LBAW Presentation, 21/22 Edition

Databases and Web Applications Laboratory (LBAW)
Bachelor in Informatics Engineering and Computation (L.EIC)

Sérgio Nunes
Dept. Informatics Engineering
FEUP · U.Porto

Lecture #1 Plan

- Course presentation

  - Topics, materials, evaluation, project, groups, overall dynamics, caveats.

- Requirements specification

  - Actors, user stories, supplementary requirements.

LBAW Team, 21/22 Edition

Sérgio Nunes
(regente)

Fernando Cassola

Pedro Brandão

Tiago Boldt

Diogo Rodrigues

LBAW @ L.EIC

- This is the first edition of LBAW in the new L.EIC cycle of studies.

- Students from MIEIC and MIERSI.

- A significant increase in the number of students (+ 3 classes; ~240 students).

- From 3 hours lab classes to 2 hours. 6 ECTS, as before.

- Main changes from previous editions: reduced emphasis on requirements analysis; no user interface prototype; no visual design topics.

- In this edition in particular: LTW will be co-occurring with LBAW.

LBAW Objectives

- Learn how to design and develop web-based information systems backed by database management systems.

- Build upon the learning outcomes of two previous courses in

  - **databases** (BDAD + BD/CC2005) and

  - **web languages and technologies** (LTW, co-occurring!)

Databases

- Prior knowledge: data modeling, relational model, SQL (construction, querying, management)

- What's new?

  - Client-server model

  - Scale, integration

  - Indices

  - Triggers, Transactions

  - PostgreSQL

  - + Information Retrieval

Web technologies

- Prior knowledge: URL, HTTP, HTML, CSS, JavaScript, PHP

- What's new?

  - Server-side frameworks

  - Client-side libraries

  - Scale, integration

  - Performance

  - Laravel

Additional learning outcomes

- Structured development of a medium sized project.

- Writing technical documentation to support development.

- Working in teams (4 students per group).

- Docker to support container-based development.

Evaluation

- Final grade =

  - 80% project grade +

  - 20% individual grade (minitest)

- Project grade =

  - 10% requirements specification +

  - 25% database specification +

  - 25% web architecture specification +

  - 40% product and presentation

- Individual grades within each group may vary in more or less 3 grade points, depending on the opinion of the professors and on the self- and hetero-evaluation carried out internally.

- The final individual classification cannot exceed in 5 more grade points the classification obtained in the mini-test.

-

Project Themes

- The project theme is chosen from a list of proposals.

  - 1. Collaborative News
  - 2. Social Network
  - 3. Online Shop
  - 4. Event Management

  - 5. Collaborative Q&A
  - 6. Online Auctions
  - 7. Project Management

- Each proposal describes a list of functional requirements. Plus, a set of common functional requirements are established for all themes (0. Common Requirements).

- Groups are expect to develop upon the initial list of functional requirements and propose an original project to be developed during the semester. Mandatory requirements contribute to 90% of the project evaluation (18), the remaining 10% are for your ideas and innovation.

- Project themes must be unique per class.

Components + Artefacts

- **ER: Requirements Specification [10%]**

  - A1: Project presentation

  - A2: Actors and User Stories

  - A3: Information Architecture

- **EBD: Database Specification [25%]**

  - A4: Conceptual Data Model

  - A5: Relational Schema

  - A6: Implemented Database (integrity constraints, indices, transactions)

- **EAP: Application Architecture and Prototype [25%]**

  - A7: Application Architecture

  - A8: Vertical Prototype

- **PA: Product and Presentation [40%]**

  - A9: Product

  - A10: Presentation

Weekly Workflow

- For each component you will have access to:

  - Artefacts descriptions;

  - MediaLibrary examples;

  - GitLab template;

  - Checklists for Component and Artefacts.

- Development workflow:

  - Collaboratively develop the component using GitLab;

  - Discuss each artefact in lab class together with the checklist filled;

  - Artefacts can be improved until the submission of the components;

  - Export the component to PDF and submit to Moodle (deadline: previous day, before 12h00 - midday).

Materials

- The course's web page is the starting point: https://web.fe.up.pt/~ssn/wiki/teach/lbaw

  - For each lecture and lab class an information page is available

- Moodle is used for:

  - Announcements and discussion (post your questions!)

  - Submission of materials

- Slack:

  - Last minute warnings

  - In-group communication

- GitLab is used for:

  - Collaborative artefact development

  - Code repository

- Each group has access to a Google Spreadsheet shared with the teachers for recording the checklist evaluation and self-evaluation.

Invited lectures

- Every year, we have invited speakers from the industry (three last lectures).

- The plan is to schedule these classes on Wednesdays afternoon.

- To be announced.

Monitor Support

- Diogo Rodrigues is the monitor for this edition of LBAW.

- Available in Moodle and Slack, plus a weekly session.

- The goal is help you during the semester, mostly with the technologies we will be using in LBAW.

- Weekly schedule to be defined.

Next steps

- Answer 'LBAW Survey' (if you haven't done so).

- Read the project rules.

- Set up a Google U.Porto Account.

- Prepare for the first lab class (only starts next week!):

  - organize groups before class (4 students) — register in Moodle (you can change latter);

  - review the topics and identify your preferences.

- First delivery in two weeks (November 8th week) - Requirement Specifications Component.

Questions or comments?