Tallinn University Of Technology

# Team management system for TalTech's programming courses

Project proposal

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## Author’s declaration

I hereby declare that I am the sole author of this thesis. All used materials, references to the literature and the work of others has been referred to. This thesis has not been presented for examination anywhere else.

Taavi Toimetaja

25.02.2024

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# Introduction

As of right now, at the time of writing this thesis, there is no centralized environment to keep track of teacher's assistants (shortened to TA from this point on) in TalTech's programming courses (ITI0102 and ITI0202). Point, time and lab attendance tracking is done via spreadsheets (one for attendance tracking and general information and one per TA for point tracking), information is shared via Discord and polls are held either on discord or StrawPoll. When there are over 20 TA's enrolled for one course, it becomes somewhat difficult to keep track of everyone and to do some basic statistics. Plus for every new course, a whole lot of new spreadsheets need to be created and configured to synchronize properly.

The aim of this project is to create a centralized team management system, where it is easy to create new courses, keep track of TAs and their point/time progress, organize labs (and keep track of who attended them), share information via an announcement system (which keeps track of who has seen it) and a polling system. The system is set to be designed as flexible as possible, so new features, if needed, could be added easily.

This thesis is divided into three parts: first part gives an overview of the application, second part details the database schematic and final part goes into detail about the user experience.

# 1. Overview

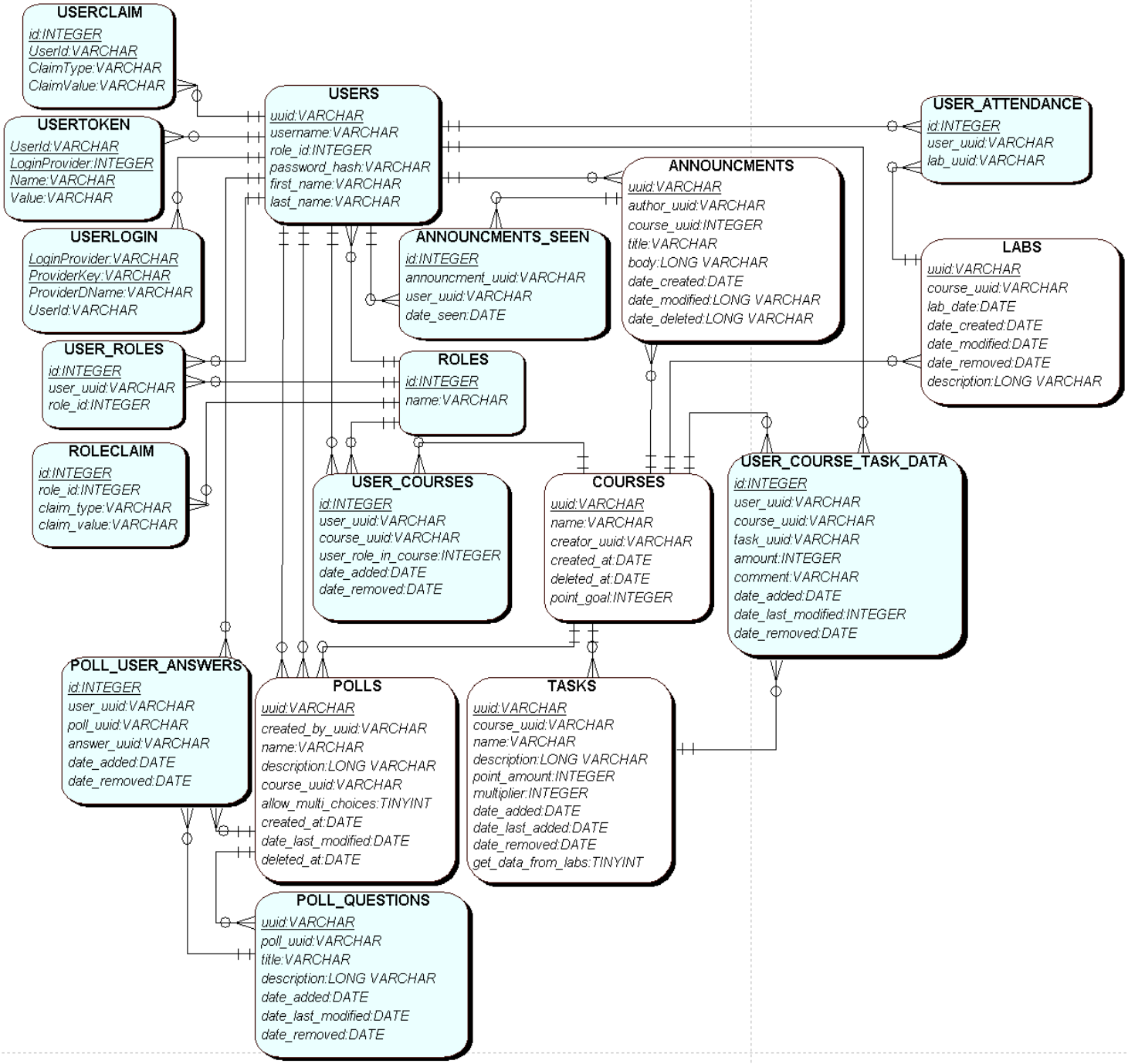
The application is aimed to be used in various TalTech programming subjects (mainly at first - ITI0102 and ITI0202) to track TAs progress in the course and to simplify management. Users are created by those who manage said subjects (site admins) - one per person. With that account, users can join courses, that they take part in as teachers assistants or organizers.

After joining a course, users are greeted with a dashboard overview. Said overview contains a description about the course, recent announcements made by organizers, a module for upcoming labs, showing when it takes place and who is attending, recent polls with voting options and last but not least the user's current point table and a progress bar.

Organizer dashboard borrows a few elements from the regular one (mainly polls, announcements and description panel). Point panel is replaced by an overview of current top scorers (most active TAs) and a brief overview of latest actions.

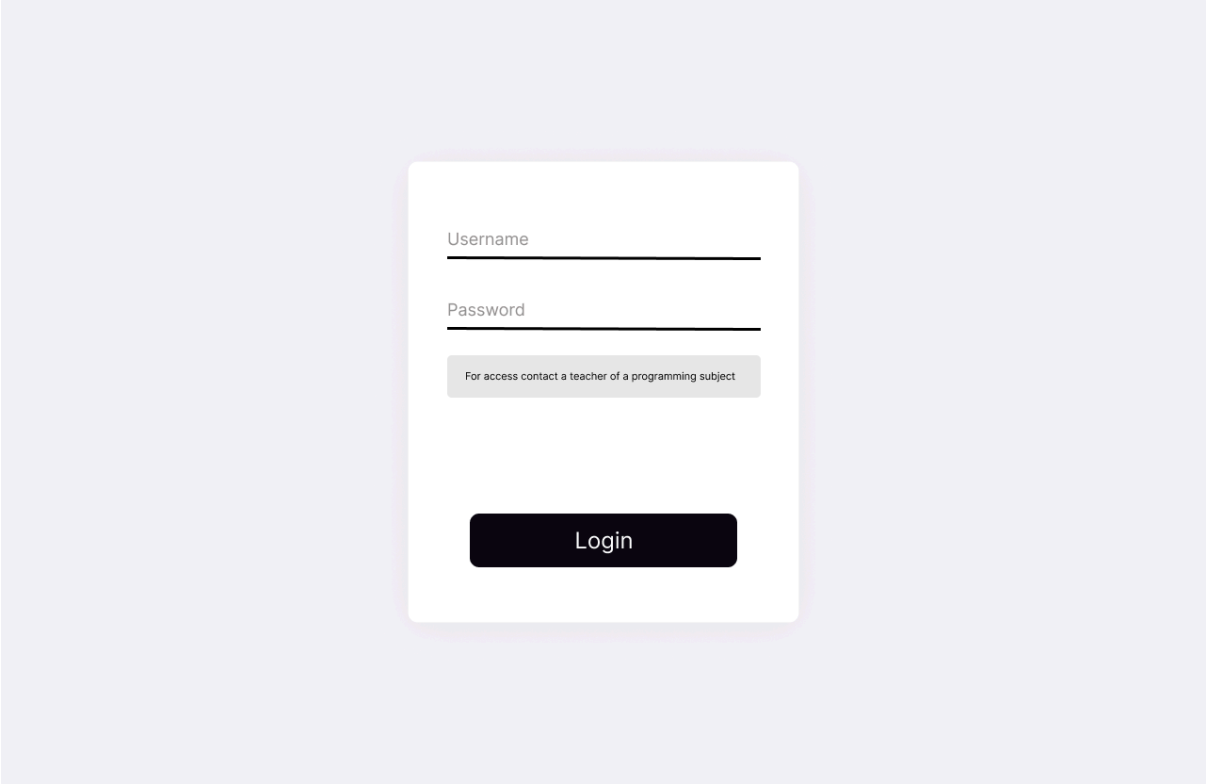
Everything seen on the dashboard also has its own section, where you can create, edit or remove data (ie. add a completed task or register yourself to attend a lab). Users with the organizer role can create/modify tasks, add or remove lab dates and create polls and announcements. Announcements are also tracked - that means when there is a new announcement, it gets sent as a popup message, that the user has to close out of, which marks that they have seen it.

## 2. Database design

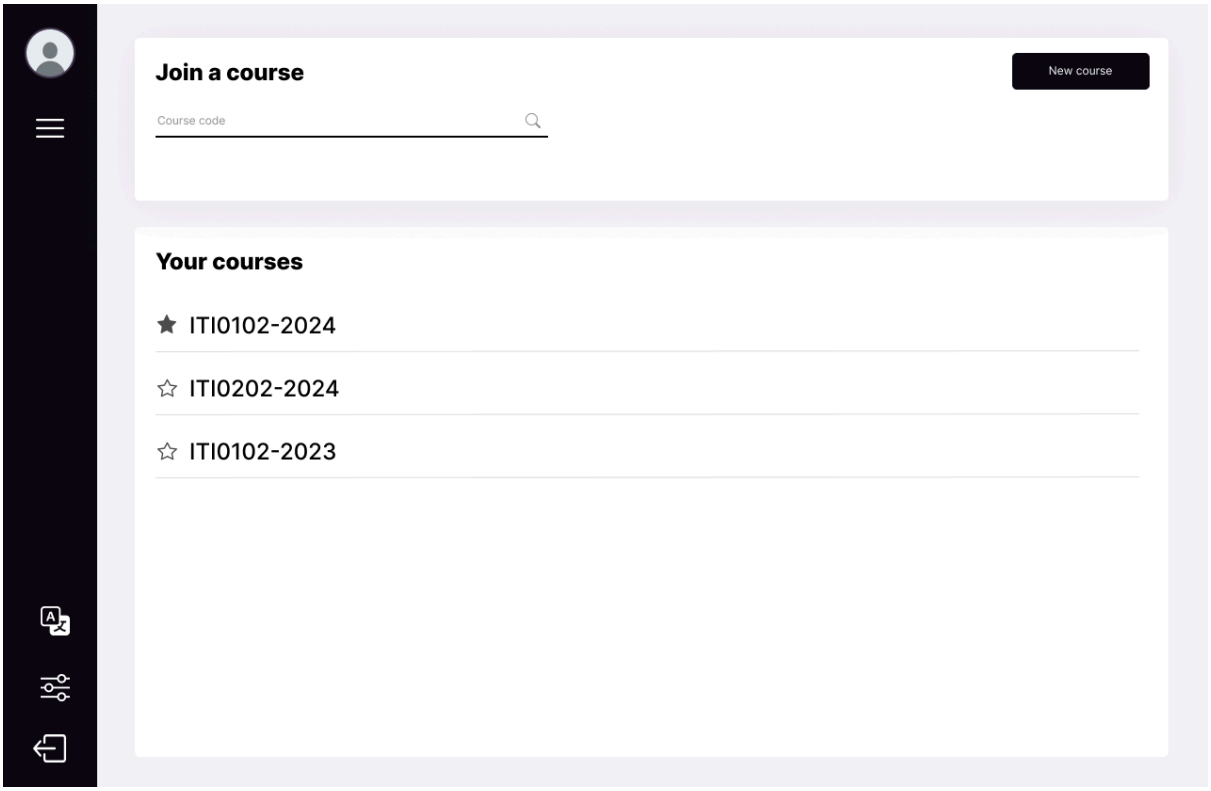


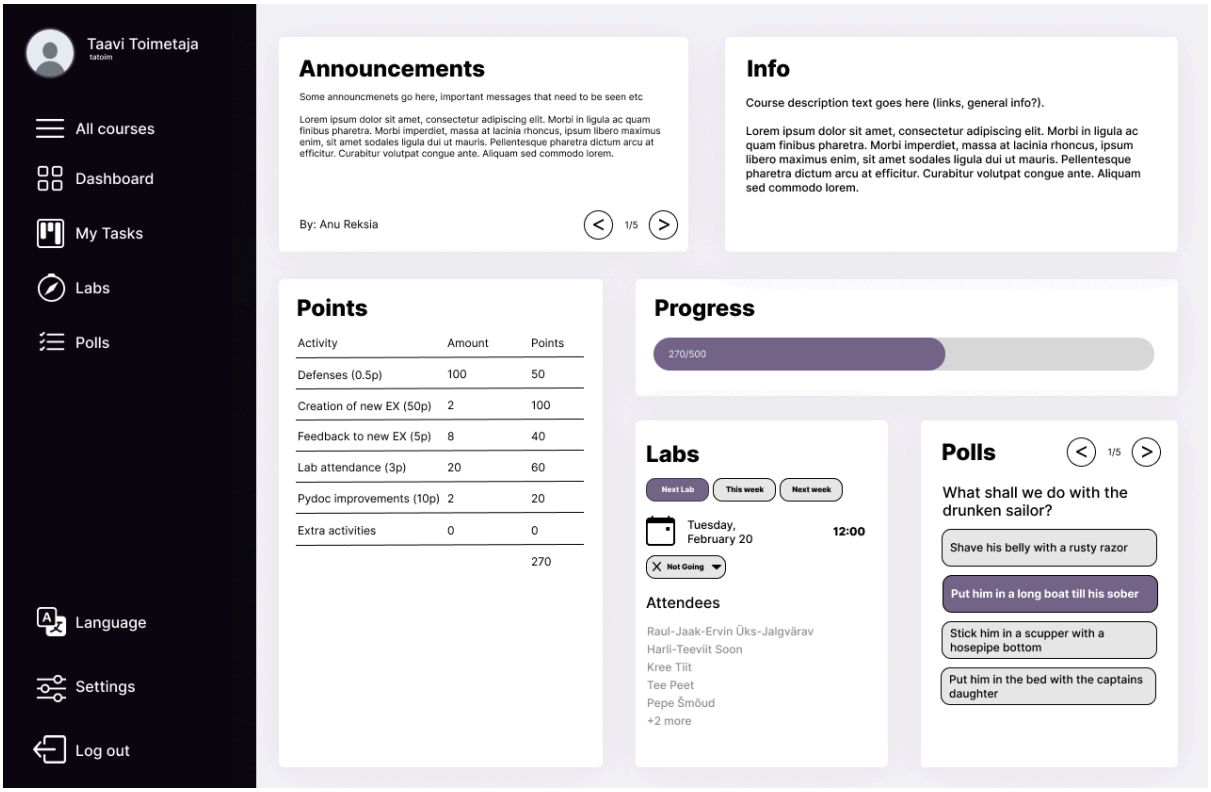
# 3. User flow

## 3.1. Login screen



## 3.2. Course selection page




## 3.3. User dashboard page