Project trckr

Technical Article

Ankeshian, Gabriel

ankesgab@students.zhaw.ch

Balidis, Dimitri

baliddim@students.zhaw.ch

Christen, Luca

chrisluc@students.zhaw.ch

Jossi, Savino

jossisav@students.zhaw.ch

Milenkovic, Daniel

milendan@students.zhaw.ch

Nominato, Angelica Helena Moreira Alves

moreiane@students.zhaw.ch

Pacassi, David

pacasdav@students.zhaw.ch

May 2018

The main goal of the present article is to describe the idea, goals and main functionalities of the web based app trckr. Trckr is for everyone, who works on a project and wants an intuitive and simple web tool with easy to learn handling.
To have an easy development, the backend is written in Python with the help of the framework Django, the frontend with the Javascript framework Vue.js. Users are able to create and edit projects after a successful registration. Time tracking starts with single tasks a user creates.
In order to compete with other tools and web services, trckr has big advantages in performance and usability. To extend the reach of trckr, more functions are planned to display projects and tasks in a user-friendly manner. These planned features will give trckr a great advantage towards ever increasing complexity in project management and task tracking, this would be especially useful for larger companies. Additionally we provide trckr as an open source solution and everybody can contribute features that could be useful for the greater user base.

Contents

1 Introduction 4

1.1 Objectives 4

1.2 Main Features 4

2 Technolgies 4

2.1 Django 4

2.2 PostgreSQL 5

2.3 Vue.js 5

3 Results 5

3.1 APIs 5

3.2 User Interface 6

4 Outlook 8

5 Conclusion 8

6 Bibliography 8

1 Introduction

Time tracking is an important process for daily business to have insight on the productivity of a team, this lead to ever improving processes and tools that allow for easier time tracking, no matter which branch. This also lead to multiple methods and tools being developed and enhanced in parallel, many methods are not very helpful for a certain branch because they might give enough insight or have too many features that are not going to be used. Yet these methods might be good for another branch, this tells us, that diversity is in no way an issue and tools and methods are adapting to teams, and not the other way around.

1.1 Objectives

The goal with project trckr is to develop and distribute a time tracking webapp, that is very easy to understand and use. It is highly important to have the least amount of steps possible, for a user to track his time on single tasks.

1.2 Main Features

The user is able to:

- register and login to trckr
- create and edit projects
- create, track and edit tasks
- visit trckr also on a mobile browser

2 Technolgies

2.1 Django

Django is an open source web framework written in Python. It is very useful for fast, clean and simple development of web applications.
One of the main advantages is its fast setup, therefore you can start developing your application very quick. Django comes with support of various database integrations.

2.2 PostgreSQL

Trckr runs with a PostgreSQL database in the backend. PostgreSQL is fully supported by Django and implemented from the beginning. With Django in use, not much has to be configured for the database, because the whole database is written by Django.

2.3 Vue.js

Vue.js is a progressive framework for building user interfaces.[1] Trckr is developed with Vue.js mainly for its simplicity and the rather shallow learning curve it provides to unexperienced developers. The features that Vue.js provides, allow the creation of data structures that can easily be displayed in the HTML of a page. This and the ability to easily make calls to the backend makes it a perfect all-round framework for trckr.

3 Results

As you can see in the figure 1, we have built a pretty simple architecture, including Django with PostgreSQL in the backend and a frontend based on Node.

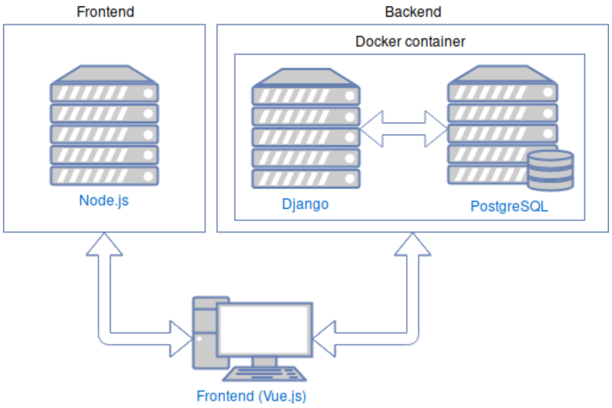
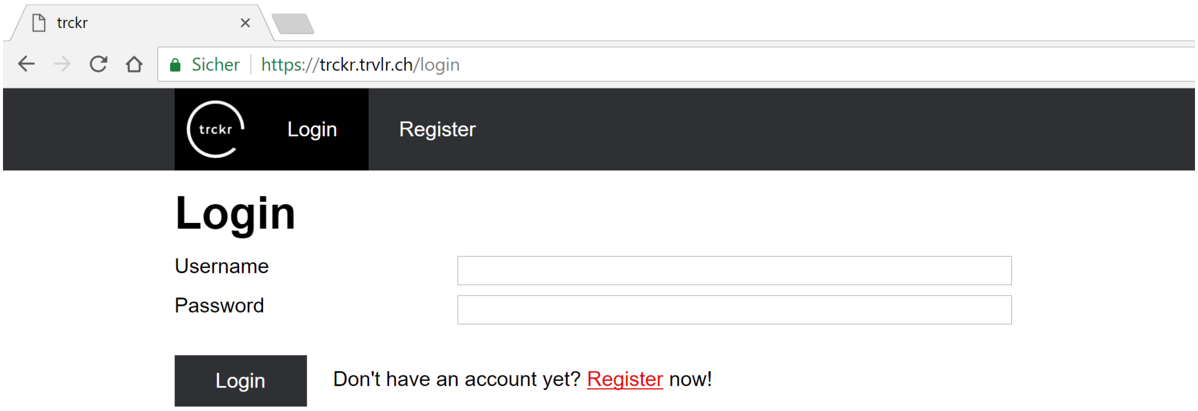


Figure 1: Architecture of trckr

3.1 APIs

TODO

3.2 User Interface



Login

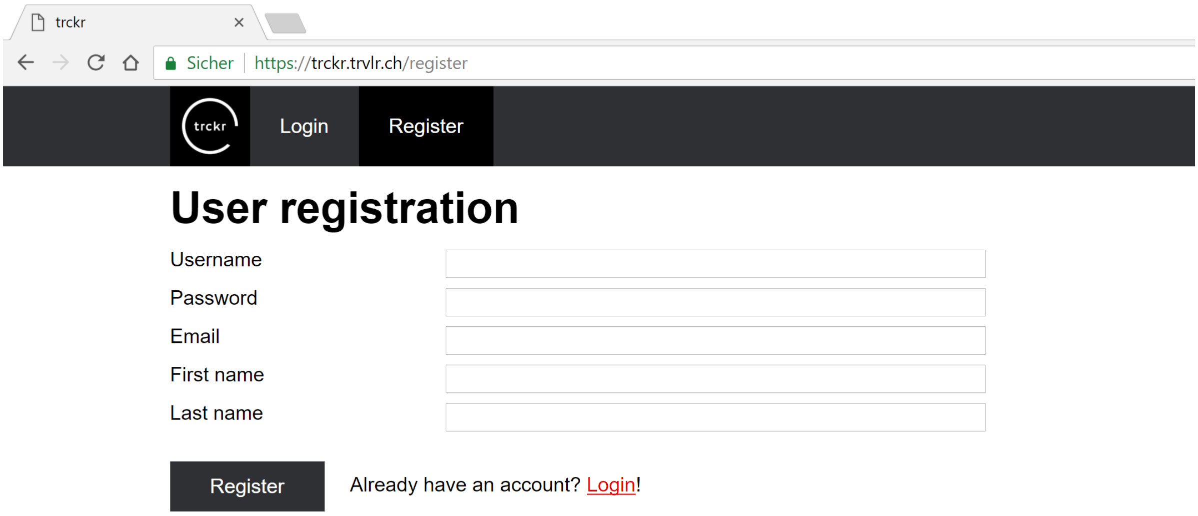
Username

Password

Login

Don't have an account yet? Register now!

Figure 2: The trckr login page.



User registration

Username

Password

Email

First name

Last name

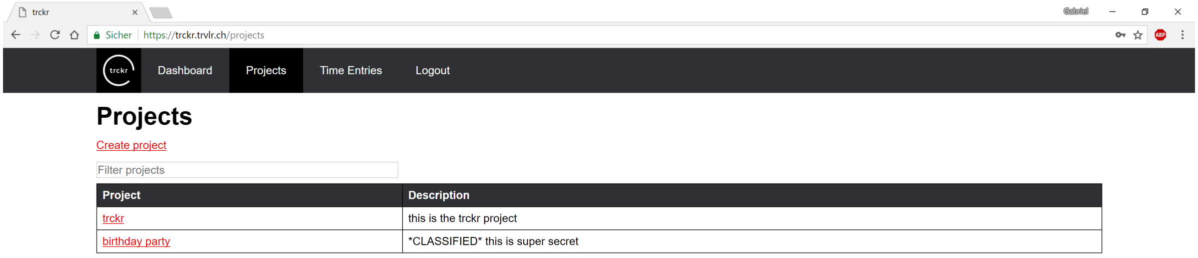
Register

Already have an account? Login!

Figure 3: The trckr registration page.

The first thing one sees when visiting trckr, is that there is a login page. For people that are not yet registered there is the option to register through a ”Register” link. Filling out the registration form will trigger a call to the backend to create a user. The response to this call will contain an authentication token, this allows the user to be logged in directly after registering. Similarly, when submitting the login form the backend will reply with an authentication token that allows an existing user to be logged in.

At the moment of registration the navigation bar on the top of the interface will contain a link to the dashboard, the projects page, the time entries page as well as a logout button.
The dashboard displays graphs...TODO



Projects

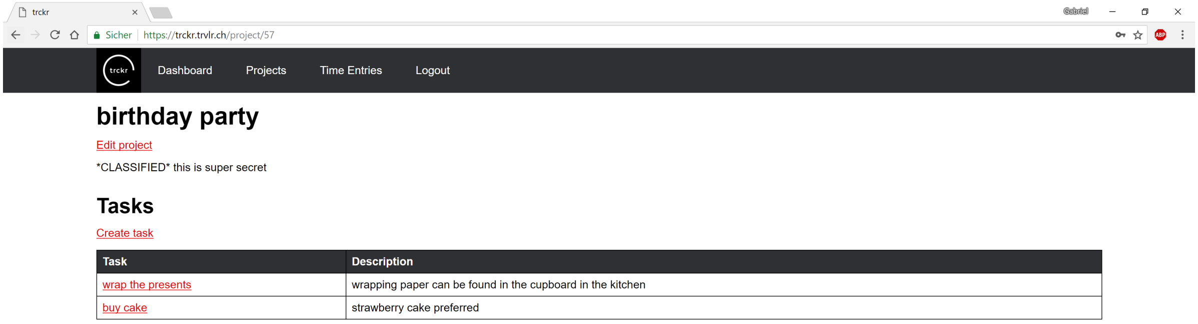
Create project

Filter projects

Project	Description
trckr	this is the trckr project
birthday party	*CLASSIFIED* this is super secret

Figure 4: The projects page.

On the projects page one can see a table of all the projects that the currently logged in user is a part of. The table is automatically generated by Vue.js and it contains a row for each project. Above the projects table there is a textfield that allows a user to filter for a project or a group of projects that contain the given substring. To create a new project a user will have to navigate to the projects page and click on the ”Create project” link which will open the project creation form. In this form a user can specify a name for the project as well as an optional description.
Each project can be viewed in more detail when the project inside the table is clicked. As the figure below is showing, the project page will contain the name, the description and a table of all the tasks in the current project.



birthday party

Edit project

CLASSIFIED this is super secret

Tasks

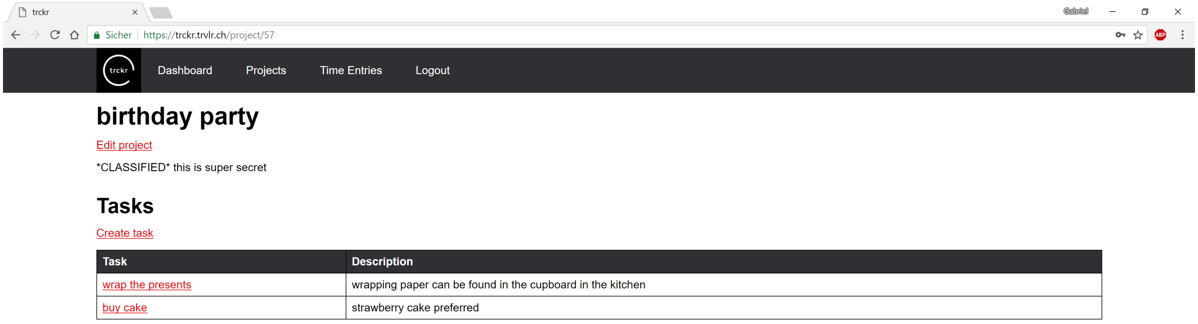
Create task

Task	Description
wrap the presents	wrapping paper can be found in the cupboard in the kitchen
buy cake	strawberry cake preferred

Figure 5: The projects page with the table of all projects.

Clicking on a task will display the details of said task, at the current state that is only the

name and the description of the task.
On the ”Time Entries” page a user can create a time entry for a specific task of a project. There is a link on the page that leads to the time entry form. In said form the user has to chose a project first and then a task of the project for which the time entry should be created.



birthday party

Edit project

CLASSIFIED this is super secret

Tasks

Create task

Task	Description
wrap the presents	wrapping paper can be found in the cupboard in the kitchen
buy cake	strawberry cake preferred

Figure 6: The form to add a time entry to a task.

All time entries will be displayed on the time entry page.

4 Outlook

Outlook...

5 Conclusion

Conclusion...

6 Bibliography

Bibliography...

References

[1] https://vuejs.org/ ; as 10.05.2018

List of Figures

1 Architecture of trckr 5

2 The trckr login page. 6

3 The trckr registration page. 6

4 The projects page. 7

5 The projects page with the table of all projects. 7

6 The form to add a time entry to a task. 8