

SMALL SCALE RESERVATION SYSTEM

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Introduction

This poster focuses on the reservation system that was developed for Tartu Dogs Agility Arenguselts during MTAT.03.138 Software Project course.

Our web application's back-end is written in Django Framework and front-end in Javascript. We use Maksekeskus merchant application for payments and bills. It has interfaces for both admin and regular users. Our project was requested by Tartu Dogs Agility Arenguselts, but it can be optimized for use by other companies which need a similar reservation system.

Key features

- Admin can verify users before access allowed
- System is integrated with a payment system that has all the common banks
- System ensures that only users with a reservation can access the facility
- Users can make a reservation for multiple dates at once
- Users can delete/modify their reservations without contacting admin
- Easily customizable thanks to separate backend and frontend logic
- User-friendly design
- Remains partly functional after main server is down
- Thoroughly tested code

How the system works?

The system has 2 instances. One instance is the public server which contains all the web logic and a database. The second instance is the gate controller (Raspberry PI in our case) which has only a replicated database which it uses to control the gate. Gate can be opened with either a PIN or a button (a key). Using 2 separate instances allows us to access the resources even if the main server is offline.

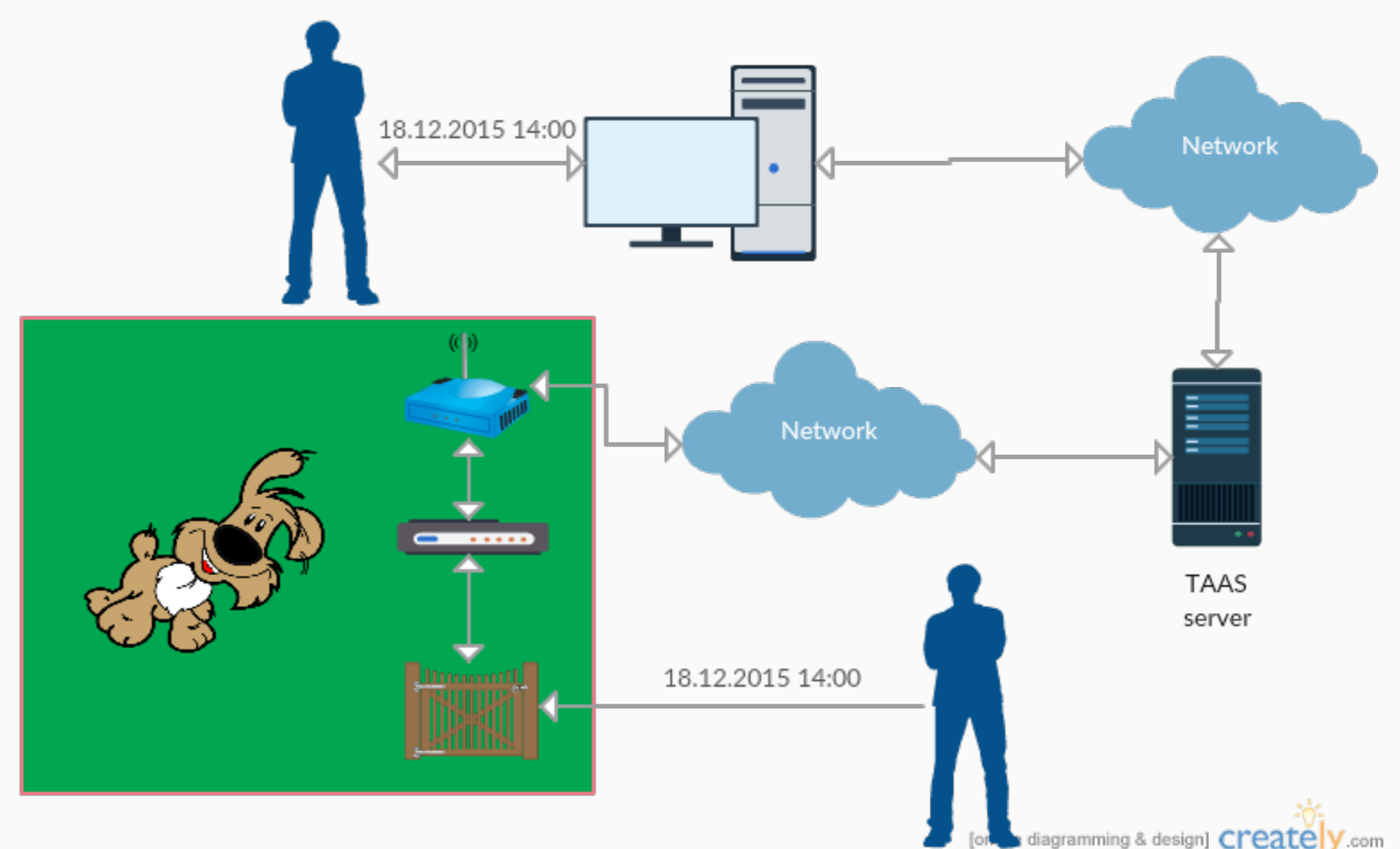


Fig. 2: The gate system

On the figure above user A makes a reservation for 2 o'clock on 18th of December. The time and date are then stored in the database on the server. Raspberrypi replicates the database, so it also knows that user A has a reservation at 2 o'clock on 18th of December. When user A arrives to the field at the right time and date, and enters his PIN, the gate will open for him.

How reservation works?

The main page of the booking system for the Tartu Dogs Agility Training Ground features tabs for different functionalities. On the main page the user can select a date and then click on suitable available timeslot(s) to book a training field.

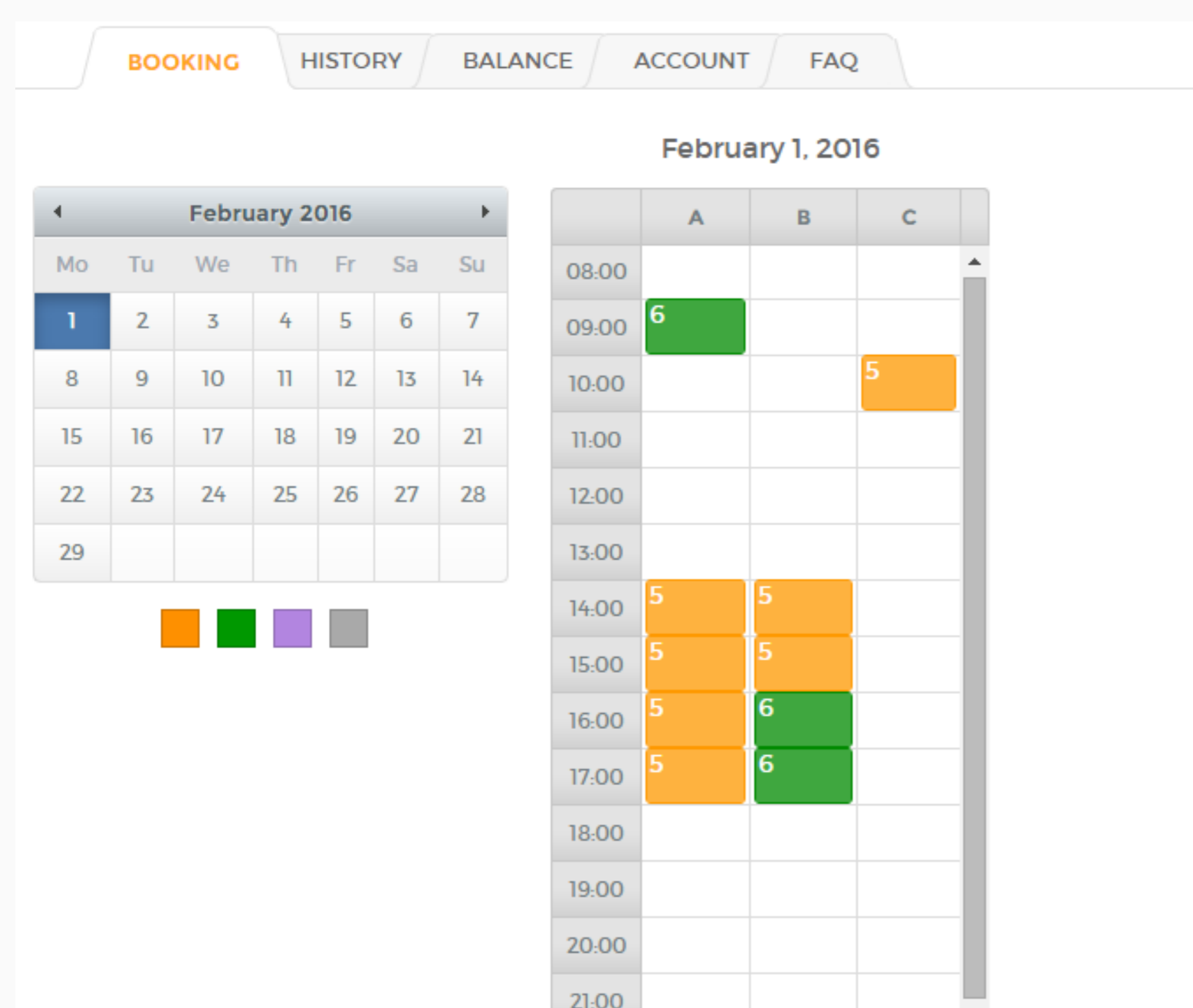


Fig. 1: Reservations page

Project repository on Github: <https://github.com/cryptotex/taas>
Working version of the project: <http://broneering.taas.ee/>
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