

# LBAW Presentation, 22/23 Edition

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

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# Lecture #1 Plan

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- Course presentation
  - Topics, materials, evaluation, project, groups, overall dynamics, caveats.
- Requirements specification
  - Actors, user stories, supplementary requirements.

# LBAW Team, 22/23 Edition

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Sérgio Nunes  
(regente)



Fernando Cassola



Tiago Boldt



João Vinagre



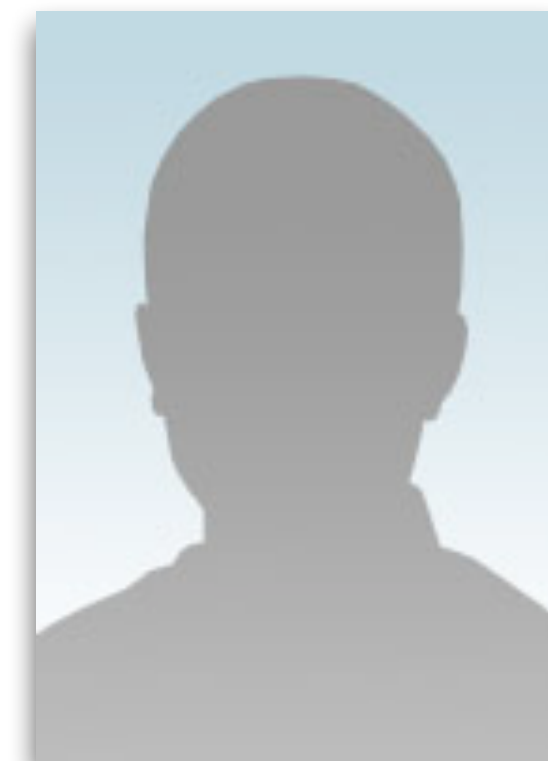
Luís Cleto



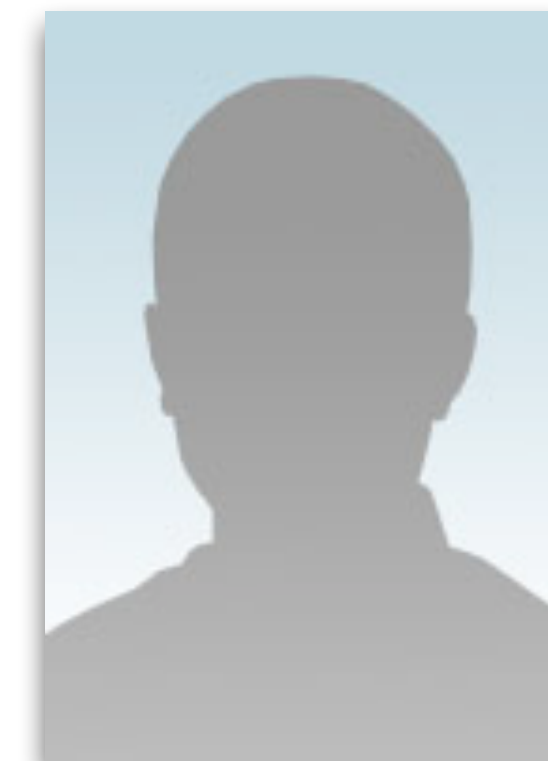
João Pedro Pereira



Ricardo Sousa



Inês Teixeira



João Santos



Diogo Machado

# LBAW @ L.EIC

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- Second edition of LBAW in the new L.EIC cycle of studies (first in person lecture).
- A significant increase in the number of students (again!) (+ 4 classes; ~300 students).
- A significant increased in the number of teachers (internal) (10!).
- Lecture classes organised in shifts (Monday morning at 8h30 and at 10h30).
- 2h lab classes in the morning.

# LBAW Objectives

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- 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) and
  - **web languages and technologies** (LTW)

# Databases

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- Prior knowledge expected:
  - data modeling, relational model, SQL (construction, querying, management)
- What's new?
  - Client-server model
  - Scale, integration
  - Indices
  - Triggers, Transactions
  - PostgreSQL
  - + Information Retrieval

# Web technologies

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- Prior knowledge expected:
  - URL, HTTP, HTML, CSS, JavaScript, PHP
- What's new?
  - Server-side frameworks
  - Client-side libraries
  - Scale, integration
  - Performance
  - Laravel

# Additional learning outcomes

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- 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

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- 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.
- Minimum grade of 50% in each project component.
- Minimum grade of 40% in the minitest.

# Minitest

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- The minitest (individual questionnaire) is a multiple-choice assessment, organized during the semester (date to be defined).
- Questions address the concepts applied during the semester in the the development of the artifacts.

# Project Themes

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- 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 expected 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

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- **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  
(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

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- 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).
- *Note that there is a limit to the number of lab classes you can miss (25% / 3 classes).*

# Materials

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- Moodle is the central information hub.
  - 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.

# Monitor Support

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- Miguel Amorim 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.
- Weekly schedule to be defined.

# Next steps

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- 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 three weeks (October 3rd week) - Requirement Specifications Component.
- **Next week lecture is recorded.**



Questions or comments?

# Questions

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- Grades will be published for each component during the semester?
- Component grades can be improved?
- Can different project themes be proposed?
- Can we use a different technologies?