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1. Technical Documentation

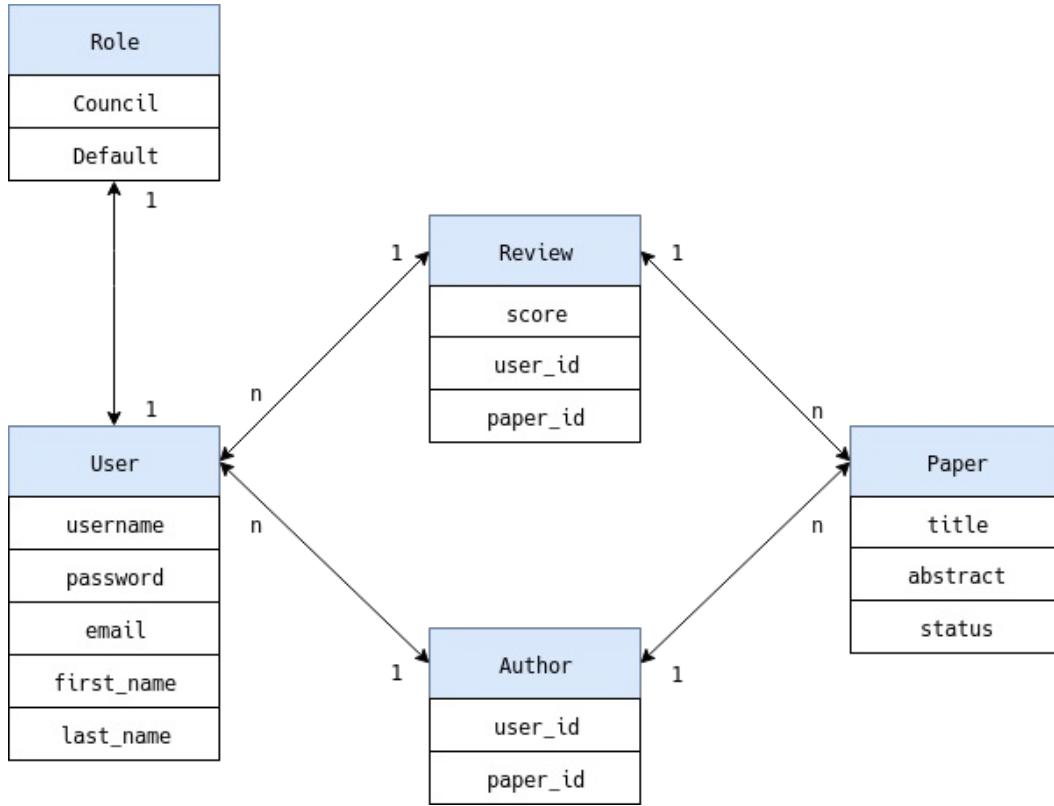
This Project was Developed as a part of a University exercise and is a platform to publish, rate and validate papers. It was developed in Python Flask only and does not contain any additional libraries.

Developer Tools and Decorator Class

- Developer-Tool: url_for, was created to make it possible to get around the caching of the browsers
- It is mainly meant for development purposes since it makes it easier to debug and test css styling on the fly.
- The decorator class: decorator, brings functionality such as login_required and requires_roles.
- Makes authentication and authorization requirements for parts of the application much easier to check and request and handle.

Database-Schema

The database-schema on which this application was developed of, consists of five tables: 'users', 'papers', 'reviews', 'authors' and 'roles'. You can see the relational quantities and the contents of the tables in the detailed uml-diagram above.



Once the schema was set it was pretty straight forward to setup the Models. The reason we decided to seperate the Author and Review tables, was to simplify the relations between the user and paper to the review and author. This way it made it is easier to use and manage the relations since additional information could be stored in either table if required.

Used Pattern for app structure

We went the with Model–View–Control(MVC) pattern for this application.

- Model
 - Our models are the database representations of the tables.
 - To improve performance minor tweaks could have been done to the paper model
 - Functionality such as get status and get score should be extracted to the controllers to increase overall performance
- Control
 - The main controller is the views.py
 - Redirect requests are handled

- Form requests are processed and converted
 - Responsible to process every incoming query, request and only return transformed data to the view
 - the business logic is wrapped in controllers, such as user_controller, paper_controller and role_controller. These were written to abstract functionality (split of concerns) and handle database specific queries from the views.py
- View
 - The views are the flask-jinja2 templates which display the data delivered by the controllers, which get rendered through flask's render_template method

Design Decisions

The whole design of the pages was done with pure css and supports mobile usage, but are not meant for mobile usage.

We focused strongly on the aspect of reusability of css and html code through inheritance of flask-jinja2 templates

API Access Points

1. Url to request a singup

```
@app.route('/signup', methods=['GET', 'POST'])
```

2. Url to request a signin

```
@app.route('/signin', methods=['GET', 'POST'])
```

3. Url to request a signout and cleanup of user specific information

```
@app.route('/signout')
```

4. Root url to display user specific information like, his submitted paper or papers he has to review

```
@app.route('/')
```

5. Url to request the form to submit a paper

```
@app.route('/submission')
```

6. Getter url for all papers in the application

```
@app.route('/paper')
```

7. Post url to validate the form passed by the **/submission** and store it in the Database

```
@app.route('/paper/create', methods=['POST'])
```

8. Url to request a specific paper for edit

```
@app.route('/paper/<int:paper_id>/edit',  
methods=['POST', 'GET'])
```

- only if the requester is registered as and author
- Stores it back into the database on submit

9. Read-only url for a single paper

```
@app.route('/paper/<int:paper_id>', methods=['GET'])
```

10. Administration page for user-roles, Admin only

```
@app.route('/admin', methods=['GET'])
```

11. Post url to store the form information of the **/admin** page into the Database

```
@app.route('/admin/set-role', methods=['POST'])
```

- only accessible by admin

12. Url for a specif review

```
@app.route('/paper/<int:paper_id>/review',  
methods=['POST', 'GET'])
```

- Able to give a score and store it in the review

13. Url to get all the papers submitted by the authenticated user

```
@app.route('/authored', methods=['GET'])
```

14. Url to get all the papers assigned for review to the current user

```
@app.route('/to_review', methods=['GET'])
```

15. Url for the conference chair to admister submitted papers

```
@app.route('/conference_chair', methods=['GET'])
```

16. Url for the conference chair to assign reviewers and set status of the paper itself (accepted, rejected, under review)

```
@app.route('/paper/<int:paper_id>/council/edit',  
methods=['GET', 'POST'])
```

- Only read-access to information of the paper (title, abstract, authors)

Outlook

The current version of the website is just the first step – MVP. There are a lot of points that can be extended to increase the user experience and should be considered in the future.

- Improved ui for mobile
- Extend usablity of the website by working together with the user.
 - example: Select boxes for assigning reviwer, allow double click to assign.
- More validation on all forms and fields
 - example: Minum lenght for title & abstract

- Feedback about wrong input (Currently its mostly the happy path).
- Upload for the file of the paper
 - A way to display the paper on the website
- More concret Role description.
 - What is a normal user allowed to see & change?
 - Can only create papers for him self?
 - Only the intial creator can add authors and can not be removed?
 - What can the conference chair do?
 - Creation of paper?
 - Nominate new conference chair member?
- User & Invitation system.
 - User can send invitation to co-authors of their paper, that are not yet registered on the page.
 - Profile page of user, where other user can see the papers of them.
 - Profile page with avatar and some comments from the user.

2. Setting up the project

download the repository

```
git@github.com:SebastianKapunkt/paper-review-
platform.git
```

cd into the project folder

```
cd paper-review-platform
```

install requirements

```
pip install -r requirements.txt
```

set environment variable

```
export FLASK_APP=app/__init__.py
```

3. Instruction for use of website

Registration

Information required to create an account:

- a username
- firstname
- lastname
- email
- password

You can find the signup page here or under [/signup](#)



please enter the required information into the form:

SignUp

Username

Email

Firstname

Lastname

Password

Sign up

Login

To sign in you need to enter your e-mail and password. You can find the Login under [/signin](#)

Login

Email

example@mail.com

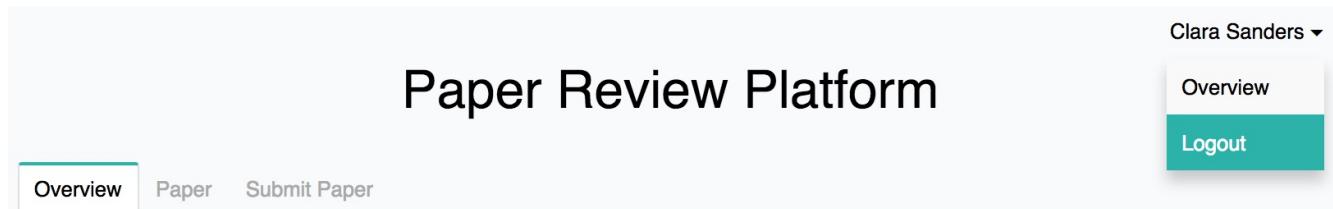
Password

••••

login

Logout

You can find the logout in the top right of the page, in a dropdown by hovering your name. Or go to </signout>



Submitting a paper

For submitting a paper you go to </submission> or find the tap in the navigation bar:



Now you can See the form.

1. Field for the title of the paper.
2. Field for the abstract of the paper.
3. A list of people that can be authors. Note here that if you don't select any author, you will be the author automatically. To assign someone as a author select a user and press on the button 'Add'(4).
4. Buttons to push items from one box to the other. 'Add' will push selected item from left to right and 'Remove' the other way around.
5. This is the list of selected authors. Only the user in that list will be author, don't forget your self if you are one!
6. Once everything is filled you can submit 'create' the paper.

Paper Review Platform

Overview Paper **Submit Paper**

1 Title	2 Abstract	Action 6 create				
3 Authors		4 Add → ← Remove 5				
<table border="1"> <tr><td>council</td></tr> <tr><td>clara</td></tr> <tr><td>peter</td></tr> <tr><td>julia</td></tr> </table>			council	clara	peter	julia
council						
clara						
peter						
julia						

Paper list/detail/edit

List of all paper

All papers that were submitted on this plattform are listed here and shown in reveresd chronological order, latest first

The list of paper can be found here: [/paper](#) or in the navigation bar:

Overview **Paper** Submit Paper

1. Column for title of paper
2. Column for list of authors of that paper
3. Column for status of paper
4. If you click on a row you come to the detail view of a paper

Paper Review Platform

[Overview](#) [Paper](#) [Submit Paper](#)

Title	Authors	Status
The products of a single maize sesquiterpene synthase form a volatile defense signal that attracts natural enemies of maize herbivores	elias	Under Review
Results from a Low-Energy Analysis of the CDMS II Germanium Data	maria peter	Under Review
Zur Rührabhängigkeit des Grenzstromes an teilweise bedeckten rotierenden Scheibenelektroden bei relativ grossen Umdrehungszahlen	clara elias maria	Under Review
Practical application and evaluation of no-SQL databases in Cloud Computing	julia maria peter	Approved
sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam vol	clara elias julia	Under Review

Paper detail view

In this view you can find all the information that are public, to see for all user.

1. Title of the paper.
2. Abstract of the paper.
3. List of the authors.
4. Status of the paper.
5. If you are an author, you can see the edit button and use it to get to the edit view.

Paper Review Platform

Overview Paper Submit Paper

Title		Edit	
Zur Rührababhängigkeit des Grenzstromes an teilweise bedeckten rotierenden Scheibenelektroden bei relativ grossen Umdrehungszahlen			
Abstract		<p>Model electrodes having a known number of active circular sites were used to obtain the dependence of the limiting current on the rate of rotation of disk electrodes. The limiting current may be calculated by means of the formula for the ring electrode if the sites are sufficiently large and sufficiently far apart. For smaller sites, the current is larger than that given by this equation because non-linear as well as linear diffusion and convection contribute to it. The current to each site is influenced by that to neighbouring sites if they are not sufficiently far apart. In this case it was not possible to calculate the contribution of non-linear diffusion to the limiting current. It lay between the value calculated considering linear and non-linear diffusion and that calculated taking into account convection in addition to the two types of diffusion.</p>	
Authors		clara elias maria	
Status		Under Review	

Paper edit

In this view as an author you can edit your paper information. And also add or remove authors (also your self!)

1. Change title of paper.
2. Change abstract of paper.
3. Add & Remove authors.
4. [Save & continue] -- you save the data you changed and also stay on the page.
5. [Save] -- you save the data you changed and go back to the detail view (As a feature request it can also be the list of papers or the users overview page).
6. [Cancel] -- You don't save any data and just go back to the detail view (Or if requested as a change to another view).
7. Status of the paper

Paper Review Platform

Overview Paper Submit Paper

Title

Zur Rührabhängigkeit des Grenzstromes an teilweise bedeckten rotierenden Scheiben

Abstract

Model electrodes having a known number of active circular sites were used to obtain the dependence of the limiting current on the rate of rotation of disk electrodes. The limiting current may be calculated by means of the formula for the ring electrode if the sites are sufficiently large and sufficiently far apart. For smaller sites, the current is larger than that given by this equation because non-linear as well as linear diffusion and convection contribute to it.

Authors

julia	
council	
peter	

Actions

- save and continue
- save
- cancel

Status

Under Review

User overview page and review

User overview page

This page is the landing and main page for the logged in user (you 😊)
 You can find it at the root "/" or in the navigation bar:

Overview Paper Submit Paper

Here you have two 'filter'/main lists of paper

1. Your submitted papers / where you are author
2. Papers where you are assigned to review

submitted

to review

Submitted paper

This is a list of papers you submitted or you are an author of.

1. Title of the paper.
2. Authors of the paper.
3. Status of the paper.
4. If you click on a row you come to the detail view of the paper ([explained here](#)).

Clara Sanders ▾

Paper Review Platform

submitted

to review

Title 12
Authors3
Status

Zur Rührabhängigkeit des Grenzstromes an teilweise bedeckten rotierenden Scheibenelektroden bei relativ grossen Umdrehungszahlen 4

clara
elias
maria
Under Review

sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam vol

clara
elias
julia
Under Review

Papers to review

This is a list of papers where you got requested from the conference chair to review them.

1. Column title of paper.
2. Column authors of paper.

3. Column status of paper.
4. Column of score of your review of that paper. It is None if you haven't reviewed it yet or has the score you have it.
5. If you click on the row you can go to submit or change a review

Clara Sanders ▾

Paper Review Platform

Overview Paper Submit Paper

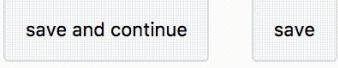
submitted	to review
Title  The products of a single maize sesquiterpene synthase form a volatile defense signal that attracts natural enemies of maize herbivores 	Authors elias Status Under Review Score None
Practical application and evaluation of no-SQL databases in Cloud Computing	julia maria peter Approved 2

Review a paper

At this page you can see the papers you were requested to review

Review

Please add a review:

1. represents the rating in stars.
 - o 1 star = -2
 - o 2 stars = -1
 - o 3 stars = 0
 - o 4 stars = 1
 - o 5 stars = 2
2. This button will submit your review and you will stay on that page.
3. This button will submit your review and you will be redirected to

your overview page

4. The title of the paper to review.
5. The abstract of the paper to review.

The screenshot shows a web-based application for reviewing scientific papers. At the top right, it says "Clara Sanders". Below the header, there are three tabs: "Overview", "Paper" (which is highlighted with a teal underline), and "Submit Paper". The main content area is titled "Review". It prompts the user to "Please add a review:" and provides a 5-star rating scale where the first star is circled in red. There are two buttons at the bottom of this section: "save and continue" and "save". Below this, the "Title" field is filled with "(4)" and contains the text: "The products of a single maize sesquiterpene synthase form a volatile defense signal that attracts natural enemies of maize herbivores". The "Abstract" field is also filled with "(5)" and contains a detailed paragraph about maize's defense mechanism against herbivores, mentioning the TPS10 gene and its products like (E)-β-farnesene and (E)-α-bergamotene.

Conference Chair

If you are a member of this group you will be able to access the 'conference chair' site. You can find it in the navigation bar:

The screenshot shows a navigation bar with four tabs: "Overview", "Paper", "Submit Paper", and "Conference Chair". The "Conference Chair" tab is highlighted with a teal underline, indicating it is the active or selected tab.

List of paper

1. Column title of paper.
2. Column reviewer of paper. This are the user that are assigned by the conference chair to review a paper.
3. Column authors of paper.
4. Column status of paper.

5. Column score of review of paper. This is the average over all the scores in reviews given.
6. When you click on a row you will come to the work view for the conference chair of that paper.

Conference Chair ▾

Paper Review Platform

Overview	Paper	Submit Paper	Conference Chair	
(1)	(2)	(3)	(4)	(5)
Title	Reviewer	Authors	Status	Score
The products of a single maize sesquiterpene synthase form a volatile defense signal that attracts natural enemies of maize herbivores	clara julia peter (6)	elias	Under Review	None
Results from a Low-Energy Analysis of the CDMS II Germanium Data	maria peter		Under Review	None
Zur Rührabhängigkeit des Grenzstromes an teilweise bedeckten rotierenden Scheibenelektroden bei relativ grossen Umdrehungszahlen	clara elias maria		Under Review	None
Practical application and evaluation of no-SQL databases in Cloud Computing	clara elias	julia maria peter	Approved	2.0
sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam vol	maria peter	clara elias julia	Under Review	None

Work view for the conference chair

1. Title of the paper.
2. Abstract of the paper.
3. Add & Remove reviewer. Note that if you unassign a reviewer the review is gone to, even if you add the reviewer again.
4. Button to set the status 'approve'
5. Button to set the status 'rejected'
6. Button to set the status 'under_review'
7. [save and continue] -- save changes made on the page and stay on the page.
8. [save] -- save changes made and go back to the list of paper (conference chair).
9. [cancel] -- save nothing and go back to list of paper (conference chair).

chair).

10. Current status of the paper.
11. Authors of the paper.
12. Reviews of the paper. First row is the average score of the paper over all reviews. The following rows are the individual reviews with their scores.

Conference Chair ▾

Paper Review Platform

Overview Paper Submit Paper Conference Chair

Title 1

The products of a single maize sesquiterpene synthase form a volatile defense signal that attracts natural enemies of maize herbivores

Abstract 2

Plants can defend themselves against herbivores by attracting natural enemies of the herbivores. The cues for attraction are often complex mixtures of herbivore-induced plant volatiles, making it difficult to demonstrate the role of specific compounds. After herbivory by lepidopteran larvae, maize releases a mixture of volatiles that is highly attractive to females of various parasitic wasp species. We identified the terpene synthase TPS10 that forms (E)- β -farnesene, (E)- α -bergamotene, and other herbivore-induced sesquiterpene hydrocarbons from the substrate farnesyl diphosphate. The corresponding gene is expressed in response to herbivore attack and is regulated at the transcript level. Overexpression of tps10 in *Arabidopsis thaliana* resulted in plants emitting high quantities of TPS10 sesquiterpene products identical to those released by maize. Using these transgenic *Arabidopsis* plants as odor sources in olfactometer assays showed that females of the parasitoid *Cotesia marginiventris* learn to exploit the TPS10 sesquiterpenes to locate their lepidopteran hosts after prior exposure to these volatiles in association with hosts. This dissection of the herbivore-induced volatile blend demonstrates that a single gene such as tps10 can be sufficient to mediate the indirect defense of maize against herbivore attack.

Reviews

council	Add → 3
maria	← Remove
Set status	
approve	
reject	
review	

Actions

4 save and continue
5 save
6 cancel

Status 10

Under Review

Authors 11

elias

Reviews 12

summary	1.0
clara	None
julia	1
peter	None

4. Early on sketch

20/21

