Lehrstuhl für Wirtschaftsinformatik insb. Energieeffiziente Systeme, Prof. Dr. Thorsten Staake

Module: EESYS-P-BIRES-M – WS 2017/18 (Mo, 12 – 14 h)

Topic: "Business intelligence dashboards for free / open data"

Instructors: Konstantin Hopf   Prof. Dr. Thorsten Staake
                konstantin.hopf@uni-bamberg   thorsten.staake@uni-bamberg.de

SUMMARY

→ In this **Information Systems (Wirtschaftsinformatik) project**, we will develop a **business intelligence (BI) dashboard** using state of the art technologies (R together with Shiny[1] or Tableau[2])

→ Students learn to work with modern data science / data analytics environments, free online available data sources and practice agile software development and project management using "Scrum".

→ An introduction to the used software will be given in the beginning of the course.

BACKGROUND

Free and open data sources hold a massive amount of information that can be used in modern business intelligence (BI) applications to create insights and finally help companies to improve their business. Analytical platforms such as R and Tableau provide a rich set of tools to use that data with manageable programming effort. The project will be a hands-on exercise for future business analysts and data scientists.

TASK

In this project, students are to exploit free online available data sources and visualize them in a modern BI dashboard and document their findings. The BI dashboard will finally give insight into online data for a given address and presents it in a dashboard.

For this purpose, online platforms containing freely available data are collected and presented in the **first part of the project**. To this end, 1-3 project participants will focus on one platform and present them in a short presentation. Examples of such platforms are:

- Customer evaluation portals (e.g., Yelp, Foursquare)
- Leisure portals (e.g., Tripadvisor, Geocaching)
- Free car services (e.g. Wikimapia)
- Address data catalogs (e.g., OpenAddress, Geonames)
- Telecommunications data (e.g., OpenCellID)
- Environmental data (e.g., GLOBE)

In the **second project phase**, the project teams then implement interfaces to the data sources and develop one dashboard element for the data. We use GNU R as the platform for data processing and analysis. The dashboard will be implemented in the Shiny framework or using Tableau-Software (this decision will be made with all participants).

In the **third part** of the project, all dashboard elements are combined into an Open Data BI tool.

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[1] See: https://rstudio.github.io/shinydashboard/

[2] See: https://www.tableau.com/
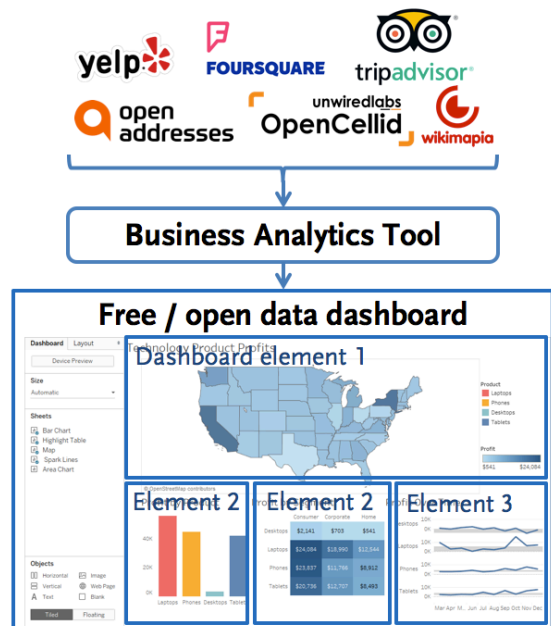
TARGET GROUP

Max. 15 Master Students from all WIAI programs (WI, IISM, AI, CitH, ...). Bachelor students can attend the module as part of their "Profilbildungsstudium" B1 or B2.

NECESSARY SKILLS

Some background in R and web-development (HTML, CSS) would be a plus, but is not required. An introduction to the development environment will be given at the beginning of the event. The agile method "Scrum" is used for project management. The students also learn the work in agile project teams.

COURSE SCHEDULE AND ORGANIZATION

Effort: 6 ECTS

Language: German or English

Location: WE5/03.004

Time: Monday, 12:15- 13:45, plus one session per week (time and date will be arranged with all participants). Most of the time, students will be able schedule the work theirself.

Preliminary course schedule:

16.10.17	Kick-off meeting and team forming (students can join the groups **until Friday, 20.10.17**)
23.10.17	1st sprint planning meeting
13.11.17	2nd sprint planning and review meeting
04.12.17	3rd sprint planning and review meeting
08.01.18	4th sprint planning and review meeting
29.01.18	5th sprint planning and review meeting
05.02.18	Final presentation

Teams: you can group up in teams of 2-3 students.

CONTACT

Konstantin Hopf

konstantin.hopf@uni-bamberg

Prof. Dr. Thorsten Staake

thorsten.staake@uni-bamberg.de

We are looking forward to your participation!

The EESys-Team