Programming Database Web Applications

Prof. Alfons Kemper
Varun Pandey
Alexander van Renen (renen@in.tum.de)
Topics

1. Welcome
2. Course Organization
3. Inspiration for Projects
4. Prospeum Pitch
The Plan

24. Oct
Kickoff meeting

You are here

End of March
Final presentation

Goal
The Plan

Project ideas and group finding (until ~7. Nov)
- Come up with an idea
- “Elevator” pitch (30s - 2min, slides, rough mockup/picture)
- Form groups of 3-4 students

24. Oct
Kickoff meeting

~7. Nov
Project ideas and group finding

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The Plan

Vision document (until ~21. Nov)
- Define minimal viable product
- Define final project goals
- Slides with mockups + technology stack (2 - 5min)

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~7. Nov
Project ideas and group finding

~21. Nov
Vision document

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Vision Document

- Similar to scope + requirements statement
- Requirements statement ("Lastenheft"):  
  - Motivation + Problem description  
  - Project goal (what would the final product look like)
- Scope statement ("Pflichtenheft"):  
  - System Architecture  
  - Technology stack  
  - Project scope (what will we implement for this course)
- Roughly 2-3 pages
- Due 21. November
The Plan

Goal

Mineral viable product (before 24. Dec)
- Implement first prototype
- Demo some functionality
- Technology stack analysis

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Vision document

< 24. Dec
Minimal viable product

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#1 Smart Weather Forecast

Build a website to interactively explore these the differences between the forecasted weather and the actual (measured) weather.

- Allows professionals to identify weaknesses in weather models
- Detect which weather service is best for which location
- Analyse difference between forecast and measurement
- Temperature, wind, pressure ...
- Big data management: 100GB+ weather data
#2 Traffic Aware Routing

User wants to drive from A to B and wants to arrive by datetime X. When should he/she depart to minimize the travel time?

Tasks:

- Get necessary data from public data sources
- Design and create database
- Design and implement web interface
- Plot estimated travel (y axis) and departure times (x axis)
#3 phpMyAdmin for node.js

This project would allow web developers to configure their database in node.js.

Tasks:

- Design and create secure management platform for a modern database.
- Could be done for postgres to help make it more popular in the node community.
- Many possibilities: Provide enhanced analytics, easy setup, management features, monitoring ...
- Contribution to open source community.
#4 Tutor Tool (!!!)

A website to help manage big lectures with multiple tutor groups.

Features:

- Existing system
- Tutored accounts, tutor groups, bonus points, export, import
- If finished (and good), it will definitely be used!
US has a number of National Parks and areas which do not have cellular coverage. Also, a number national parks do not have any options for food/water at the visitor centers.

Tasks:

- Design and populate various databases for cellular coverage, and national parks that do not have food options etc
- Make an app that allows a user to plan a trip based on the data that you populated
One More Thing ...

Open datasets (https://www.google.com/publicdata/directory) !!!!