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COMP3030J Software Engineering Project

Lecture 2

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March 2, 2020

UCD School of Computer Science
Ranked  *in Ireland, according to QS World University Rankings 2017*

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Overview

Review of Last Week

Problem-based learning (PBL)

Project Stages

Project Requirements

Work Packages and Gantt chart

LaTeX/Overleaf

Task

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Moodle Enrolment

- https://csmoodle.ucd.ie
  Log in with your UCD username and password
- Find COMP3030J Software Engineering Project 2019-20
- Enrolment key: COMP3030J2020

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What you should have done so far...

- You have reviewed the material on Moodle.
- You have subscribed to the Moodle Forums for your groups and checked that all of your group members have subscribed to the correct forum.
- You have set up a WeChat group with your groups members and your TA.
- You have set a time each week to hold at least one meeting a week with your TA.
- All of your groups' members have access to the correct Overleaf document.
- You have written your Team Agreement.
- You have written the first draft of your Work Packages and Gantt Chart.

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Assessment

- **Final Exam:** There will be no final exam!!
- **Continuous Assessment/Assignment:** 100%
- Each group will get a grade. – we will presume that all members of the group have contributed equally, unless flagged early in semester (we will give more guidelines on conflict resolution next week)

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Assessment

- **Overleaf report (25%)** We will set you up with an account and a template in Overleaf (overleaf.com). Each student will have a dedicated section of the report to be authored exclusively by them, detailing their part of the project.
- **Presentation video (25%)** Each student will record 4 minutes (strict). These should be combined into one group video. This video should provide a coherent overview of the project, demonstrating how the software was developed and how it has met the project requirements.

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Assessment

- **Teamwork (25%)** We will observe individual contributions of members through Github and Overleaf, contribution to the forum and direct feedback from students if there is an issue.
- **Software testing (25%)** We will test the software developed. It must be a web-based solution. Each group must provide FULL instructions on how to access and navigate the solution keeping in mind that we may be in Ireland. Instructions should be provided in the Overleaf report.

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Problem-based learning (PBL)

"Problem-based learning (PBL) is an instructional method that challenges students to "learn to learn" by working cooperatively in groups to seek solutions to real world problems. These problems are used to engage students' curiosity and initiate learning of the subject matter. PBL prepares students to think critically and analytically, and to find and use appropriate learning resources" (Duch, 1995).

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Problem-based learning (PBL)

Problem-based learning has several unique strengths as a learning method.

- PBL engages students in active learning
- PBL compels students to take responsibility for their learning
- PBL develops and supports problem-solving skills
- PBL stimulates self-directed learning.

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Problem-based learning (PBL)

"Problem-based learning is a development and instructional approach built around an ill-structured problem which is a mess and complex in nature; requires inquiry, information-gathering, and reflection; is changing and tentative; and has no simple, fixed, formulaic, 'right' solution" (Finkle & Torp, 1995).

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Project Stages

There will be four stages to your project:

1. Planning: develop project idea, plan, division of labour, work packages
2. Proposal
3. Development / Implementation
4. Release version and final documentation

We will begin Stage 1 today

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Project Stages

- You may be tempted to put most of your effort into Development / Implementation
- This will be the core part of your work, but not the only part
- Implementation does not mean just programming
- Implementation is carrying out the plan
- Any changes to the original plan will have to be well thought-out, justified, and explained!

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Project Requirements

- Your projects need to meet minimum requirements:
  - Networking
  - Storage
  - Front-end interface
- One of the first things you will need to do is decide:
  - How will your project meet these requirements?
  - What work will need to be done to meet these requirements?
  - How will these requirements all work together?

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Networking

- All projects must feature a networking component.
- Data must be shared between a minimum of two networked devices (laptops, mobiles, tablets, etc.).
- What architecture(s) will you use?
- Peer to Peer?
- Client/Server?

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Storage

- What storage mechanisms are being used in your project?
- Cloud?
- Local?
- Shared?
- Other?

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Front-end Interface

- All projects must feature one or more front end interfaces which allow users to access functions and features of the final application.
- The front end can be common to all networked devices, but does not have to be. For instance a project using a mixture of laptops and mobile devices could have a GUI-based front end for the laptops and an Android app for the mobile devices.
- Alternatively a common web-based interface could be used for both laptops and mobile devices although caution should be exercised, particularly in relation to some of the parameters discussed next, such as usability.

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Front-end Interface

- What front-end interface(s) are you using?
- Web?
- GUI?
- Mobile App?
- Other?
- A mixture?

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Additional Requirements

- How will your project address:
  - Security
  - Reliability and Stability
  - Usability
  - Performance
  - Scalability
  - Accessibility
- Note that the above list is not exhaustive (not complete)
- Also, note that not all projects will need to address all of these
- However, the more of these additional requirements your project addresses, the better it will be!

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Additional Requirements

- The additional requirements are your group's primary means of demonstrating the quality and uniqueness of your projects!
- Everyone must have networking, storage and front-end interface, but how you combine these, and how you address the additional requirements really is the heart of your project.

Work Packages and Gantt chart

Work_Package_Template.docx and Gantt_Worksheet.xlsx

- Each student will write their own work package
- But they should all ‘fit’ together
- Each work package should be 2-3 pages
- Each work package describes the work you will do, and how you will work with your group, and how your work will contribute to your group project
- The actual work in each work package is managed by an individual student but can be implemented by more than just the manager
- The manager is responsible for the delivery of the work package

- Try to solve any problems within your group first
- Remember – this is a “Problem Based Learning” module
- We would like to see each group come up with their own unique solutions to the current challenges
- If you are still unsure what to do ask your TAs If your TAs aren’t sure then as the “big” WeChat group
- We will be watching to see how your **problem solving skills** develop throughout the semester

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Uploads to Moodle Forum

- Thank you for uploading the first draft of your Team Agreements, Weekly Updates, GANTT charts and Work Packages.
- These are “live” documents and as such they can be updated throughout the semester in response to your weekly progress
- Their purpose is not just so that we can assess you. They are there to help guide your progress throughout the semester.

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LaTeX/Overleaf

"Overleaf is ... an online, real time collaborative editor for papers, theses, technical reports and other documents written in the LaTeX markup language." [1]

LaTeX/Overleaf tutorials:

- `https://www.overleaf.com/learn/latex/Main_Page`
- `https://www.overleaf.com/learn/latex/Learn_LaTeX_in_30_minutes`

[1] `https://www.overleaf.com/about`

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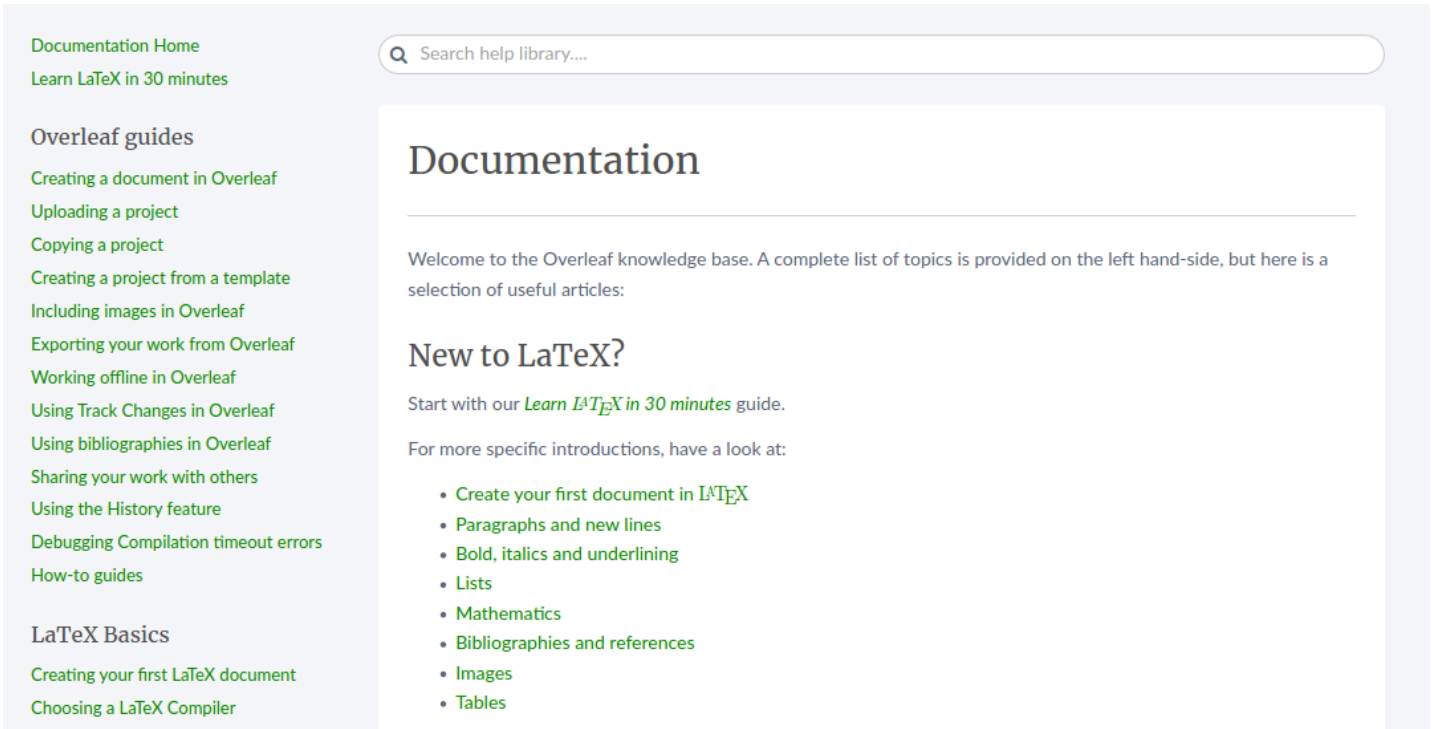
LaTeX/Overleaf tutorials



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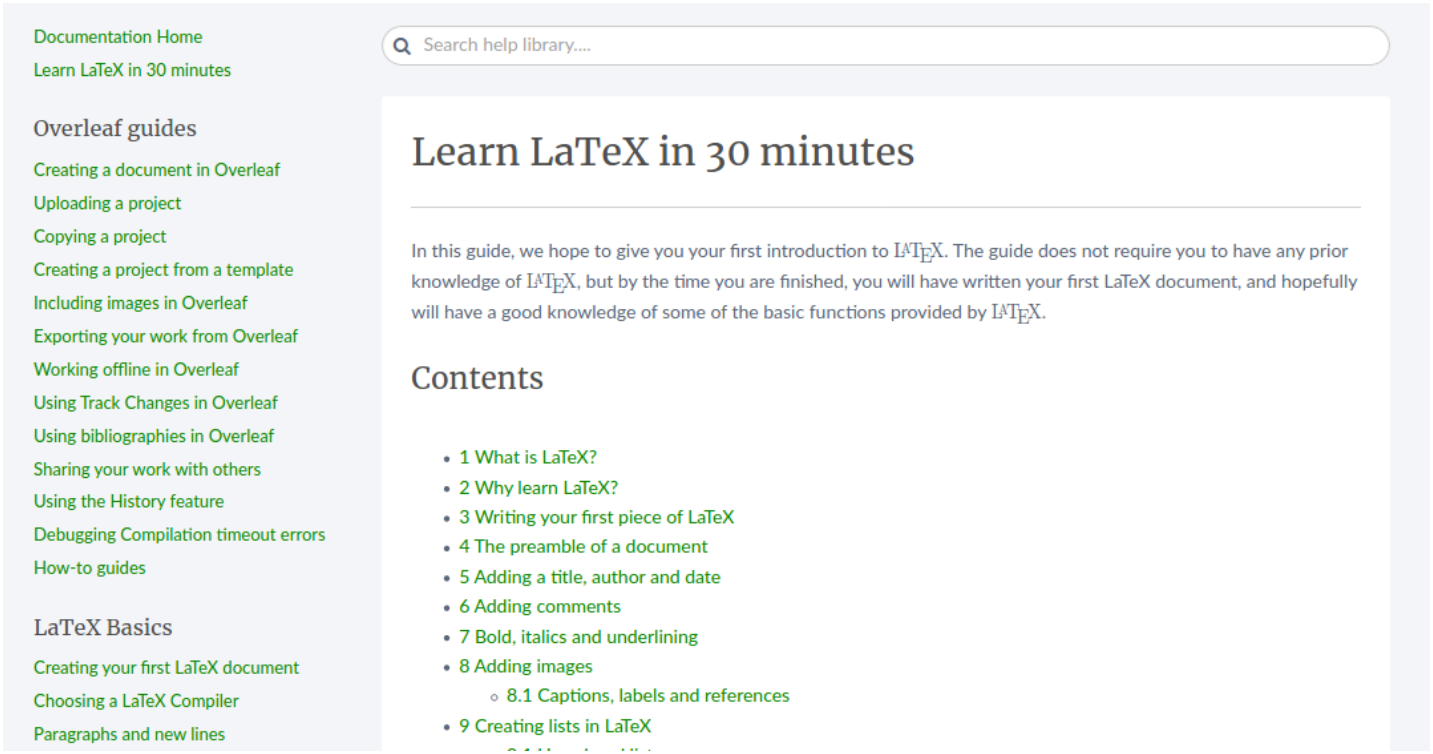
LaTeX/Overleaf tutorials



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Work in groups on Overleaf document

- **Do not change** the name of your project i.e. COMP3030J - Group 1.
- Change the title of your report (in teh .tex file) “Assignment X: XXX Programming report”
- Add your names and student numbers
- Change the name of the sections
- Add a new sections...
- Add an image...

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Work in groups on Overleaf document

- We can see the “history” of each document, who has made changes, etc.
- We want to see that every member of the group has contributed something to the document

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Working in Groups

- Read and discuss material on moodle including:
- “Top_tips_for_working_effectively_in_a_group.pdf”
- “Surviving Group Work – Tips for Students.pdf”
- “Team Agreement”: Do you want to make any changes?

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Next week...

- Soft Skills
- Conflict Resolution