



# **openHPI: Advanced Web Programming Topics for MOOCs**

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Presentations and project works in teams of 2-4 people. Additional topics available on request. We are open to topic suggestions from participants, as long as they fit in the context of openHPI / MOOCs.

## **Topic 1: Offline Availability of Web-Apps and Mobile Usage**

How can we use Technologies like Service Worker and Client Side Rendering to enable learning with no or low internet connectivity? Can these technologies also be used to increase the site performance und the user experience for users with a good internet connection?

## **Topic 2: Improving performance of SOA Web Applications**

openHPI consists of 20 Services, all written in Ruby. How can the overall Performance can be improved. Research and work in this field could be done on improving the existing services, improving the service to service communication or the evaluation of new technologies and frameworks.

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## **Topic 3: Monitoring of SOA Web Application**

How can the current monitoring Stack (New Relic) be replaced by a local service (maybe using Elasticsearch LogStash) or other technologies.

## **Topic 4: Global Recap Mode**

Improving and Extending the recap mode.

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## **Topic 5: New Services and Apps**

Prototype new services or stand alone tools to extend the openHPI feature set. This could also mean integrating existing or reusing existing apps.

Example: Automated Slide detection, Collaboration tools, ...

## Topic 6: Canary Release

New features can behave very different in development, test and production environments. Canary release is a technique that allows to slowly roll out new features and monitor effects on metrics like the error rate or performance.

We want to explore the implications on the openHPI apps when introducing canary release.

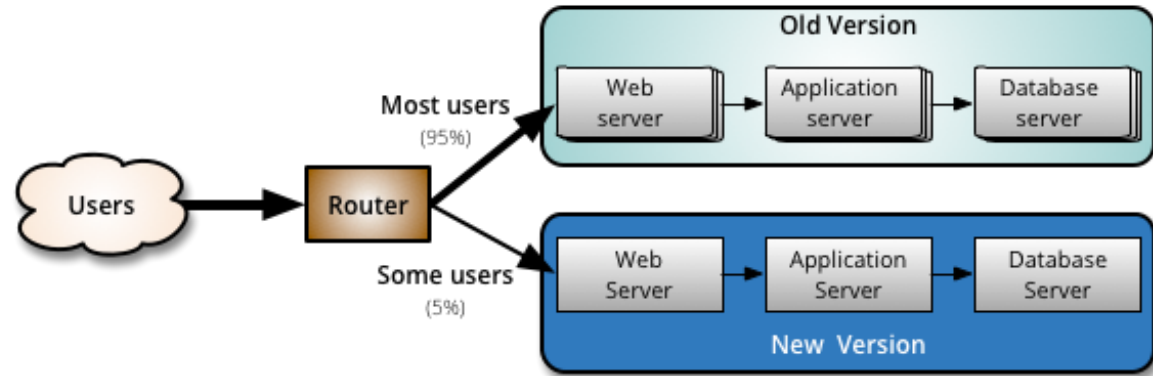


Chart 7

# Was wird erwartet?

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- Talk about a new web technology that will be used or is evaluated by the team (25%)
- Attendance in the seminar
- Mid term presentation of the group project (10%)
- Final presentation of the group project (15%)
- Project Documentation (20%)
- Active contribution within group project (30%)