Programming Database Web Applications

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Topics

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

Goal

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

End of March
Final presentation
The Plan

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

24. Oct
Kickoff meeting

~7. Nov
Project ideas and group finding

~21. Nov
Vision document

End of March
Final presentation
The Plan

Goal

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

24. Oct
Kickoff meeting

~7. Nov
Project ideas and group finding

~21. Nov
Vision document

< 24. Dec
Minimal viable product

???

End of March
Final presentation
#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)
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.

#3 phpMyAdmin for node.js
#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) !!!!