il

⌘ Rank: Freshman ⌘



-150

Your rank is now below -100, therefore your account has been disabled!

Please contact support.

[TAU](#) / [Exact Sciences](#) / [Computer Science](#)

Please choose course:

[Algorithms and Applications in Social Networks](#)

[Introduction to Data Science](#)


Using the Navigation Tool you can find the desired exams, questions and answers.

You can always click on the previous selected items on your path to go back.


For example, clicking on “TAU” will take you back to choose a faculty of TAU.

We assumed that all of the data about courses, exams and questions is provided by TAU.


Question #2 section #A

 Answers: **2**


Question #2 section #B

 Answers: **1**

Question #1 section #A

 Answers: **1**

Question #1 section #B

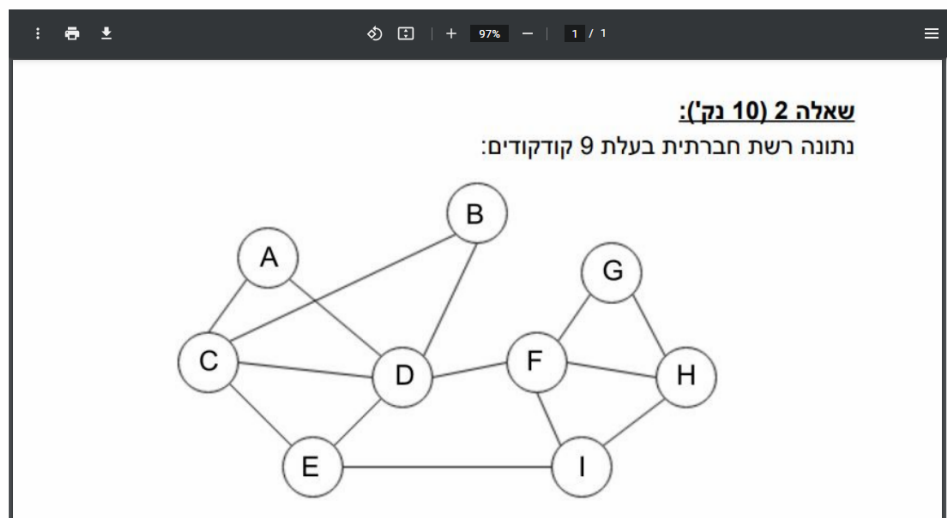
 Answers: **1**

After choosing the desired exam, all of its questions will appear with indications of the amount of answers.

Question Page - Question Part

Question #2 section #A

May 07, 2022



Answer the Question

After choosing a question, I can see a pdf of it.

I can click the “Answer the Question” button to add my answer (an answer can be added only once by each user).

Answer the Question

Share Your Knowledge!

לא נבחר קובץ בחירת קובץ

Submit Your Answer

I can also click on the green plus icon to add Labels and Topics.

Add Topic:  

Add Label: 

Question #8 section #A

May 07, 2022

random graphs [3]

social network [3]

Points Percentage: 5-9



Each question has Topics and Labels given to it by the users.

Topics (Red):

- Show top 3 Topics for each question.
- Always in lowercase.
- Each Topic is being presented with its amount of votes.
- Insertion has an auto-complete mechanism to improve UX and avoid duplications.
- Topic must have at least three votes to be presented (we chose this number so we won't need a lot of users for our testing). (***)

Labels (Yellow):

- Selected from a closed set of 4 options: Difficulty, Importance, Points Percentage and Question Type.
- Difficulty and Importance Labels show the average of votes.
- Points Percentage and Question Type Labels show the amount of votes.
- Label must have at least three votes to be presented (we chose this number so we won't need a lot of users for our testing). (***)

Bob · May 28, 2022

Upvote [1]

Downvote [o]

 This answer is approved by a teacher!

Given the desired number of nodes N and the mean degree K , the model constructs an undirected graph $(N \cdot K) / 2$ with edges, so the graph will contain 16 edges.

Alice · May 07, 2022

Upvote [o]

Downvote [2]

[illegible]

Answers are sorted by their Upvotes-Downvotes score.

Each user can Upvote or Downvote any answer only once, if it isn't his answer.

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Similar Questions:

Algorithms and Applications in Social Networks \ 2019BA

Question #8 section #A

Answers: 1

Algorithms and Applications in Social Networks \ 2019BA

Question #8 section #B

Answers: 1

Algorithms and Applications in Social Networks \ 2020AA

Question #8 section #C

Answers: 1

On the bottom of each question you can find the 3 most similar questions by labels and topics.

You can navigate to those questions by clicking on them.

Similarity is calculated with these formulas:

$$dist(q_1, q_2) = dist_{topic}(q_1, q_2) + dist_{label}(q_1, q_2)$$

$$dist_{topic}(q_1, q_2) = 10 \cdot \left(1 - \frac{q_1.topics \cap q_2.topics}{q_1.topics \cup q_2.topics}\right)$$

$$dist_{label}(q_1, q_2) = dist_{difficulty}(q_1, q_2) + dist_{importance}(q_1, q_2) \\ + dist_{type}(q_1, q_2) + dist_{points}(q_1, q_2)$$

$$dist_{difficulty}(q_1, q_2) = 2 \cdot |q_1.difficulty - q_2.difficulty|$$

$$dist_{importance}(q_1, q_2) = 2 \cdot |q_1.importance - q_2.importance|$$

$$dist_{type}(q_1, q_2) = \begin{cases} 5 & \text{if } q_1.type \neq q_2.type \\ 0 & \text{if } q_1.type = q_2.type \end{cases}$$

$$dist_{points}(q_1, q_2) = \begin{cases} 5 & \text{if } q_1.points \neq q_2.points \\ 0 & \text{if } q_1.points = q_2.points \end{cases}$$

The bigger the weight each distance function got, the more effect it has on the distance between each question. We chose these weights according to what we thought was logical, and we tuned it after some experiments we did.

Custom Users Credentials for testing the website

USERNAME	PASSWORD	EMAIL ADDRESS	IS_TEACHER?	STAFF STATUS
Alice	pass2022	rachel@mail.tau.ac.il	No	No
Bob	word2022	bob@mail.tau.ac.il	No	No
Eve	spam123456	xss@mail.tau.ac.il	No	No
admin	admin	nirswartz@mail.tau.ac.il	No	Yes
rector	TAU123456	mark.shtauf@mail.tau.ac.il	Yes	No
slavanov	messi123456	slavanov@mail.tau.ac.il	Yes	No
Guy	ido123456	guys@mail.tau.ac.il	No	No

We recommend to use the following users to explore the different features in the website:

- Regular user:
 - **Alice** for user ranking
 - **Guy** for uploading answers and giving topics and labels to questions.
- Teacher: **slavanov**
- Spammer user: **Eve**

We also added enough “user provided” data to the following questions to demonstrate our main features of the website:

[TAU](#) / [Exact Sciences](#) / [Computer Science](#) / [Algorithms and Applications in Social Networks](#) / [2020AA](#)

Question #8 section #A

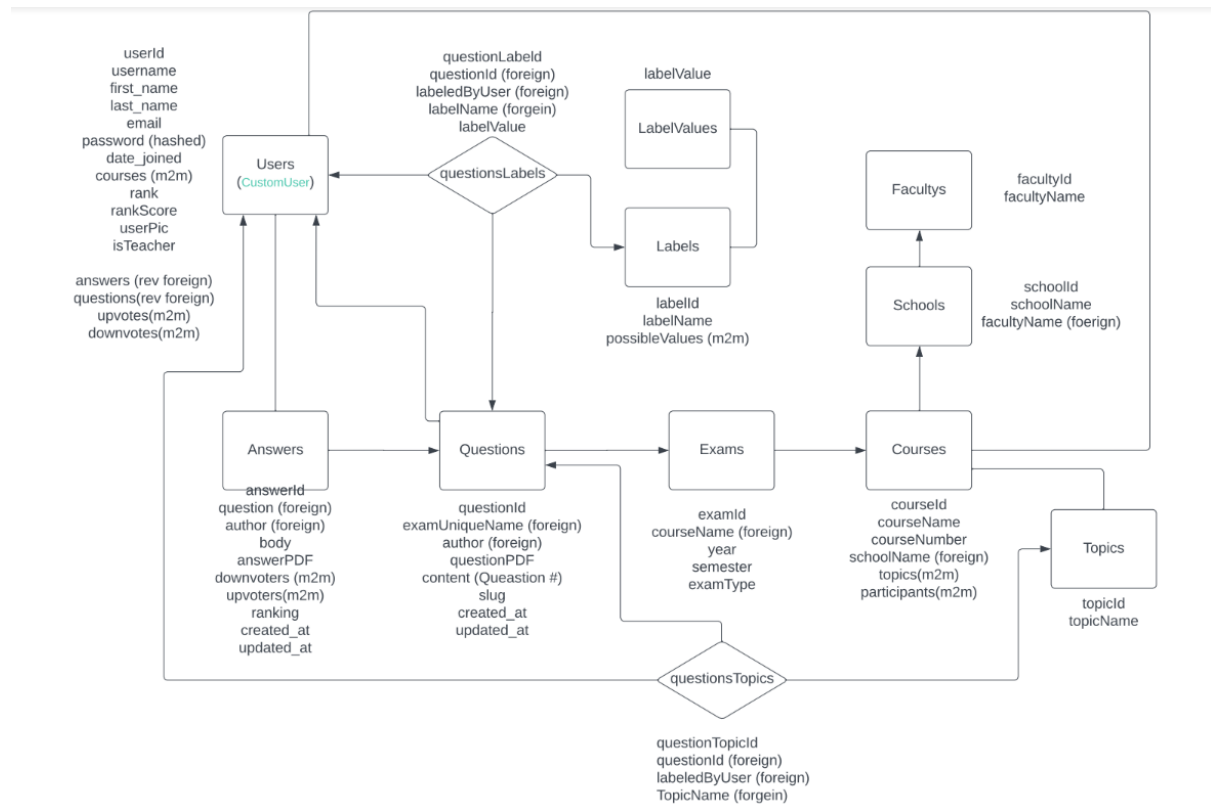
May 07, 2022

[TAU](#) / [Exact Sciences](#) / [Computer Science](#) / [Algorithms and Applications in Social Networks](#) / [2019BA](#)

Question #8 section #A

May 28, 2022

Database Schema



API endpoints documentation

General:		
Name	Method	path
get all users	GET	users/
get current user	GET	users/current/
For the nav bar:		
Name	Method	path
get all faculties	GET	nav/faculties/
get all schools by faculty	GET	nav/<str:faculty>/schools/
get all courses by school	GET	nav/<str:school>/courses/
get all exams by course	GET	nav/<str:course>/exams/
get all questions by exam	GET	nav/<str:exam>/questions/
get all questions by exam (ctumbs)	GET	nav/<str:examId>/crumbs/
question & answers page:		
Name	Method	path
get question by slug	GET	questions/<slug:slug>/
get all answers by slug order by ranking	GET	questions/<slug:slug>/answers/
get answer by answerId	GET	answers/<string:answerId>/
create answer by slug	POST	questions/<slug:slug>/answer/
answers ranking:		
Name	Method	path
remove upvote by answerId	DELETE	answers/<string:answerId>/upvote/
add upvote by answerId	POST	answers/<string:answerId>/upvote/
remove downvote by answerId	DELETE	answers/<string:answerId>/downvote/
add downvote by answerId	POST	answers/<string:answerId>/downvote/
question labeling:		
Name	Method	path
get labels and possible labels	GET	labels/
get all topics	GET	topics/
get top topics by question	GET	questions/<str:questionId>/topics/
get labels by question	GET	questions/<str:questionId>/labels/
add label to question	POST	questions/<str:questionId>/labels/
add topic to question	POST	questions/<str:questionId>/topics/
show similar questions:		
Name	Method	path
get similar question by slug	GET	questions/<str:question>/similar/

Thank You!