



# Collaborative Relational Database SaaS as Authoring Tools for Online and Offline OERs

*(a.k.a, using Airtable and Notion to hack your own LMS*

*... kind of)*

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# Software as a service

Journals & Magazines > Computer > Volume: 36 Issue: 10

## Turning software into a service

Publisher: IEEE [Cite This](#) [PDF](#)

M. Turner ; D. Budgen ; P. Brereton [All Authors](#)

286 Paper Citations	9 Patent Citations	2182 Full Text Views
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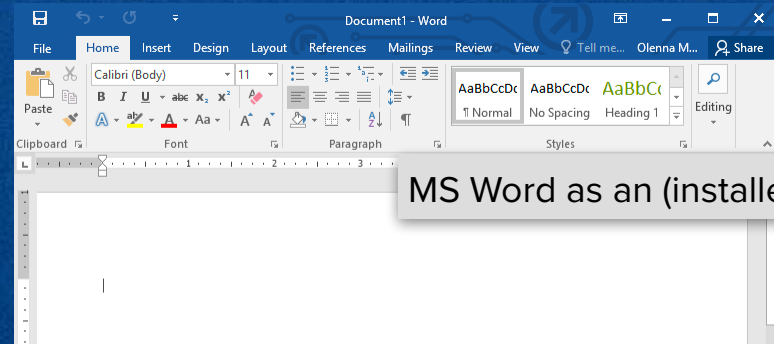
**Abstract**

**Abstract:**  
The software as a service model composes services dynamically, as needed, by binding several lower-level services-thus overcoming many limitations that constrain traditional software use, deployment, and evolution.

**Published in:** Computer ( Volume: 36 , Issue: 10, October 2003)

Document Sections

- » SAAS and other Service Forms
- » Service Integration



Document1 - Word

File Home Insert Design Layout References Mailings Review View Tell me... Olenna M... Share

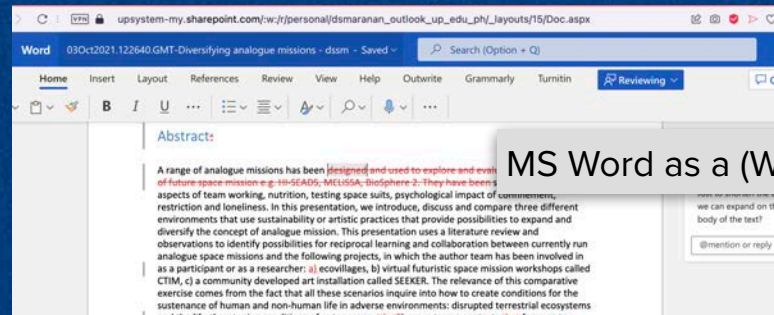
Calibri (Body) 11

B I U abc X<sub>2</sub> X<sup>2</sup>

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1 Normal No Spacing Heading 1

MS Word as an (installed) product



upsystem-my.sharepoint.com: w:/t/personal/dsamaranai\_outlook\_up\_edu\_ph/\_layouts/15/Doc.aspx

Word 03Oct2021:122640 GMT-Diversifying analogue missions - dssm - Saved

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Abstract:

A range of analogue missions has been designed and used to explore and exist of future space mission e.g. HI-SEAS-5, MELISSA, Biosphere 2. They have been aspects of team working, nutrition, testing space suits, psychological impact of confinement, restriction and loneliness. In this presentation, we introduce, discuss and compare three different environments that use sustainability or artistic practices that provide possibilities to expand and diversify the concept of analogue mission. This presentation uses a literature review and observations to identify possibilities for reciprocal learning and collaboration between currently run analogue space missions and the following projects, in which the author team has been involved in as a participant or as a researcher: a) ecovillages, b) virtual futuristic space mission workshops called CTIM, c) a community developed art installation called SEEKER. The relevance of this comparative exercise comes from the fact that all these scenarios inquire into how to create conditions for the sustenance of human and non-human life in adverse environments: disrupted terrestrial ecosystems and the life sustaining conditions of outer space. Like these extreme contexts, the future of

MS Word as a (Web) service



# Relational databases

CHAPTER FREE ACCESS



## Relational database: a practical foundation for productivity

Author:  [E. F. Codd](#) [Authors Info & Claims](#)

ACM Turing award lectures • January 2007 • Year Awarded: 1981 • <https://doi.org/10.1145/1283920.1283937>

Published: 01 January 2007 [Publication History](#)

1 7,477

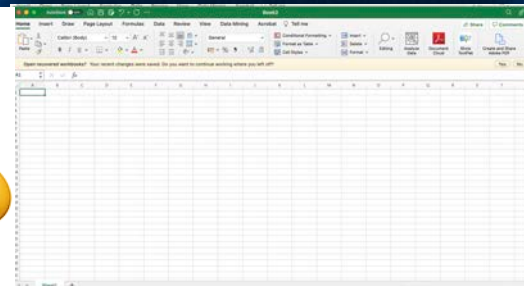


### ABSTRACT

It is well known that the growth in demands from end users for new applications is outstripping the capability of data processing departments to implement the corresponding application programs. There are two complementary approaches to attacking this problem (and both approaches are

... a type of database that stores and provides access to data points that are related to one another

<https://www.oracle.com/ph/database/what-is-a-relational-database/>



# Why make your own learning management system?

- Create new functionality that aren't available and/or free in existing LMSs
- Most LMS aren't the best content-authoring tools (limited rich media embedding features, limited formatting options)
- Adding or removing functionality is usually restricted to LMS administrators

# Why relational database SaaS (and why Notion and Airtable in particular)?

- Chain data and chunks of data
- Create 1-is-to-1, 1-is-to-many, many-are-to-many relationships between data
- Provide different ways to display, sort, and filter learning content based on contextual needs
- Most of the sophisticated functionality in LMSs are just extended applications of relational databases

# Airtable (airtable.com)

MMS 150 Course Package (version 2) | Data | Automations | Interfaces | Help | Contact sales | Share

Units | Modules | **Activities** | Learning Task | Quiz Questions | Professional development opportunities | Resource List | Methods | UI Usability Design Principles | Studr | Extensions

Views | All activities | 2 hidden fields | Filter | Group | Sorted by 1 field | Color | Share view

Find a view

- All activities ✓
- Only activities i...
- Grouped by Mo...

Create a view

- Grid +
- Form +
- Calendar +
- Gallery +
- Kanban +
- Time... Pro +
- Gantt Pro +
- Section Pro +

Create an inter... | Record review +

Activity	Module it belongs to	A...	N...	S...	Activity name	Introduction
1 Activity 1.1. What does de...	Module 1. UI/UX Core Concepts	1.1	1	✓	What does design mean f...	Most of us have some
2 Activity 1.2. What is user i...	Module 1. UI/UX Core Concepts	1.2	2	✓	What is user interface an...	User interface design
3 Activity 2.1. Experience a ...	Module 2. Design Processes	2.1	1	✓	Experience a design itera...	So far, all of our discus
4 Activity 2.2. How is UX de...	Module 2. Design Processes	2.2	2	✓	How is UX design done?	There several framew
5 Activity 2.3. Start explorin...	Module 2. Design Processes	2.3	3	✓	Start exploring project to...	For your final project,
6 Activity 3.1. Defining your...	Module 3. Understanding User Needs	3.1	1	✓	Defining your audience	The first part of any d
7 Activity 3.2. Understandin...	Module 3. Understanding User Needs	3.2	2	✓	Understanding and descri...	After you have a prett
8 Activity 3.3. Ethical intera...	Module 3. Understanding User Needs	3.3	3	✓	Ethical interactions with u...	Before you conduct re
9 Activity 4.1. Framing the q...	Module 4. Defining the problem space	4.1	1	✓	Framing the question	Once you have identifi
10 Activity 4.2. Forming your...	Module 4. Defining the problem space	4.2	2	✓	Forming your Theory of C...	In real-world design si
11 Activity 5.1. Divergent an...	Module 5. Ideation and Selection: Arriving at pote	5.1	1	✓	Divergent and convergent...	Recall the IDEO shopp
12 Activity 5.2. Co-creation f...	Module 5. Ideation and Selection: Arriving at pote	5.2	2	✓	Co-creation for ideation (...)	During the d.school St
13 Activity 5.3. Card sorting	Module 5. Ideation and Selection: Arriving at pote	5.3	3	✓	Card sorting	A particularly useful m
14 Activity 6.1. Introduction t...	Module 6. Prototyping	6.1	1	✓	Introduction to prototyping	In this activity, you wil
15 Activity 6.2. Low(er)-fide...	Module 6. Prototyping	6.2	2	✓	Low(er)-fidelity prototyping	In this activity, you wil
+ Add... High(er)-fide...	Module 6. Prototyping	6.3	3	✓	High(er)-fidelity prototypi...	As your design team g

25 records | Sum 61

# Airtable (airtable.com)

Views | MMS 150 | Activities | Customize cards | Filtered by Show to students? | Sorted by 1 field | Color | Share view

Find a view

- All activities
- Only activities included in ...
- Grouped by Module
- MMS 150 | Activities

Create a view

- Grid
- Form
- Calendar
- Gallery
- Kanban
- Timeline Pro
- Gantt Pro
- Section Pro

Create an interface

- Record review
- Record summary
- Dashboard
- Blank

## DESIGN

Activity 1.1. What does desig...  
TIME REQUIRED: 30 minutes  
INTRODUCTION: Most of us have some idea of what the word "design" means. Before we launch into how we will be using the term for this course, it's worth ...  
WHAT YOU NEED TO DO: (5 minutes) Task 1.1.1. Think about a...

Activity 1.2. What is user inte...  
TIME REQUIRED: 70 minutes  
INTRODUCTION: User interface design is different from but related to user experience design. Having a well-designed user interface is part of a positive user experience.  
WHAT YOU NEED TO DO: (15 minutes) Task 1.2.2. Listen to an...

Activity 2.1. Experience a des...  
TIME REQUIRED: 360 minutes  
INTRODUCTION: So far, all of our discussion has been very theoretical. To really understand the essence of UX design, nothing beats hands-on experience. In this ...  
WHAT YOU NEED TO DO: (180 minutes) Task 2.1.1. (Option 1) ...

Activity 2.2. How is UX desig...  
TIME REQUIRED: 100 minutes  
INTRODUCTION: There several frameworks that can help describe the activities involved in UX design. No framework is ever 100% complete or accurate, so a ...  
WHAT YOU NEED TO DO: (60 minutes) Task 2.2.1. Watch IDEO...

Activity 2.3. Start exploring p...  
TIME REQUIRED: 75 minutes  
INTRODUCTION: For your final project, you will find it necessary to use tools for communicating with each other and prototyping your ideas. In this activit...  
WHAT YOU NEED TO DO: (45 minutes) Task 2.3.1. Start familia...

Activity 3.1. Defining your au...

Activity 3.2. Understanding a...

Activity 3.3. Ethical interactio...

Activity 4.1. Framing the que...

Activity 4.2. Forming your Th...

<https://airtable.com/appuweAbpLh0RiGaM/tblvEkPb4VZbgNS6B?blocks=hide>



# Notion (notion.so)

**[wfh] Activities**

By schedule By type (board) By duration By type (list) + Filter Sort Q ... New

▼ **Before class starts** 1 ... +

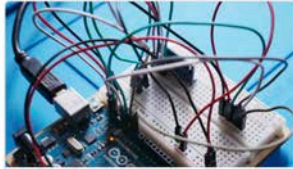
Schedule	Due date or even...	Name	# Minute...	Activity Type	Corres
Before class starts	October 1, 2022	Preparation before the course starts	120	Hands-on activities (general)	3a (D
			SUM	120	

▼ **Week 01 (Oct 10 - 16)** 8 ... +

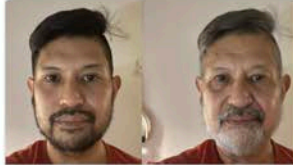
Schedule	Due date or even...	Name	# Minute...	Activity Type	Corres
Week 01 (Oct 10 - 16)	October 12, 2022	Present, later, further out	10	Reflection and sharing	1c (C
Week 01 (Oct 10 - 16)	October 12, 2022	Tell us about yourself	30	Reflection and sharing	1a (E
Week 01 (Oct 10 - 16)	October 13, 2022	Imagining different futures	30	Watch/listen/read and discuss	2a (R
					2b (A
Week 01 (Oct 10 - 16)	October 14, 2022	Flashing Heart (micro:bit tutorial)	45	Hands-on activities (wearable tec	2a (R
					3a (D
Week 01 (Oct 10 - 16)	October 14, 2022	Imagining yourself in the future, part 1: Get acquainted with the older you	15	Hands-on activities (general)	2a (R
					2b (A
Week 01 (Oct 10 - 16)	October 14, 2022	Name Tag (micro:bit tutorial)	20	Hands-on activities (wearable tec	? (R

# Notion (notion.so)

Hands-on activities (general) 7



Preparation before the course starts

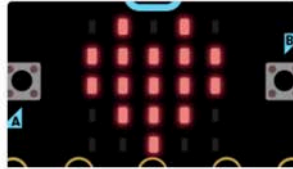


Imagining yourself in the future, part 1: Get acquainted with the older you



Imagining yourself in the future.

Hands-on activities (wearable) 9



Flashing Heart (micro:bit tutorial)



Name Tag (micro:bit tutorial)



Dice (micro:bit tutorial)

Reflection and sharing 2



Tell us about yourself

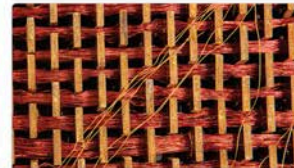


Present, later, further out

Synchronous interaction 9



The Terno Project: 2022 Resident Emerging Futurists' talk



Speculative design and wearable tech workshop with Ann Peeters



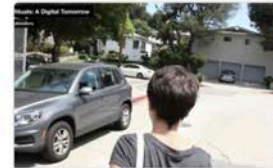
Treasure hunts 3



Treasure hunt 1: Wearables and textile swatches



Treasure hunt 2: Replicating an existing project



Treasure hunt 3: Good practice in presenting and



# Reusing student submissions as reference material

The screenshot shows a submission form for 'MMS 150 Final Projects - Submission Form'. The form includes a 'Final grade' dropdown menu, a 'Feedback Archive' section, and a 'FIC Feedback' section. The main content area contains a 'Term' dropdown menu with a note: 'Be careful what you input here; e.g., 2020-3T means that your class happened in the 3rd term of AY 2020-2021, which means May/June-August/September 2021'. Below this is a 'Project Name' text input field.

Submission form (for current students)

The screenshot shows a 'Grading view (for instructor)' interface. It features a search bar 'Find a view' and a list of views including 'Grid view', 'MMS 150 Final Projects - ...', 'Grading view', 'Student View - Shareabl...', 'UI/UX Projects - Shareab...', 'Public View', 'Post-Submission Listing', 'Private view (all projects)', and 'Grading view (Private)'. The main content area displays a table with columns for 'Project Name', 'Final Pr...', and 'Which UN SDGs ha...'. The table lists 9 projects, each with a row number, a project name, a small image, and a corresponding UN Sustainable Development Goal (SDG) label.

	Project Name	Final Pr...	Which UN SDGs ha...
1	Project Minds & Mates		GOAL 3: Good Health a...
2	Bread - The Class Compa...		GOAL 4: Quality Educat...
3	Mind Matters		GOAL 3: Good Health a...
4	Filipino Creative Freelanc...		GOAL 8: Decent Work a...
5	Aktibo!		GOAL 3: Good Health a...
6	VAXED		GOAL 3: Good Health a...
7	Operation: Redesigning t...		GOAL 16: Peace and Ju...
8			Sustainable Ci...
9			Responsible ...

Grading view (for instructor)

The screenshot shows a 'Public view (for future students)' interface. It features a search bar 'Find a view' and a list of views including 'Grid view', 'MMS 150 Final Projects - ...', 'Grading view', 'Student View - Shareabl...', 'UI/UX Projects - Shareab...', 'Public View', 'Post-Submission Listing', and 'Private view (all projects)'. The main content area displays a grid of preview cards for various projects, including 'UPhold', 'Bread - The Class Compani...', and 'Operation: R...'. Each card features a large, stylized image and a 'PREVIEW' button.

Public view (for future students)

# Reusing student submissions as reference material

- Obtain consent (via simple checkbox confirmation) to share student works for future courses
- Easily include previous student submissions in next year's coursework (even in printable PDF formats)

The screenshot shows a form editor interface. On the left, there is a 'Fields' table with the following items:

Fields	remove all	add all
# Final grade		::
📁 Feedback Archive		::
📄 FIC Feedback		::

Below the table, there is a dashed box containing the text 'Drag and drop fields here to hide' and a '+ Add a field to this table' button.

On the right, the form content is visible. A checkbox is circled in red, with the following text next to it:

Check this box if you are willing to help future MMS 150 students by allowing them to view a recording of your crit session (if a recording was made)

Below this, there is another question: 'Are you interested in seeking support for developing this work further?' with a checkbox and the text: 'Check this box if you are willing to have your work shared with other faculty and staff of UPOU or UP who might be able to help you develop your ideas further.'

At the bottom right, there is a blue 'Submit' button and a yellow star icon next to the text 'Edit label'.

# Keeping track of demands of activities on students' time

The screenshot displays an Airtable interface for a course titled "MMS 150 | Activities". The main view shows a list of activities with columns for "Time required", "Introduction", and "What you need to do". Three time values are circled in red: "75 minutes", "(45 minutes)", and "(30 minutes)".

**Activity 2.3. Start exploring project tools**

Time required: 75 minutes

Introduction: For your final project, you will find it necessary to use tools for communicating with each other and prototyping your ideas. In this activity you will get started with a couple of these tools.

What you need to do:

- (45 minutes)  
Task 2.3.1. Start familiarizing yourself with a prototyping tool:  
<https://airtable.com/shrTA5azqHGAEC285/tblvEkPb4VZbgNS6B/viwWgIeZh9zHsR9GN/recHRqN85DfynKuun>
- (30 minutes)  
Task 2.3.2. Explore communication and collaboration tools:  
<https://airtable.com/shrTA5azqHGAEC285/tblvEkPb4VZbgNS6B/viwWgIeZh9zHsR9GN/recI49grGFByE7UD8>

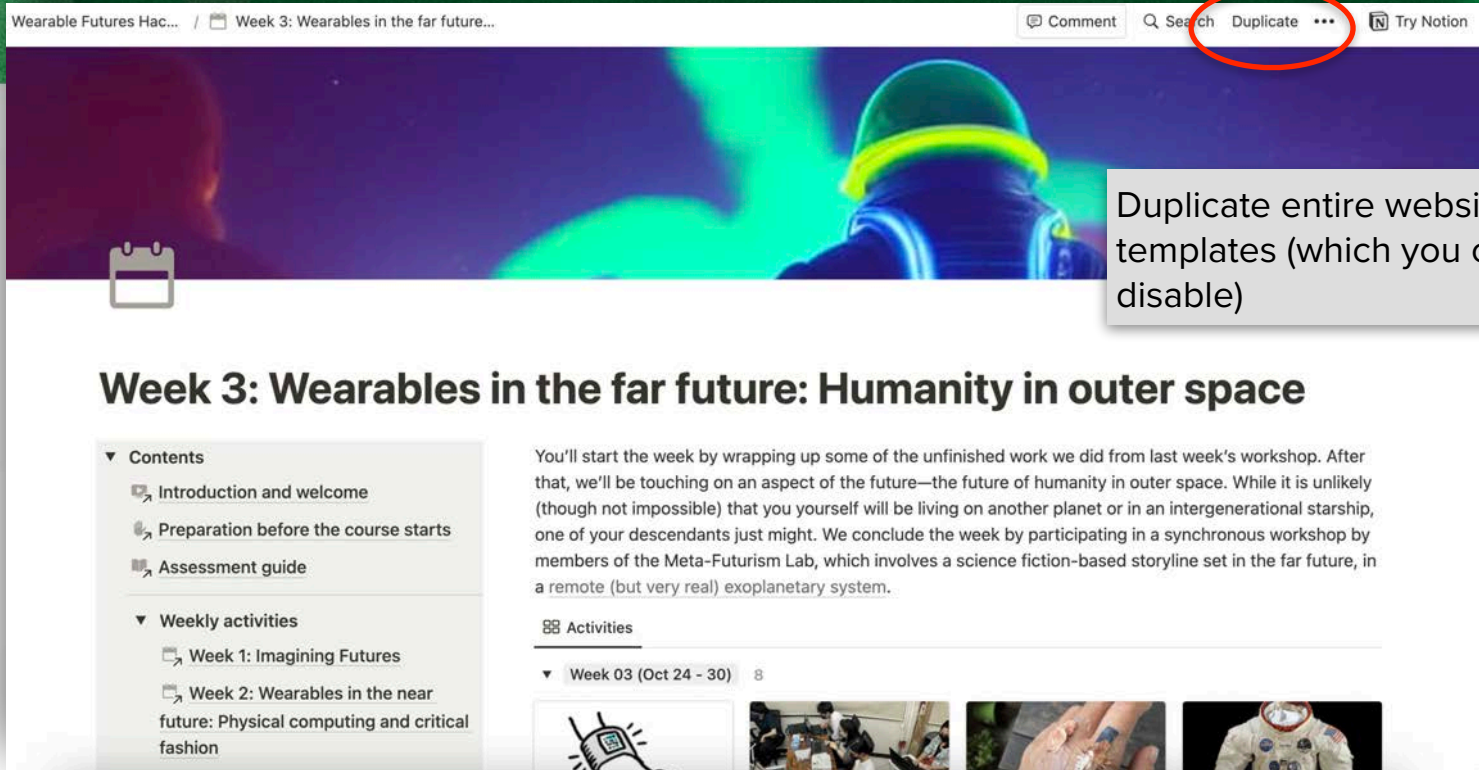
# Auditing to what extent course activities are *actually* contributing to expected learning outcomes

Aa ELO	ELO Description	Notes	[wfh] Activities	Q Minute...	Q Total m...
🔍 1a (Explore)	How will I (as the instructor) plan to screen the topic they are working with (futures thinking and wearable tech)?	I used the SEADS Stuff database, experience accumulated from previous training programs, and the Bukas Lab library database as a way to look at potential topics to cover.	<ul style="list-style-type: none"> <li>Tell us about yourself</li> <li>Tangible interfaces, embodied interaction, and wearable computing</li> <li>The Terno Project: 2022 Resident Emerging Futurists' talk</li> <li>The MFL workshop storyline</li> <li>Meta-Futurism Lab workshop (1 of 2)</li> </ul>	30, 20, 134, 45, 120	349
🗂 1b (Organize)	How will the student get an overview of their discoveries?	Students were given opportunities both to freely structure the discoveries they will make (e.g., through Miro boards) as well as prestructured notes (via published Airtable galleries and tables). These overviews were also shared with other students to provide a course-level overview.	<ul style="list-style-type: none"> <li>Treasure hunt 3: Good practices in presenting and communicating ideas</li> <li>Treasure hunt 1: Wearables and etextile swatches</li> <li>Treasure hunt 2: Replicating an existing project</li> <li>Speculative design and wearable tech workshop with Ann Peeters</li> <li>Meta-Futurism Lab workshop (1 of 2)</li> <li>Meta-Futurism Lab Workshop (2 of 2)</li> <li>Drop-in sessions @ Bukas space</li> <li>Present your proposal for your final project (Bukas/Zoom)</li> </ul>	20, 90, 45, 270, 120, 120, 90	755
• 1c (Choose)	How will the students sort and choose the knowledge relevant to the theme of futures and wearables?	Students will be given structured questionnaires with both open-ended questions and as well closed-	<ul style="list-style-type: none"> <li>Present, later, further out</li> <li>Introducing Speculative Design (part 2): Probable, Possible, Plausible, and Preferable Futures</li> </ul>	10, 90, 90, 120	310

Which activities contribute to which learning goal

How many minutes are devoted to the learning goals

# Allowing reuse of Notion-authored material



Wearable Futures Hac... / Week 3: Wearables in the far future... Comment Search Duplicate ... Try Notion

Calendar icon

## Week 3: Wearables in the far future: Humanity in outer space

▼ Contents

- Introduction and welcome
- Preparation before the course starts
- Assessment guide


▼ Weekly activities

- Week 1: Imagining Futures
- Week 2: Wearables in the near future: Physical computing and critical fashion

You'll start the week by wrapping up some of the unfinished work we did from last week's workshop. After that, we'll be touching on an aspect of the future—the future of humanity in outer space. While it is unlikely (though not impossible) that you yourself will be living on another planet or in an intergenerational starship, one of your descendants just might. We conclude the week by participating in a synchronous workshop by members of the Meta-Futurism Lab, which involves a science fiction-based storyline set in the far future, in a remote (but very real) exoplanetary system.

Activities

▼ Week 03 (Oct 24 - 30) 8



Duplicate entire websites as templates (which you can disable)

# Customizing layout and activity presentation

Wearable Futures Hac... / Week 1: Imagining Futures Search Duplicate ...

## Week 1: Imagining Futures

**▼ Contents**

- 📄 Introduction and welcome
- 📄 Preparation before the course starts
- 📄 Assessment guide

**▼ Weekly activities**








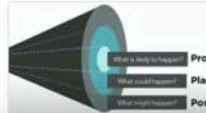
- 📄 Week 1: Imagining Futures
- 📄 Week 2: Wearables in the near future: Physical computing and critical fashion
- 📄 Week 3: Wearables in the far future: Humanity in outer space
- 📄 Week 4: Engaging with deep time
- 📄 Week 5: Speculative imagination and forecasting
- 📄 Week 6: Putting it together (part 1)
- 📄 Week 7: Putting it together (part 2)
- 📄 Week 8: Presenting and communicating speculative ideas

This page lists the activities you need to accomplish for Week 1. If you haven't read the [Introduction and welcome](#), [Preparation before the course starts](#), and [Assessment guide](#) pages yet, go do that now! Then return to this page and check out the various activities.

**Activities**

↑ Due date or event date
☰ Schedule: Week 01 (Oct 1...)
📅 Due date or event date

**▼ Week 01 (Oct 10 - 16) 8**

 <p><b>Tell us about yourself</b></p> <p>Oct 12 30</p>	 <p><b>Present, later, further out</b></p> <p>Oct 12 10</p>	 <p><b>Imagining different futures</b></p> <p>Oct 13 30</p>	 <p><b>Imagining yourself in the future, part 1: Get acquainted with the older you</b></p> <p>Oct 14 15</p>
			

# Integrating Airtable in Notion: Facilitating student submission of work

Wearable Futures Hac... / [wfh] Activities / Rapid-fire exercise: Designing wear...

Search Duplicate ... Try

In this rapid-fire, convergent thinking exercise, you will combine existing submissions that you and your classmates had made in previous activities, in order to quickly propose a novel wearable tech that is relevant to the year 2050. Parts of this activity should familiar to you because they were covered in Ann's workshop.

We will be doing this activity together as part of our F2F session in Week 6. This will be a very quick exercise to get your creative juices flowing. You will feel rushed and that you don't have enough time; that's OK!

However, you will also be proposing your final project using similar parameters. In fact, if you are happy to stick with the time frame of 2050, this exercise can serve as the foundation for your final project. However, if you want to pick a different future time frame for your final project---say, something closer to the future such as 2 years from now, or something further out than the year 2050, you will have that option as well.

 Fill in this form.

Your name \*

This is individual work. All students should accomplish this activity. Make sure you've already completed the activity on <https://airtable.com/shrVIY60BeaNN4iiF> or else your name will not appear in this list.

+ Add

Choose a scenario created by one of your classmates based on the Pagtanaw 2050 report. (You can pick your own contribution or one of your classmates'.) \*

See detailed descriptions on <https://airtable.com/shrKSa4sslAgTeivb>

+ Add




# Integrating Airtable in Notion: Showing student submissions









Wearable Futures Hack... / [wfh] Activities / Rapid-fire exercise: Designing wear...

foundation for your final project. However, if you want to pick a different future time frame for your final project---say, something closer to the future such as 2 years from now, or something further out than the year 2050, you will have that option as well.

Choose one or more objects/projects that you or one of your



**Class responses**

<input type="checkbox"/>	Name	Image (Scenario)	Scenario t...	The situation	Issue	Your design interve
1	How can a wearable tech based on health tracker shoes ladies zipper pocket underpants be used by minimum wage workers who rely mainly on public transportation to move around in a heterotopic scenario involving "shelter, transportation, and other infrastructure" in the year 2050?		Heterotopic	In a heterotopic Philippines, I can imagine transportation and other public and private infrastructures are slowly improving a...	Shelter, Transport...	
2	How can a wearable tech based on health tracker eyeglasses be used by students in a dystopic scenario involving "shelter, transportation, and other infrastructure" in the year 2050?		Dystopic	I can imagine in a dystopian Philippines; all public infrastructures are unable to properly serve the people. Structures like civilian ...	Shelter, Transport...	
3	How can a wearable tech based on diy knee energy harvester, 2w at 2mph! rings be used by health and environment enthusiasts in a dystopic scenario involving environment and climate change in the year 2050?		Dystopic	In the 2050 dystopian future, our earth was ravaged by overpopulation. With the increase of people, there is an increase in power...	Environment and ...	
4	How can a wearable tech based on mutualence		Utopic	In the 2050 utopian future, the environment	Environment and ...	

<https://www.notion.site/Wearable-Futures-Hackathon-Course-Backlog-7d46f4bd52d44cf28191e04e7d815a3>





# Gaps

- Asynchronous discussions (particularly in Airtable)
  - Threading
  - Moderating
  - Grading
- Identity authentication (particularly in Airtable, unless you pay for premium services)
- For Notion, offline course material generation is less customizable



# Salamat

*Questions?*

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