

Programming Database Web Applications

Prof. Alfons Kemper

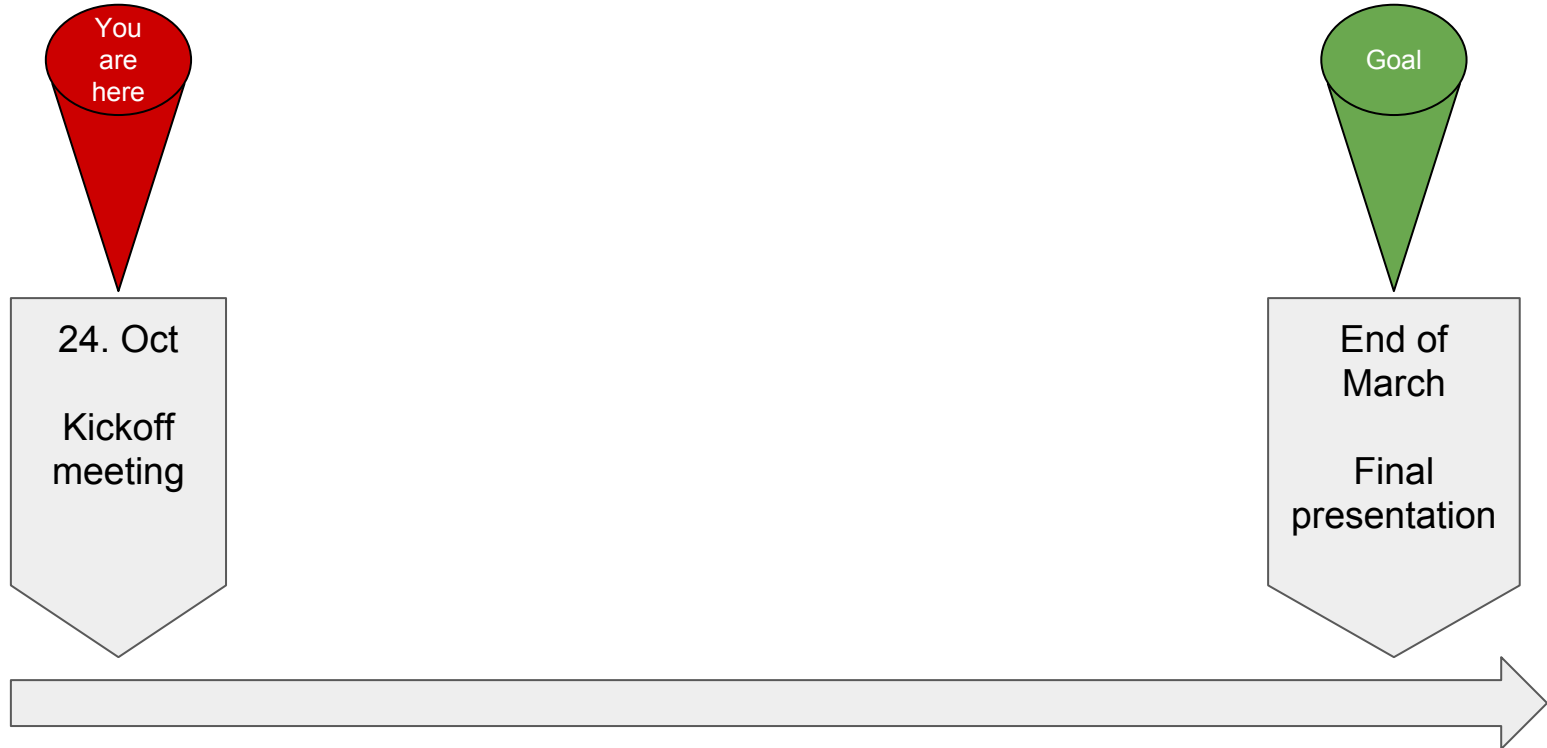
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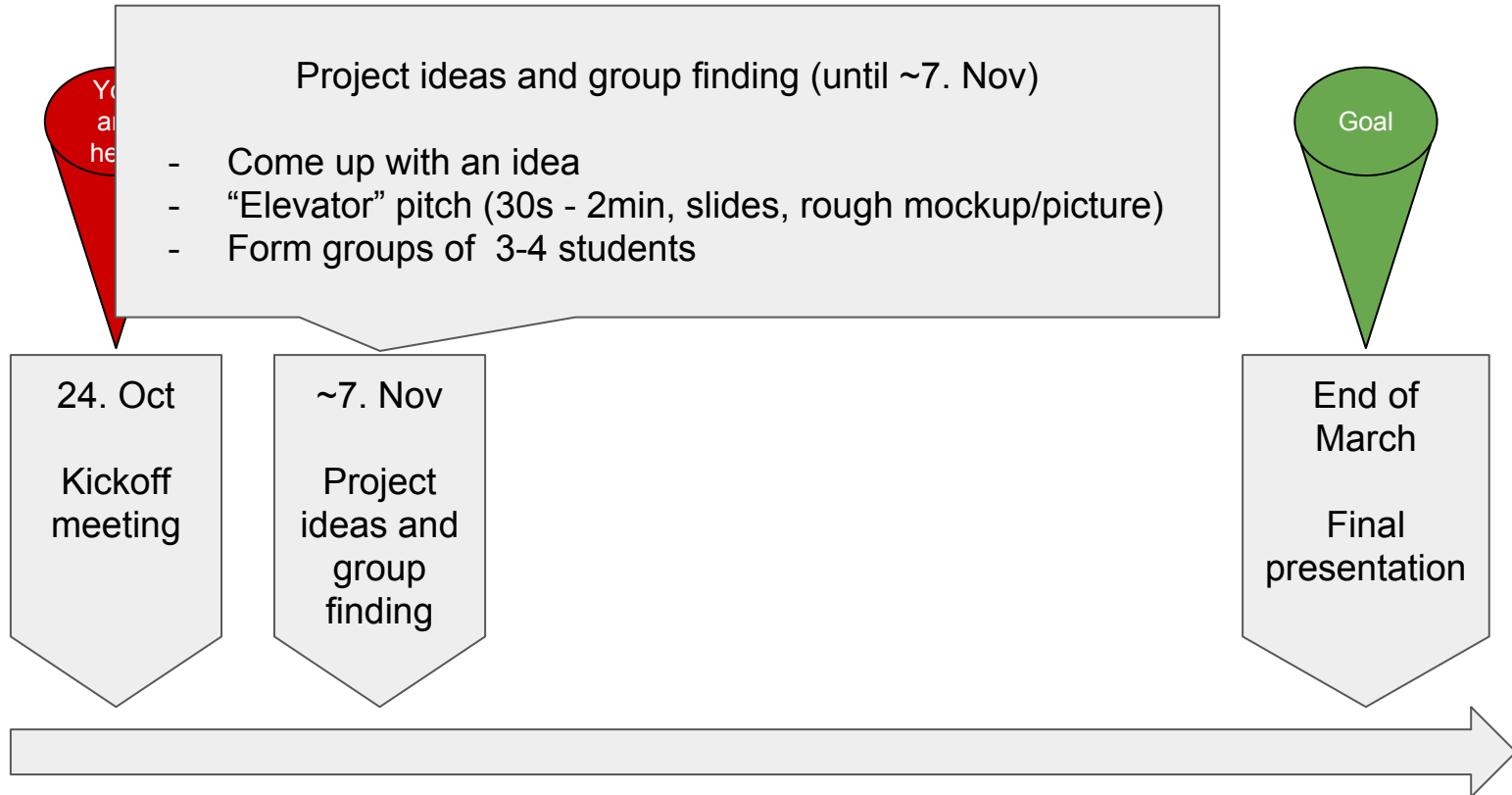
Topics

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

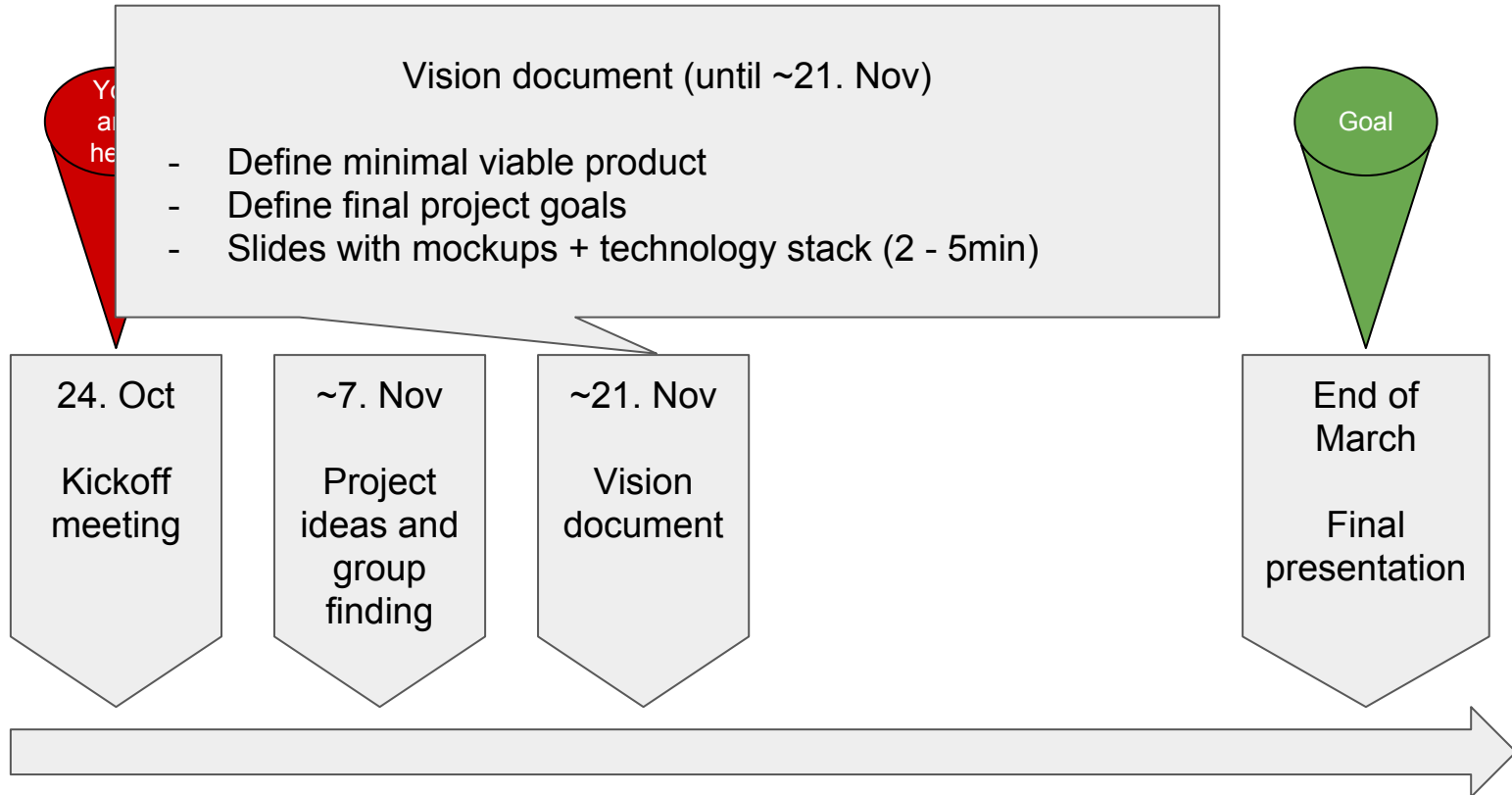
The Plan



The Plan



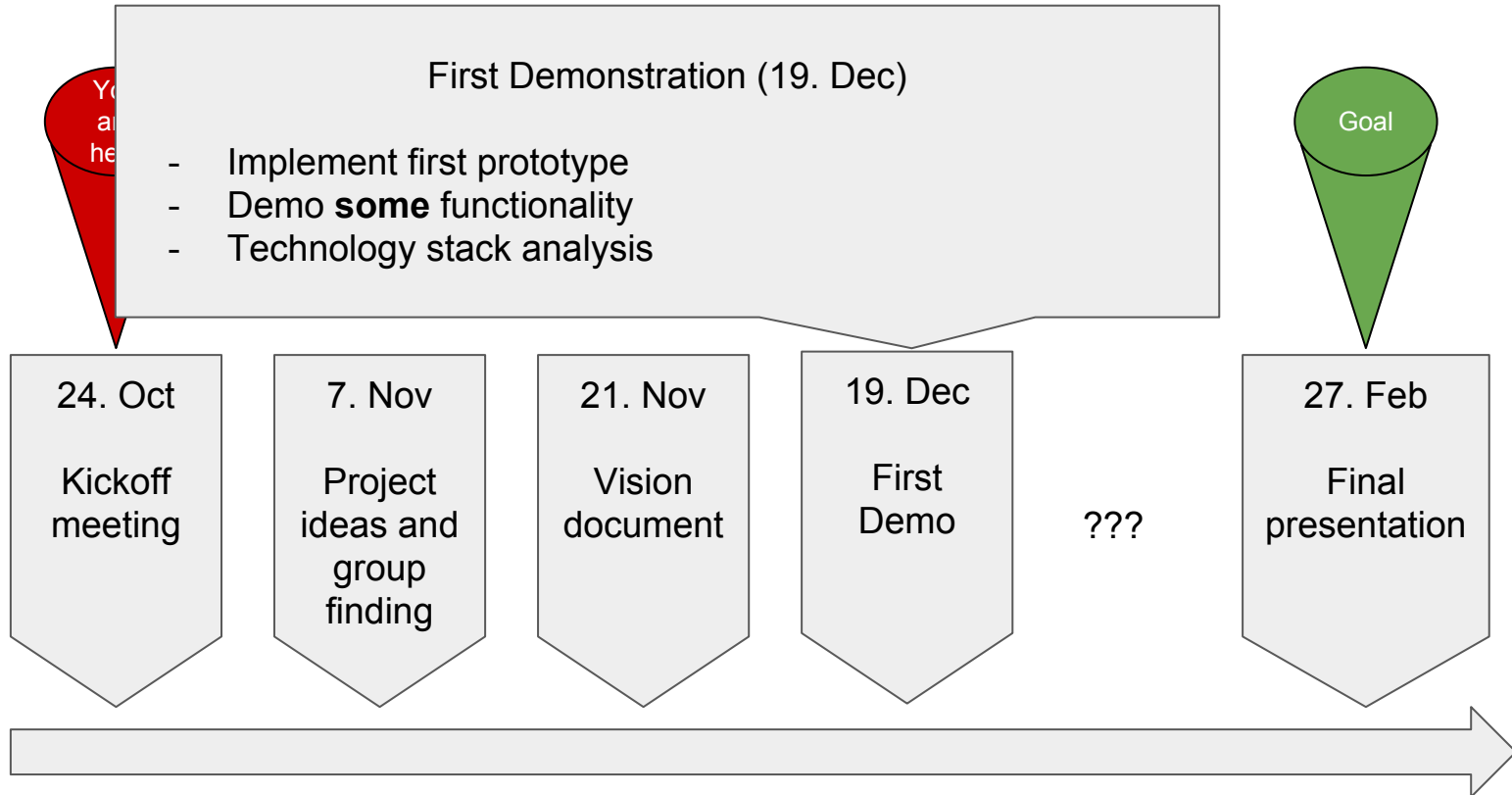
The Plan



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



First Demonstration

- Implement the first prototype
- Demo **some** functionality
- Technology Stack Analysis:
 - Justify the choices for the stack
- Lessons learnt
 - What were the problems that you faced?
 - How did you solve them?
 - How did you divide the work among you?
- 5-8 slides
- Due 19. December

#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 !

#5 Plan Ahead

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>) !!!!