

Using Mural in live classes

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What is Mural? Digital whiteboard for collaboration

The screenshot displays the Mural digital whiteboard interface for a session titled "Weekly Team Sync". The interface includes a top navigation bar with a "Share" button and various tool icons. On the left, a vertical toolbar contains icons for navigation and editing. The main workspace is divided into several sections:

- Agenda:** A list of three items: "1 Icebreaker & team reflection", "2 Brainstorm", and "3 Action items". It features a pink border and is annotated with a blue "Jeff" name tag and a green "Tobi" name tag with a star icon.
- Brainstorm:** A grid of light blue sticky notes with horizontal lines. One note is circled in pink. A yellow lightbulb icon is positioned above the grid. A purple "Fayna" name tag is near the bottom right of the grid.
- Helpful Links:** Three icons representing a document, a calendar, and a document with a red arrow pointing to the "Action Items" section.
- Action Items:** A grid of yellow sticky notes with horizontal lines. Some notes have red heart icons. A blue thumbs-up icon is present. A grey box on the right contains a magnifying glass icon over a sticky note.

At the bottom, a row of circular avatars shows the participants: a woman with a star, a woman with a headset, a man with glasses, and a woman. A red "Share" button is located in the bottom right corner of the workspace.

Why did I want to use a digital platform in a live class?

- Pandemic experience: students working in breakout rooms can be effective (sometimes...)
- Encourage student reflection and collaboration during class
- Possibility for students to work directly in a digital medium makes direct upload to MyCourses easier (participation marks)

Why Mural?

- Mural allows templates to be set up very easily
- Allows point-to-point navigation through activities
- Interface is straightforward and intuitive
- Allows facilitator guidance and intervention during activities
- Is colourful and 'fun'
- Is licensed by McGill and permitted for teaching activities (Jamboard isn't...)

Examples of activities

1: Ethics dilemma from FACC 400

- In the following slides, students are presented with a case study
- Initially they brainstorm a response to the first question and enter their answers in Slido
- Then they are told to go into Mural to continue the activity
- Access to Mural is provided via a weblink (also given as a QR code and included on the MyCourses contents page for the class)

Case 1

- **Smith** and **Jones** are friends and senior engineers working on a big project
- **Smith** drinks and takes drugs possibly leading to software errors
- **Jones** has covered these minor errors
- **Jones** has told/asked **Smith** to seek help, but Smith denies any problem
- The software fails a prelim test because of a coding error by **Smith**
- **You are Jones, would you report Smith?**



Group activity part 1



Framework	Mills Utilitarianism	Kant Duty ethics	Locke Rights ethics	Aristotle Virtue ethics
What question(s) should we ask ourselves?				

1. Form a group with your neighbours (2-4 people)
2. What question(s) do you need to ask for each framework?
Discuss **together** and then answer the **Slido** questions

Group activity part 2



Framework	Mills Utilitarianism	Kant Duty ethics	Locke Rights ethics	Aristotle Virtue ethics
What question(s) should we ask ourselves?				
How do we view the problem through that lens? What solution does it prompt?				

Now we'll go into Mural to continue

Mural link: Section 1

<https://bit.ly/F400C3S1>

Codeword:




Mural page


- Groups of students choose Mural square based on where they are sitting in the classroom

Row 2


A



B



C

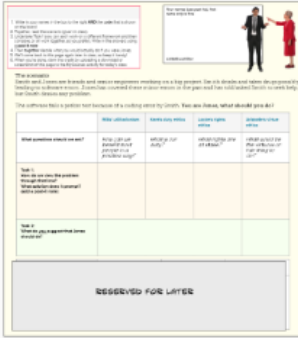


D

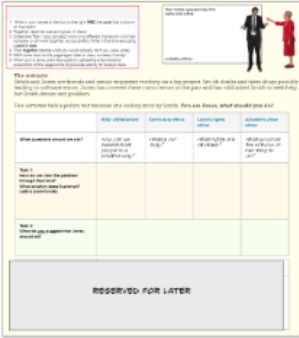


Row 1


A




B



C



D



LEFT SIDE OF ROOM (FROM INSTRUCTOR PERSPECTIVE)

Example of completed Mural

Instructions

1. Write in your names in the box to the right **AND** the **code** that is shown on the board
2. Together, read the scenario (given in class).
3. Undertake Task 1 (you can each work on a different framework and then compare, or all work together, as you prefer). Write in the answers using a **post-it note**
4. Then **together** decide what you would actually do if you were Jones.
5. We'll come back to this page again later in class, so keep it handy!
6. When you're done, claim the credit by uploading a download or screenshot of this page to the MyCourses activity for today's class

Your names (use post-its), first name only is fine

Alexandre Trisic
Dilemma
CODEWORD:



The scenario

Smith and Jones are friends and senior engineers working on a big project. Smith drinks and takes drugs possibly leading to software errors. Jones has covered these minor errors in the past and has told/asked Smith to seek help but Smith denies any problem.

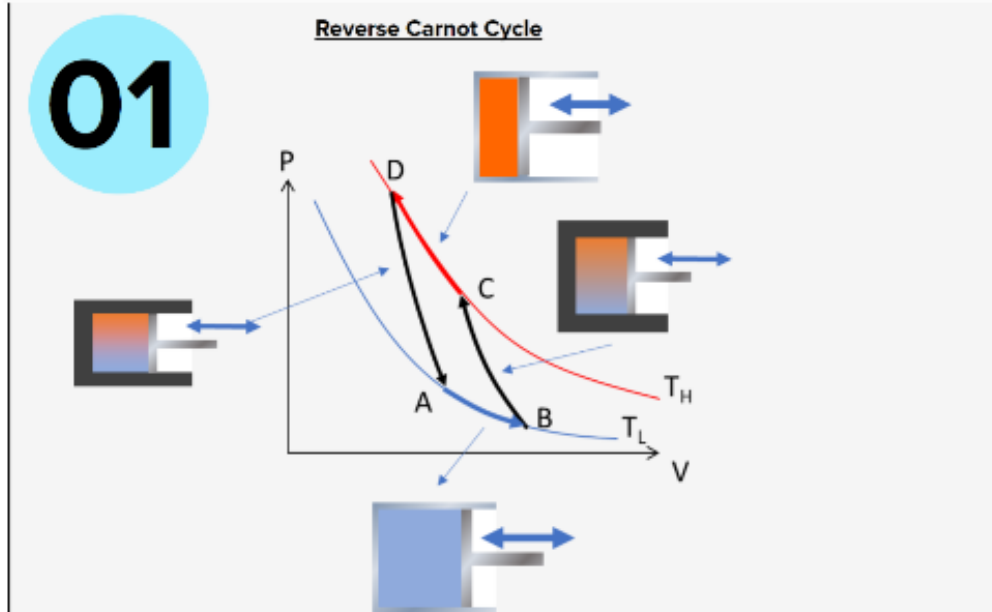
The software fails a prelim test because of a coding error by Smith. **You are Jones, what should you do?**

	Mills' utilitarianism	Kant's duty ethics	Locke's rights ethics	Aristotle's virtue ethics
<i>What questions should we ask?</i>	<i>How can we benefit most people in a positive way?</i>	<i>What is our duty?</i>	<i>What rights are at stake?</i>	<i>What would be the virtuous or fair thing to do?</i>
Task 1: How do we view the problem through that lens? What solution does it prompt? (add a post-it note)	Reporting him will affect him negatively but will affect the company in a positive way so ultimately more people will benefit from this decision	We have a duty to help our friend as he's on a path of self destruction as well as a duty towards our company and coworkers to do the job correctly	Interfering with Smith's actions would violate his right to privacy, but at the same time, what he does in his private life affects his public relations	We believe it would be virtuous to give him one last chance before reporting him
Task 2: What do <u>you</u> suggest that Jones should do?	Jones should talk to Smith and let him know if he doesn't get help he will be reporting him			

	TRANSPARENCY	EXEMPLARITY	REVERSIBILITY
Task 3: Now discuss together how your decision above would look through each of these lenses. Write down your thoughts.	Yes our choice is defensible	There would be an exemplarity issue as people would believe he is getting special treatment as a friend by not being reported immediately	I would like to know if someone was going to report me



Example 2: Reverse Carnot cycle (ECSE 310)



Drag each card to its correct place in the table (cards are colour-coded by column)

Expansion	Heat removed from low temperature reservoir	Work done on gas	Adiabatic
Temperature of gas decreases	Heat ejected to high temperature reservoir	Compression	Isothermal
Gas does work	Expansion	Adiabatic	Isothermal
Work done on gas	Temperature of gas increases	Gas does work	
Compression			

Head to Mural for the next steps : bit.ly/ECSE310carnot



Head to Mural for the next steps (link will be posted)

Section	Adiabatic/ Isothermal?	Expansion/ Compression?	Process	Work done
AB				
BC				
CD				
DA				

E.g. 3 (FACC 400): Regulatory treasure hunt

Instructions

1. Write in your names in the box to the right **AND** the **code** that is shown on the board
2. Together, read the questions below which refer to the Engineer's Act and the Professional Code
3. Discuss the questions and search through the documents to find the answers (links to docs are given below)
4. Write in the answers using a **post-it note** (if you do not all agree add a comment to that effect)
5. When you're done, claim the credit by uploading a download or screenshot of this page to the MyCourses activity for today's class

Links to regulations:

Engineer's Act

Professional Code

Group
5 2

Your names (use post-its),
name only is fine

Justi
Liam
Yo
Ra

CODEWORD:

ARGH!

1. Reserved activities



Is inspection of engineering work a reserved activity? What is the relevant section number?

Section number: 109-115 (Division 6)
This is a reserved activity

Do you need to be an engineer to put up a garden shed? What is the relevant section number?
Division 2, Section 3.
Not required for agricultural buildings

2. Use the title 'engineer'



Is there any restriction on calling yourself an engineer? If so, what is the relevant section number?

Yes, there is a restriction. See Division 1, Section 1

3. Just for engineers?



Does the Engineer's Act only apply to engineers, or to everyone? Please justify your answer

Engineer's act only applies to engineers. Act is a stricter set of guidelines not applicable to those outside of the engineering field, unless they infringe upon the roles and responsibilities of an engineer

4. Penalties

FINE

What are the possible penalties for practicing engineering without a license? What is the relevant section (hint: its in the Professional Code)

Possible penalties include fines of variable size depending on the severity of the offence

See Chapter 7, Section 188

You made it!

Claim the credit by taking a screen shot of the note with your name (from your phone) or using **Export** (at the top of the screen on a browser to export the whole mural)
Now **upload** the image or PDF into the MyCourses participation activity for this class.
It's ok to do this after class if that's easier, but please don't forget. The assignment will expire in one week!

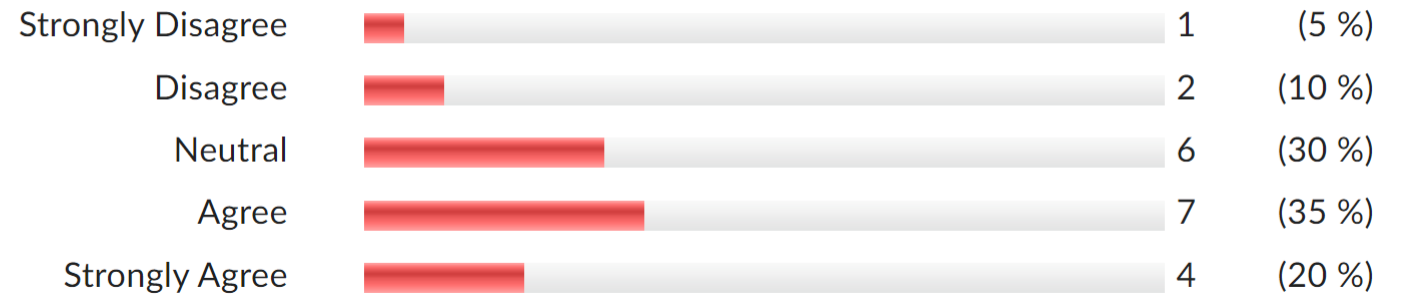


Practical issues

- How to get a group of students into a Mural group?
 - Approach 1: Create an array of groups and get students to pick one
 - Approach 2: Hand out cards with group numbers on
- Not all students have to work on their own device – one device per group is fine
- Students upload screenshot or download of their mural after class for participation credit
- Mobile mural ap is not as good as the browser version
- Create a ‘master’ folder and ‘production’ folder to conserve originals

What did students think?

The class activities (Mural or pen-and-paper) help me to engage with the class material



Survey from ECSE 310 after one month

What did I think?

- Mural activities could have mostly been done on paper, but
- Sharing a single page that they each have in front of them seems to make them take the activity more seriously
- Mural is bright and colourful; works well for activities that can be answered with post-it notes™
- Mural has fun features such as ‘celebration’
- The overhead to create a Mural activity is greater than creating a paper handout
- Mural offers the chance to have separate pages for each group, but I haven’t worked out the logistics of doing that in class
- I would like to experiment with ‘out-of-class’ murals at some point