



UNIVERSITY OF
LEICESTER

SOFTWARE LAWS & PROFESSIONALISM

CO1106 Requirements Engineering and **Professional Practice**

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Please join TopHat activities:
<https://app.tophat.com/login>
Join: **147651**

Reminder - Module Feedback Survey for (CO1106)

- You have just been invited to provide feedback for the module “(CO1106) Requirements Engineering and Professional Practice (2023/24-SEM2)”
- The survey will start now. It is scheduled as follows:

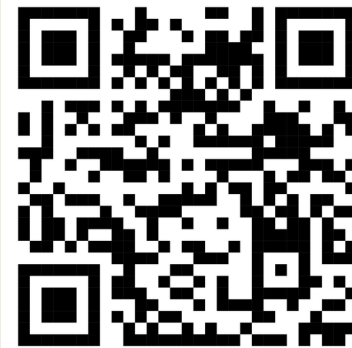
Survey start: 11.03.2024 12:00:00

Survey end: **29.03**.2024 23:59:00

- Your feedback is important for the future improvement on this module

Hack Leicester Awards on March 25th

- The Leicester Computer Science Society -
- This event is for all students to
 - Witness the top five teams from the IBM Hackathon showcase their projects to a panel of industry professionals from IBM.
 - Network with IBM representatives and gain insights into industry innovation through informative talks.



AWARDS
Night

IBM x 

We'd like to invite everyone to the final round of Hack Leicester 23/24.
Watch the five shortlisted teams present their big ideas and fight for the grand prize of IBM Insight Days and IBM merch!

Prizes available!

Winning Team – £25
Amazon gift card each
Runner Up Team – £10
Amazon gift card each

Monday 25th March @ 6pm

Lecture Theatre 2
Bennett Building

Night

- Witness our top 5 hackathon teams pitch their projects
- Network with Senior IBMers, including the Head of CiC, Head of Ops @ CiC and more!
- Experience insightful talks by IBM on what it really means to innovate in the tech industry

2023/4
HACK LEICESTER

25TH MARCH AT 6PM
BENNETT LECTURE THEATRE 2

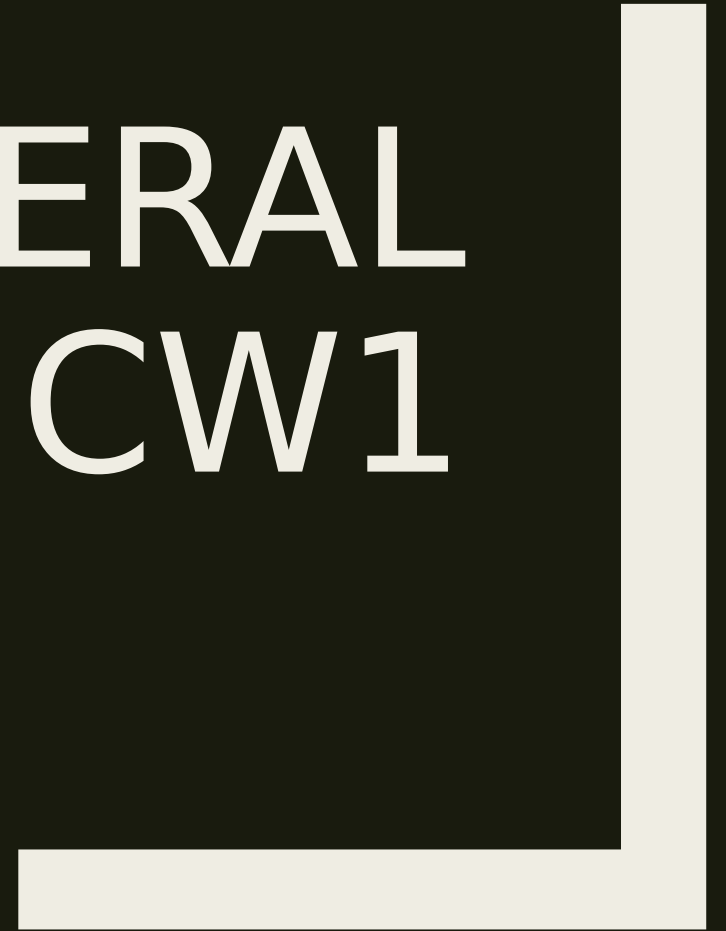
TopHat activities

■ Please join and indicate that you have done so:

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GENERAL FEEDBACK CW1



Project description

- Phrase it neutral, not like an advert
- Focus on direct impact of your system
 - *Not assumed follow-on impact*
(e.g., more users sharing taxis leading to fewer traffic jams and less pollution)
 - *Not aspects out of control of your system*
(e.g., restaurants will offer more vegetarian, vegan, and halal dishes)
- Don't just list additional stakeholders, also highlight their issues, reasons, and benefits of using your system
- Don't describe your proposed solutions too technical and/or too detailed
 - *Details should come from your stakeholders, not the project team*

User Studies

- Focus on questions that help you shape your system
 - *Not general questions about your project or experiences with the current system*
- Ask the questions you want to be answered
 - *Not questions that allow you to make assumptions*
 - *E.g., “Do you like eggs?” vs “Do you like Easter?”
(because they like Easter they must also like eggs is not a valid assumption)*
- Don't put the raw data **including participant names** in your report
 - *This breaches anonymity (guaranteed in consent form)*

Written Requirements

■ Functional:

- *Single aspect of a system*
 - Single sentence, not paragraph
- *Feature, not process*

■ Functional & Non-functional:

- *Don't add an explanation, why*
- *Implementation-free, not how*
- *Measurable, how would you check?*
- *Attainable / Necessary, is it possible / required to achieve this?*

UML Use Case Diagram

- UML = Unified Modelling Language
 - *You have to follow the conventions and rules!*
 - Actors = Stick figures
 - Use case = non-filled ellipse
 - Connections = lines without arrows or dashed black lines with arrows and <<includes>> or <<extends>> labels
- Your system is the box in your diagram, not an actor / stick figure
- Use-case = Single, stand-alone, goal-fulfilling activity stakeholder performs with system
 - *Not use-case steps (e.g., filter results, select item, ...) => Buy item*
 - *Not something that the system does (e.g., "show alert")*
- <<includes>> = If A happens, B has to happen too (always!)
- <<extends>> = B is like A but with some differences

UML Use Case Description

- Use case description must describe a use case that exists in your diagram
- Use case description must match diagram information
 - *E.g., if there is an <<includes>> in your diagram it must also appear in your flow of events and the other way around*
- Typical / Alternate flow of events must describe events, not options
 - *Not “user does A or B”, but typical = “user does A”, alternate = “user does B”*



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SOFTWARE LAWS & PROFESSIONALISM

CO1106 Requirements Engineering and **Professional
Practice**

Schedule

Week	Start Date	Monday / Wednesday - Lecture	Thursday / Friday - Surgery	Assessment
26	15/01/2024	Introduction & Why Requirements?	Icebreaker activity for groups & work on Project Description	
27	22/01/2024	Requirements gathering (Quan. & Qual. User Studies)	Work on requirements gathering for Assessment 1	
28	29/01/2024	Functional Requirements	Work on building list of funct. requirements for Assessment 1	
29	05/02/2024	Non-Functional Requirements	Work on building list of non-funct. requirements for Assessment 1	
30	12/02/2024	Overview of UML; Use Case diagrams and descriptions	Work on Use Case diagram and Use Case description for Assessment 1	
31	19/02/2024	Basics of git version control	Checkout and setup group git repository and set up Weekly Log .md file	Assessment 1 (50%)
32	26/02/2024	More advanced git topics	Work on reworked list of functional requirements	
33	04/03/2024	Class Diagrams	Work on Class diagram	
34	11/03/2024	Class Modelling	Rework Class diagram	
35	18/03/2024	Sketching and Lo-fi prototyping	Work on wireframes/lo-fi prototypes	
36	25/03/2024	Software Laws & Professionalism	none	Effective use of Git (10%)
37	01/04/2024	break	break	
41	29/04/2024	none	none	Blackboard Test (40%)

Matthias

Shigang

Session objectives

- At the end of the lecture you will:
 - *know about laws related to the Software Engineering industry*
 - *have explored what it means to be a 'professional' in general, and within the Software Engineering industry*

Group coursework in CO1106

■ Main group project

- **Part 1** (50% - due 23rd February)
 - Project description (10%)
 - Quantitative and qualitative studies (10%)
 - Written requirements (20%)
 - Use Case UML Diagram and Use Case Description (10%)
- *Part 2*
 - **Effective usage of git version control (10%)**
 - **Upload your initial class diagrams**
 - **due 27th March**
 - **Individual Blackboard test (40%)**
 - **03/05/2024 - 14:30-16:30**

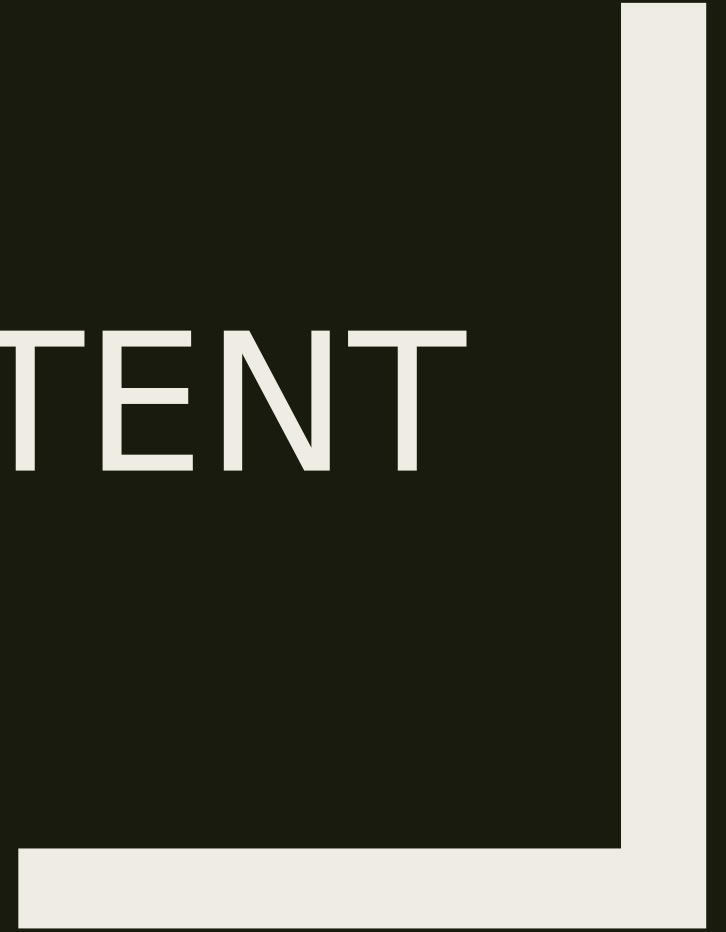


LAWS

Categories of Law related to software

- Patent
- Copyright
- Contract
- Privacy

PATENT



What are Patent Laws?

- Patent law is the branch of intellectual property law that deals with new inventions.
- It is a government licence giving the right to an individual/company to (and excluding others from) **making, using, or selling an invention**.
 - *granted by the government*
 - *to stop others exploiting your invention*
 - *lasts 20 years*

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- Invention **must** be:
 - *new*
 - *be an inventive step (not an obvious improvement)*
 - *capable of industrial application means it is capable of being made or used in any kind of industry*

COPYRIGHT



What are Copyright Laws?

- Creator has exclusive rights to perform, copy, adapt their work.
- Everyone else must get Permission (and possibly pay)
- It can be 'literary, dramatic, musical and artistic works'
 - *This **includes software***
- Automatically owned (not granted)

What are Copyright Laws?

- This affects software in 2 different ways:
 - *Illegal Copies of Applications (Piracy)*
 - *Using someone else's code/UI design/etc in your application...*
 - *Not the "**idea**" but the actual "**stuff**" created by others:*
 - Code
 - Design / Architecture
 - Documentation

Exceptions that make it not copyright theft

- Get permission (obtain a licence)
- Be within "fair use" (e.g. for study or review)
- Use "open source" software
- Create something similar yourself, independently
- "Obvious" code can't be 'copyrighted' (e.g. printing numbers 1-10)

Which of the following could be copyright infringements?

- Displaying an image from another page
- Browser cache of images in a tmp folder
- Using code found on the internet
- Using open source software in your project
- Copying a list of users from a social network
- Copying Windows 10 for your friends

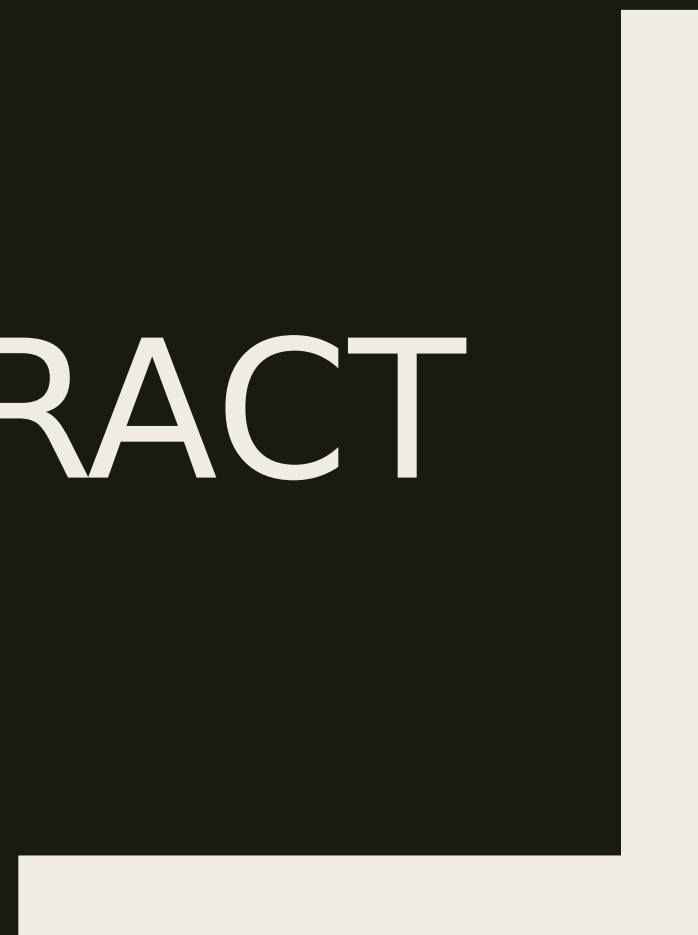
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CONTRACT



Employee contract laws

- Employee contracts usually force an employee to:
 - *Not work for anyone else*
 - *Hand over any ideas (Intellectual Property)*
 - You shall promptly disclose to the Employer in writing all Intellectual Property.
 - All rights, title and interest in the Intellectual Property shall belong without payment to the employer unconditionally
 - *Not disclose company secrets (Non-disclosure-agreements aka NDA)*
 - *The Employer is entitled to protect its reputation and you agree not to say anything about the Employer that is untrue or misleading or otherwise derogatory or disparaging*

PRIVACY



Privacy laws

- Laws that covering data storage and usage
- **Data Protection Act** created on 1984, updated in 2018
- Relates to "**personal data**", defined as any of the following:
 - *Includes facts related to or opinions of individuals*
 - *Allows the individual to be identified*
 - *Can be automatically processed by machines*

Example of "personal data" stored electronically

- Spreadsheet of student names, along with their student IDs and list of sat modules
- Database of Facebook usernames and status updates
- An excel spreadsheet containing staff members at a company, along with their gender, ethnicity and DOB
- A list of student names along with their predicted grades for all first year modules

8 principles of Data Protection

Any company storing personal data must ensure it is:

- fairly and lawfully processed (consent, contractual interest, ...) and legal obligations, public
- processed for limited purposes
- adequate, relevant and not excessive
- accurate and, where necessary, kept up to date
- not kept longer than necessary
- processed in accordance with the data subjects rights
- secure
- not transferred to countries without adequate protection

Individual legal rights

Individuals have legal rights related to the information/data that is stored about them:

- to view the data an organisation holds on them.
- to request that incorrect information be corrected or erased
- option to not have data used for automated decision-making.
- option to not have their personal data used for direct marketing
- right to obtain their data and make it 'portable' across multiple different services.

A formal expression from an individual wanting to exercise such rights can be either verbal or written, and must be responded to by a company in a certain amount of time.

Some comments

- General laws are difficult to apply to all industries, so it helps to have sets of rules/laws/guidelines that differ between industries
- In Software Engineering/IT, technology tends to move so fast that laws can quickly become irrelevant and outdated
- Thus, regular revision of laws is an important task carried out by governing industrial bodies, to ensure that no 'loopholes' are left to be exploited by both practitioners as well as clients/consumers

For more information about the rights you hold as an individual with respect to the data that companies store about you, visit the following link:



<https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/individual-rights/right-to-data-portability/>

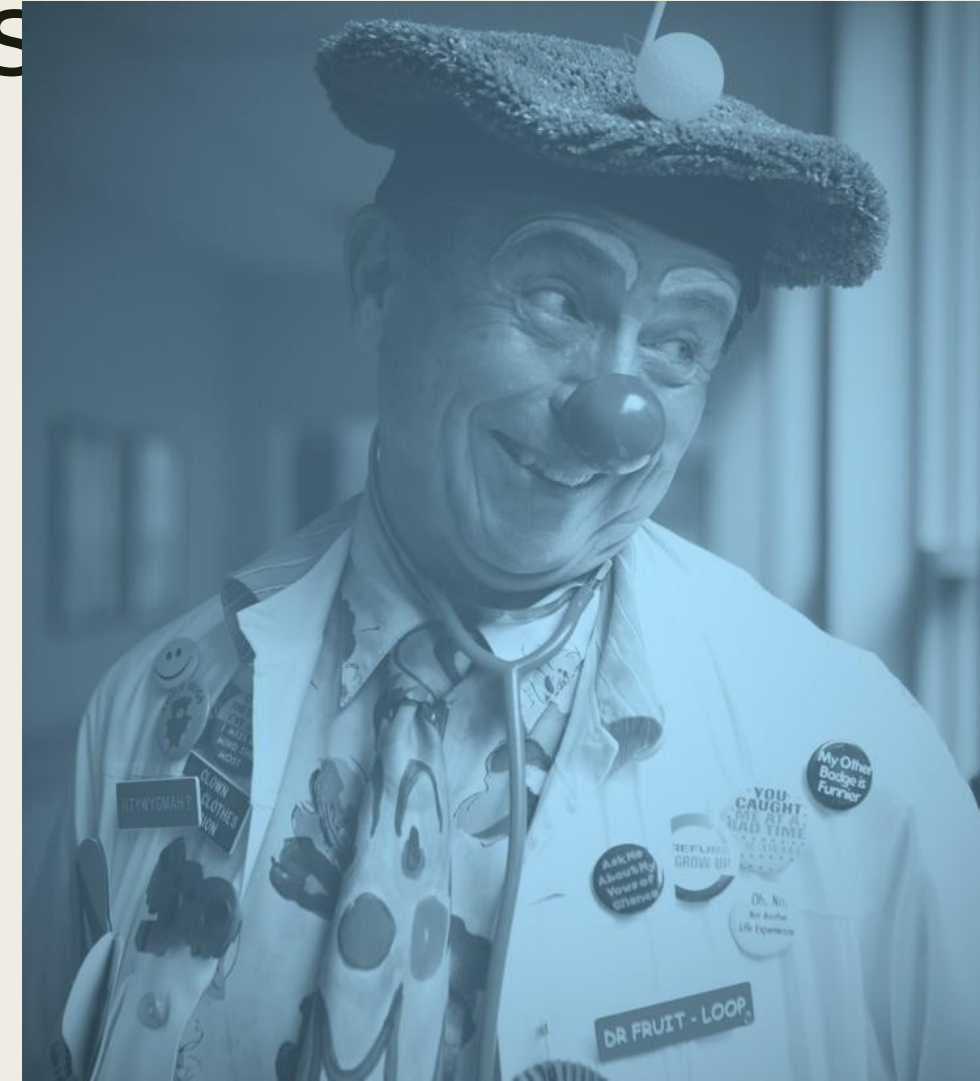


PROFESSIONALIS
M

What is professionalism

"the concept of 'professionalism' is not well-defined, conceptually or methodologically"

- Health and care professions council (2011)



Definition (?)

The idea of 'professionalism' is a hard concept to define

It can mean different things to practitioners of different disciplines

It embodies:

- *the usage of best practice methods/techniques in your field/industry*
- *ethical behaviour towards your work and to potential clients/colleagues*

Professionalism is about competency

- People must trust professionals to make the right decisions, since they themselves may not have the knowledge to check the guidance given by professionals.
- Being a professional is not just about demonstrating expertise and skills, but knowing how and when to apply that knowledge.
- It involves showing pride and care in your work: delivering a service to a high standard and in line with industry best- practices

Professionalism is about behaving ethically

- One difference between a "professional" and someone else working in a similar way is a moral responsibility to act in a way that is fair and honest.
- 'On-the-job' decisions should be made with an awareness of who may be affected/harmed by them

Ensuring that we try at all times to show compassion to clients and act in an ethical, thoughtful manner is part of being a professional



How do we know
what we can
or can't do?

Are there rules?

Are there rules regarding professionalism?

- Professionalism is a slightly 'greyer' area than things such as patent/contract/privacy laws, since unprofessional behaviour does not always amount to unlawfulness
- Thus, companies often employ 'Self-regulation'; this amounts to them 'governing themselves' in terms of the professional behaviour displayed by representatives
- Although each company is responsible for its own rule set, almost all industries will have a common set of best practices that companies should & will follow

How are rules communicated?

- Bodies or Organisations may have a:

- **Code of Ethics** (*which generally includes:*)

- **Code of Conduct**

- **Code of Practice**

- A 'code' does not typically have the same power or force behind them as government legislation

- However, employees breaching a certain code laid out by their employer is often grounds for punishment or even dismissal

- It is in the companies best interest to ensure that their employees follows their laid-out codes to maintain a good public image

Code of Ethics

- The **Code of Ethics** is intended to be used on a day-to-day basis to guide behaviour and decision-making
- It embodies both the code of professional conduct and the code of professional practice
- Employees working within a company are required to follow all aspects of that company's code of ethics and can be reprimanded if they fail to do so

Code of Conduct

■ Embodies what employees see as "the standard of expected conduct"

- *Includes general advice for employees on how they should conduct themselves*
- *May include more specific instructions to follow in particular situations*
- *A breach of a code of conduct is **professional misconduct**.*

■ Example from University of Leicester:

- *"Recruitment must be carried out in accordance with the University's equal opportunity policy"*

Code of Practice

- Practical instructions on how to do a job professionally and properly
- Often based on best-practice methods that will be understood at an industry-wide level
- Companies may seek to set themselves apart from competitors by implementing their own ideas within their code of practice
- A breach of a code of practice is known as **professional negligence**

Question

- In a company, employees who publish company-related material on social media without indicating that they are making the post in their own capacity and not on behalf of the company
 - are they in violation of anything?
 - If yes, code of ethics, conduct, or practice?

Conclusions

- There are various laws involved with the Software Industry in general, and these are constantly evolving
 - *Failure to comply with these laws (as a professional or a consumer) is punishable in a court of law*
 - *It is important to keep up to date with these laws!*
- Professional practice means to display an ethical, professional approach to your work, ensuring a high quality service is provided
 - *Professional practice 'rules' (i.e., codes) carry less legal weight than legislation/laws, but can be enforced by individual companies*
 - *In order to be taken seriously in any industry, it is important to conduct yourself as a professional*

What's next?


- Rework your sketches and prototypes
 - *Receive feedback during the next surgery*
- Finish your WeeklyLog this week!
- Blackboard test 03/05/2023, 14:30-16:30 (everything from week 5 to week 11)



About Mock Blackboard Test



Blackboard Test

 Hidden from students ▼

This folder contains the submission point and guidance on the assessment requirements.



Test

No due date | Time limit: 60 minutes

 Hidden from students ▼

This is a test to try out question types and stuff.



MOCK Blackboard Test

No due date | Time limit: 60 minutes

 Visible to students ▼

As several students have asked me to please release example questions for the Blackboard test in this module, I have created this mock Blackboard test. This is a mock test for you to practise, NOT the actual Blackboard test for this module! The actual Blackboard test for this module (worth 40%) will be made available on 03/05/2024 from 14:30 to 16:30 (after you start the test you will have one hour within this time window to finish it!).



CO1106 Individual Blackboard Test for Assessment 2 (40%)

Instructions

■ Sketches and Prototypes

- *Rework sketches, wireframes and / or high-fidelity prototypes representing at least three requirements of the proposed system, with a clear description of how the requirements and functionalities are represented in these prototypes.*

■ Based on your functional and non-functional requirements:

- *Think about screens that can visualise several requirements*
- *Create sketches and / or prototypes that show at least 3 different requirements*
- *Point out and describe where and how the requirements are reflected in the sketch / prototype*

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Questions?

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 - *Microsoft Teams*
 - *Office 613 or 608*
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