



GEN·AI
BOOTCAMPS

DAY 2: BELONGING

Considering how we can use AI responsibly in our communities

**Remember to spend some time in
the art space for some wellbeing &
creative activities!**

Today is:
Perspectives
& “Belonging”



Today

- System Prompts
- Mini Assistant Design & interacting with a user
- AI Considerations – what can go wrong?
- Ethics in AI
- Designing an AI Assistant responsibly

System Prompting

- We can make some 'hidden' instructions.
- This instruction defines the overall role, style, or behavior before it starts answering 'user' prompts.
- Its purpose is to guide how the AI should respond – for example, to sound formal, act as a helpful tutor, or follow certain rules consistently.

System Prompts

You can use your Scratch or Python program, or use the Chat Playground for our System Prompt experiments.

Examples:

- You are a pirate. You can only talk about parrots.
- You are a study helper who makes simple quizzes on different subjects.
- You are a science teacher explaining complex topics in a way a 6-year-old can understand.
- You are a friendly assistant who never uses the letter 'e' in your answers.

Picture Password Enter Key Hide

Use your Picture Password

Beth C



Login OK!

Try using the System Prompt Field to change how the model behaves. This playground has chat memory up to 20 messages.

Settings (optional)

Show/hide the System Prompt

System Prompt

You are a helpful assistant.

Show/hide the optional settings

Show/hide the model info

User Input:

Help me brainstorm a science fair project using household items.

OpenAI: GPT-4:

Sure, here are a few ideas you could consider for a science fair project using household items:

- 1. Surface Tension Experiment:** You can use a bowl of water, pepper, and dish soap to demonstrate how surface tension works. Sprinkle pepper on the water surface, then add a drop of dish soap and watch how the pepper moves away due to the change in surface tension.
- 2. Crystal Growth:** Grow your own crystals using sugar or salt and hot water. You'll keep track of the growth over a number of days and document the results.
- 3. Homemade Water Filter:** Using different layers of materials such as sand, activated charcoal, and crushed rock, you can demonstrate how dirty water can be filtered and purified.
- 4. DIY Lava Lamp:** Create a homemade lava lamp using a clear container, water, vegetable oil, food coloring, and effervescent tablets (like Alka-Seltzer). This experiment can demonstrate the immiscibility of oil and water and the gas laws.

Prompt:

What colour is the sky?

 Generate

 Give me an example

 Save

Show/hide the input json



Review & Reflect

- When you use a 'system' prompt, what happens?
- Does the model still act the same way? Can a 'user' get around your system prompt?
- How does the user know what to enter? Is there a format you need? What is the model expecting?
- Are there definitions or examples needed for your prompt? What have you assumed?

More Control: Settings

We can also change some things like temperature for text models.

These settings are to do with tokens.

Tokens	Characters
53	220

A token is a piece of text, which could be a word, a part of a word, or even a character, that the AI uses to understand and generate text. Words are broken into tokens automatically.

supercalifragilisticexpialidocious!

Show/hide the optional settings



max_tokens

1

Whole number | Maximum number of tokens (range: [1, context_length]).

temperature

1

Decimal | Sampling temperature (range: [0, 2]).

top_p

1

Decimal | Top-p sampling value (range: (0, 1]).

repetition_penalty

1

Decimal | Repetition penalty (range: (0, 2]).

Settings

Temperature: lower values make responses more predictable, higher values make them more varied.

Top P: Limits choices to the top tokens whose probabilities sum to P, balancing creativity and focus.

Repetition Penalty: Penalises reused tokens to reduce repetition, with higher values reducing repetition more strongly.

Max Tokens: Sets the maximum number of tokens the model can generate in its response.

Model Information

You can look more into information on models under 'Extension activities' at the bottom of the Launchpad.

What are Model Parameters?



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Mini-Assistant design

We're going to make a simple AI Assistant. This time is to practice the coding we started yesterday.

Make sure you have some user interaction in your program.

Try some different Turbowarp extensions and python libraries, and ask mentors for help where you need it!

Scratch with Gen-AI



Python with Gen-AI



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Short Story Maker

Make a program that writes a fun story starring you.

Try This:

- Ask the user for a topic (e.g. space, dragons, school).
- Send that topic to the AI to create a short story.
- Show the story in a speech bubble or textbox.

Superhero Creator

Design your own superhero with AI.

Try This:

- Ask the user to choose a superpower (e.g. flying, invisibility).
- Send the power to the image AI to create a superhero.
- Show the image on screen.

Explain It Like I'm 5

Ask the AI to explain something tricky in a super simple way.

Try This:

- Ask the user for a topic (e.g. "volcanoes").
- Send the topic to the AI with a prompt like: "Explain this like I'm 5."
- Show the answer on screen.

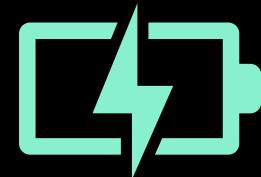
Character Designer

Describe a cool character, and the AI creates it.

Try This:

- Ask the user to describe a character (e.g. "a funny robot with roller skates").
- Send the description to the image AI.
- Show the result as a new sprite or backdrop.

BREAK



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AI Malfunctions

- Have you had a tech malfunction before? When it broke, was it on purpose or accidental?
- Have we seen this ourselves in the bootcamp? When you made your classifier, or when you were doing your system prompts yesterday?
- Can you think of anywhere else you have heard about tech or AI malfunctions recently?

Environment

Training and running AI uses lots of electricity and resources.

Privacy & Security

AI might remember or leak sensitive information.

Environment

Training and running AI uses lots of electricity and resources.

Malicious Use

People could use it for scams, fake news, or impersonation.

Regulations

Rules about AI are still being made – who's responsible when it goes wrong?

Hallucination

AI tools don't always give facts – they can make things up.

Intellectual Property

AI tools may generate art or text based on stolen work.

Bias

AI can repeat unfair patterns from the internet or data it was trained on.

Education **Understanding of how outputs are generated, and applying responsible use of AI.**

Which of these might apply to your assistants?

Who are you needing to think about when you make your assistant?

How could you incorporate ethical AI use & design into your assistant if you did it again?

Short Story Maker

Make a program that writes a fun story starring you.

Explain It Like I'm 5

Ask the AI to explain something tricky in a super simple way.

Superhero Creator

Design your own superhero with AI.

Character Designer

Describe a cool character, and the AI creates it.

What went wrong here?

Disney and Universal take legal action

Disney and Universal are suing an AI company called Midjourney because it used their famous characters, like Darth Vader and Elsa, to create images without permission...

Court ruling reshapes AI training

A U.S. court ruled that using copyrighted materials to train AI systems without permission is not allowed...

AI MISHAPS

ARTICLE SUMMARIES

Title

Car dealer's chatbot goes viral

Summary

A dealership added an AI chatbot to its website, but people quickly found ways to get unusual and unexpected results.

Link

[Read more](#)

Disney and Universal take legal action

Entertainment giants are suing an AI company over its use of popular characters in generated artwork.

[Read more](#)

Previewing DALL-E 2

A system card outlines some of the challenges and tendencies the model shows when creating images

[Read more](#)

AI-generated report raises concerns

The White House's "Make America Healthy Again" (MAHA) report used artificial intelligence tools to generate many of its scientific references. This led to errors, including made-up studies and incorrect citations, raising concerns about report's reliability...

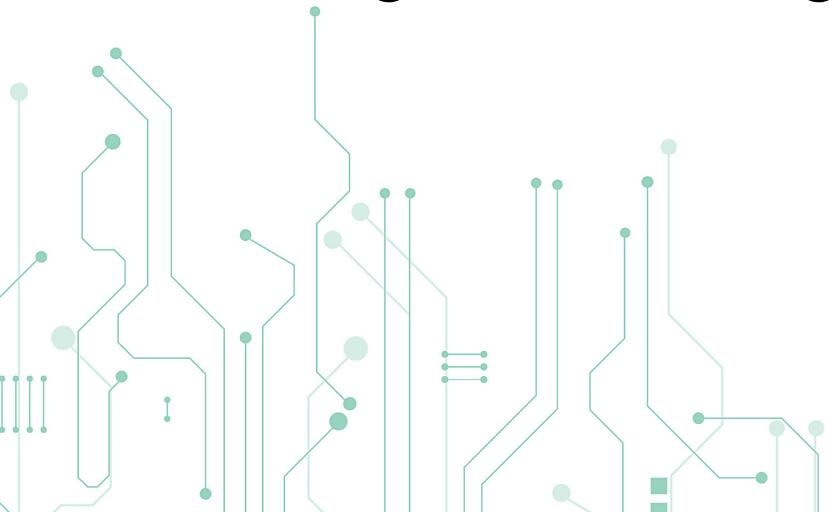
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Checkpoint

Read through the articles, identify what area of 'AI Ethics' topics might apply, and why.

Sort the news events into the categories as a group.

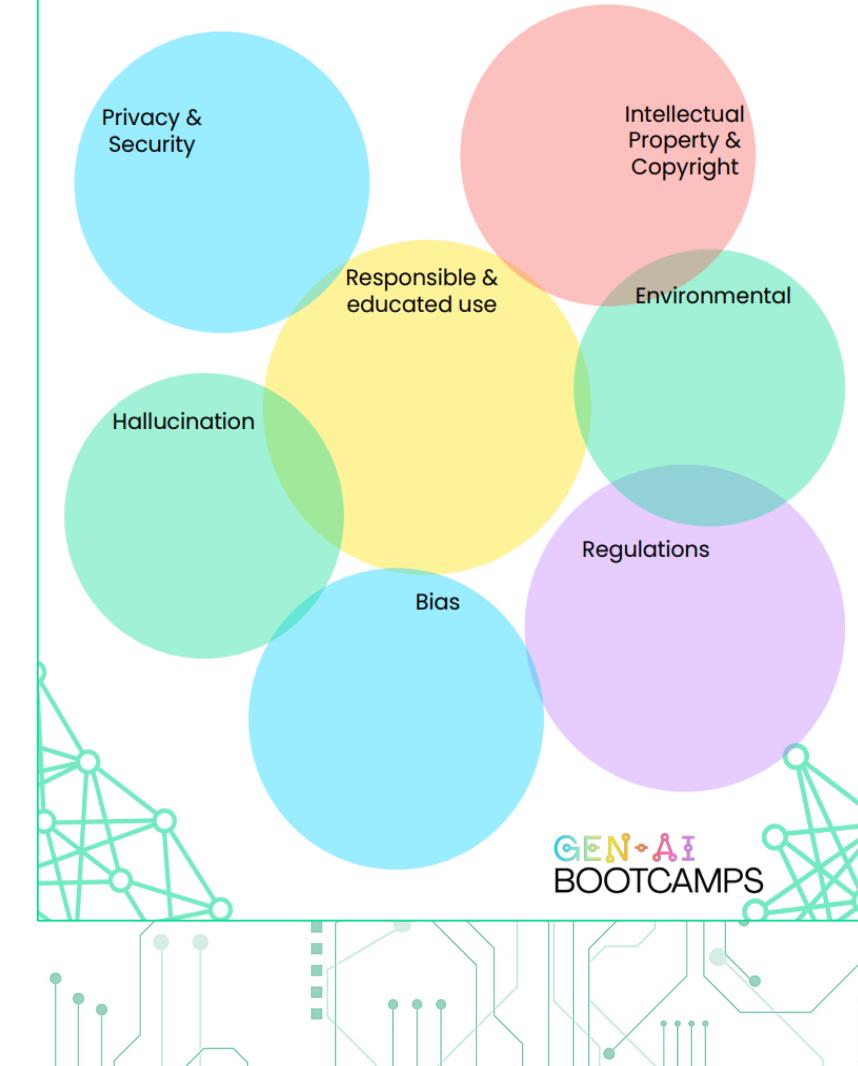


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AI MISHAPS IN THE HEADLINES

name: _____

Place your headline cards on the topic you think is the main factor in the article. Some headlines have multiple relevant categories - choose which one you think is the main issue. What else is a factor? How could this be avoided next time?



Ethics & AI: Equal Access and Algorithmic Bias / Code.org



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LUNCH BREAK



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Design Process & Design Thinking

What is the Design Process?

Why is it important?

Design Thinking:
The approach to
designing a solution;
focused on human
experience and
perspectives
(Design Thinking |
WADSIH)

STAGE 1: PLAN

Problem Statement,
Definition & Planning

AI Ethics and
Considerations

Stakeholders &
Persona Mapping

STAGE 2: DESIGN

Data Requirements

Pseudocode
Implementation

STAGE 3: TEST

Testing, Feedback,
Improving

Design Thinking: Stakeholders

Who was affected in the articles?

Remember the users for our program?

These are examples of Stakeholders.

When you are making a project, the stakeholders are the people who will be affected by your project.

Design Process: Study Game Generator

Problem

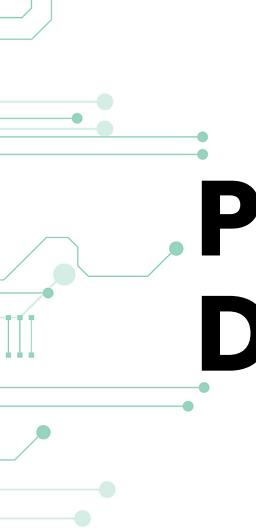
Traditional study methods can be boring, and students may have difficulty practicing concepts in an interactive way.

Goal

Create a tool that turns a topic and optional study materials (Text) into a fully functional HTML game that helps students learn through gamification.

Why use Gen-AI?

Requires programming skills and creativity that many students and teachers wouldn't have. With Gen-AI, coding and instructional design can be accessible to beginners.



Problem Statement, Definition & Planning

- What is the problem?
- How do we know it is a problem?
- How will we know when it is solved?
- Who is affected by this problem?

PROBLEM DEFINITION

What is the problem?



Traditional study methods can be boring, and students may have difficulty practicing concepts in an interactive way.

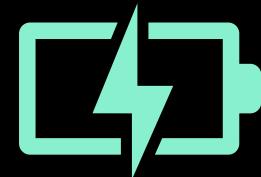
How do we know this is a problem?



How will we know when the problem is solved?



BREAK



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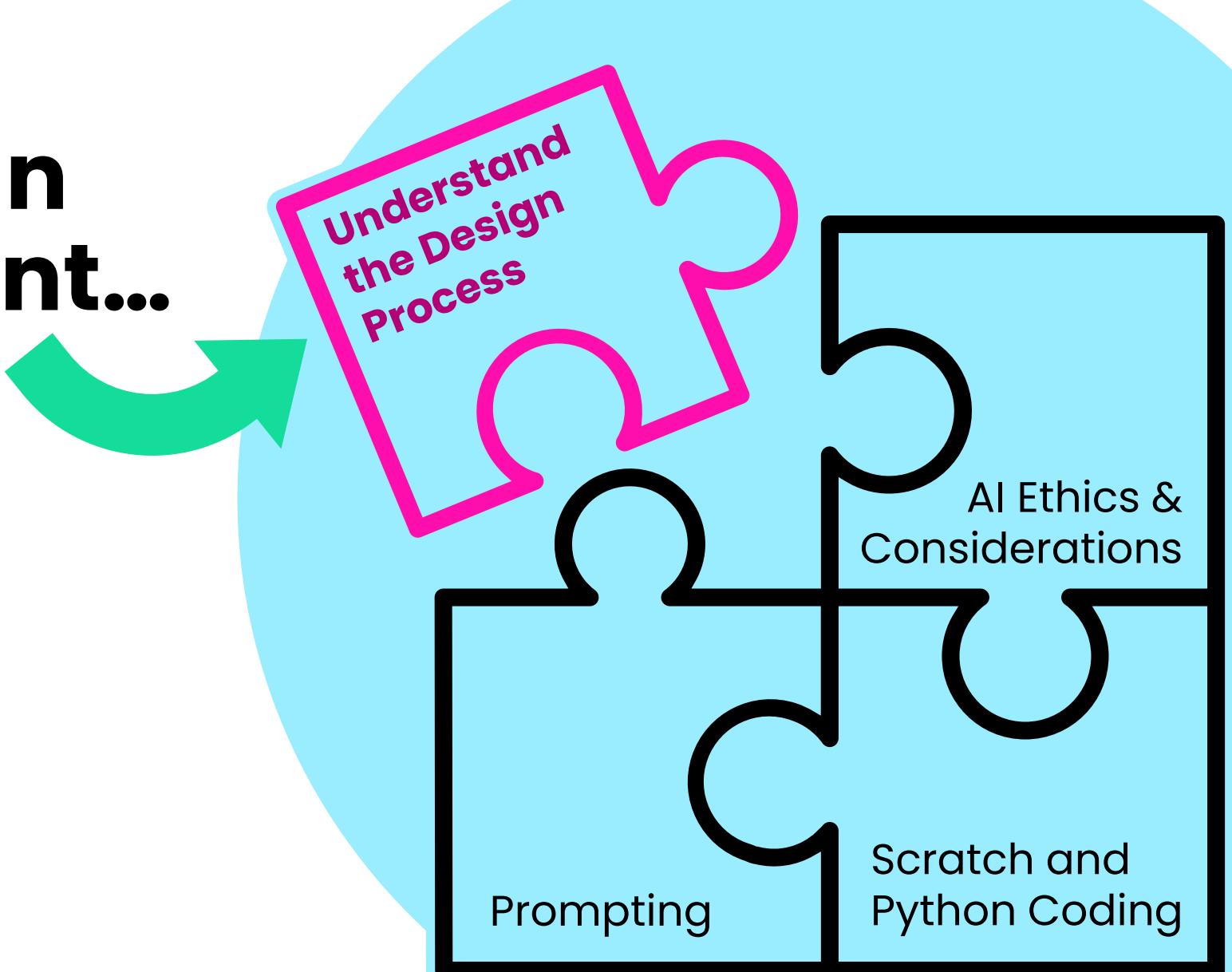
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Let's design an Assistant...

You'll be able to
do this on your
own tomorrow!



Stage 1: Planning

Together, we will complete design thinking worksheets for our project.

1. Problem Statement, Definition & Planning

What is the problem?
How will we know when it is solved?
Who is affected by this problem?

2. AI Ethics and Considerations

Who and what do you need to consider from an Ethics perspective?

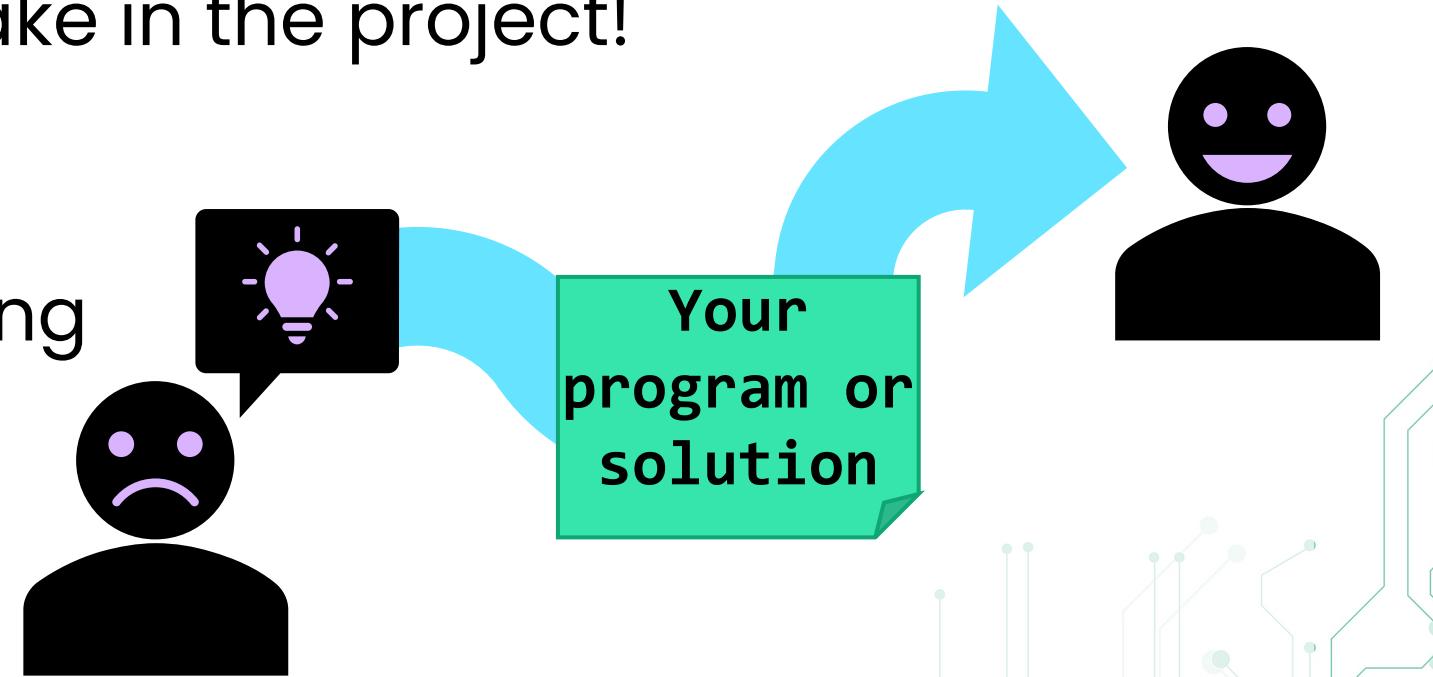
3. Persona Mapping

Describe one or two primary stakeholders, considering the questions from their perspective.

Who will be affected?

Stakeholders are the people & groups affected by the project. They have a stake in the project!

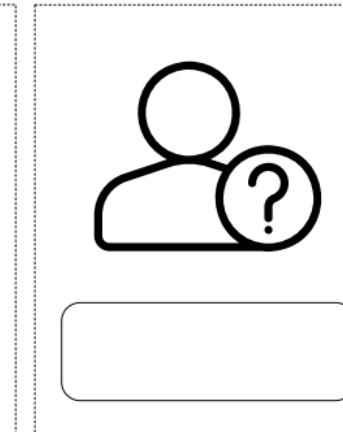
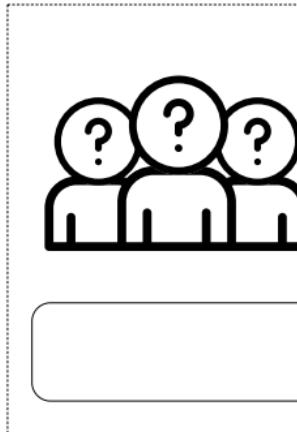
We try and think from their perspective by using "Persona Mapping".



Stakeholders

Who will be affected by your design?

Can you think of other individuals or groups of people who might be stakeholders?

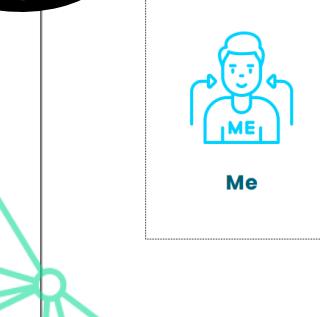
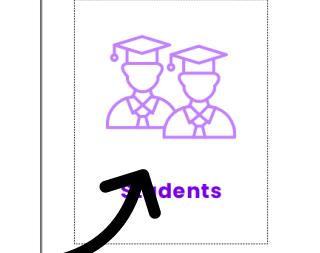
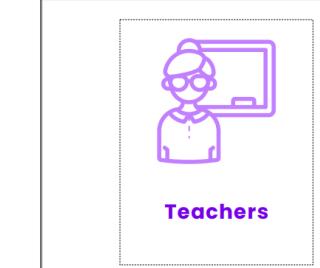


STAKEHOLDER SORTING

Sort your stakeholder cards into one of the three columns.

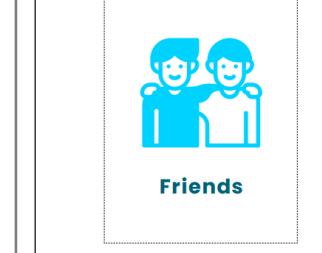
Important stakeholders

These groups will be directly affected by our design solution and we must consider their input.



Secondary stakeholders

These groups may be affected by our solution, or may have an interest in it.



Unlikely stakeholders

These groups will probably not be affected by our solution. We will monitor throughout our project.

AI Ethics and Considerations

Privacy & Safety

Ensure any user-provided study material does not contain personal data.

Generated games should not collect sensitive student information.

Transparency and Trust

AI-generated questions or content should be fact-checked to avoid spreading misinformation.

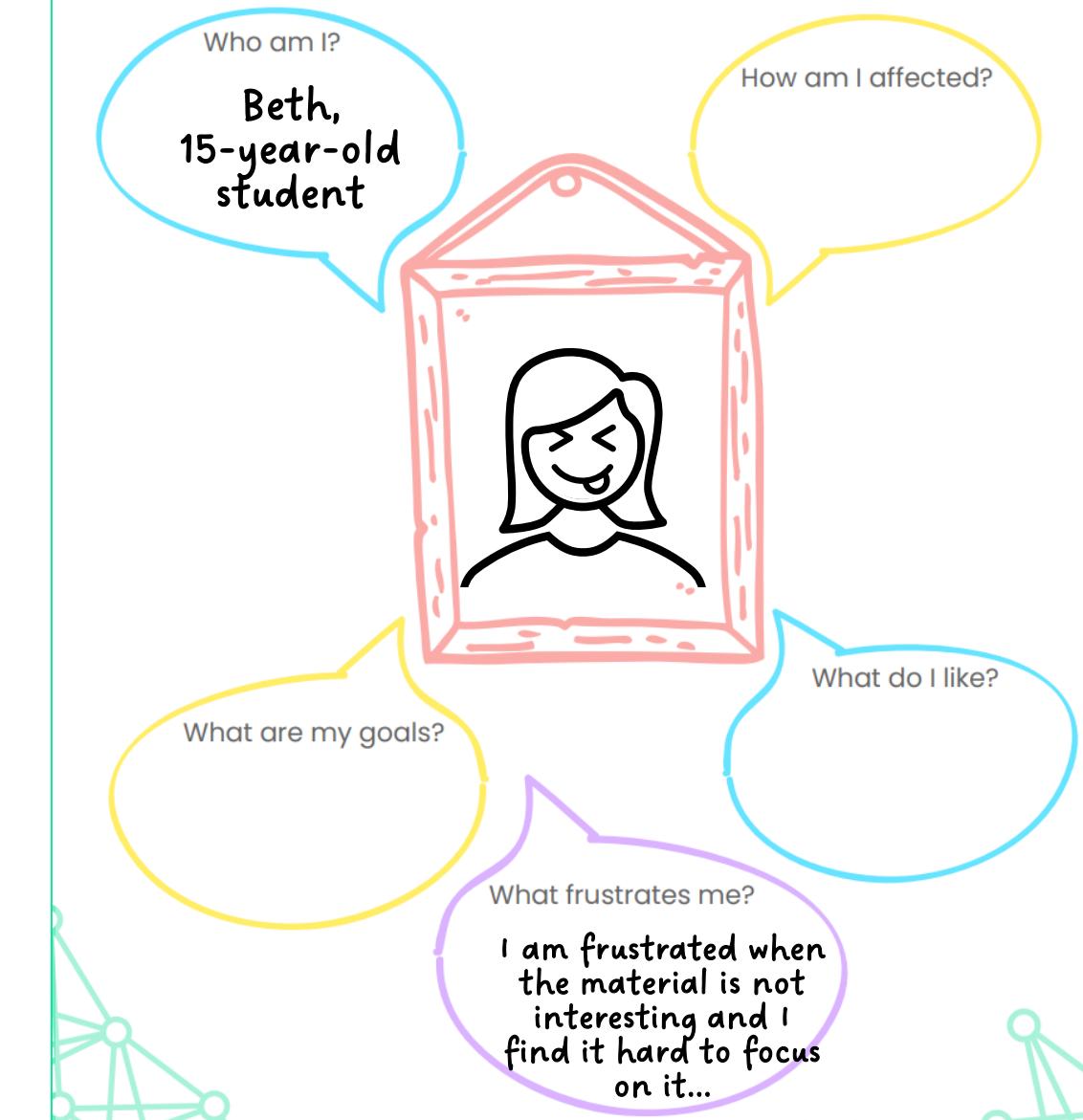
Remind users that AI output may need review before use in educational contexts.

Persona Mapping

Describe one or two primary stakeholders, considering the questions from their perspective:

- How does the problem/solution affect me?
- What frustrates me?
- What are my goals?

PERSONA MAPPING



Stage 2: Design

Now, we'll start thinking about what our solution looks like.

4. Data Requirements

Do you need extra data for your project? Where can you find it? Websites, stakeholder input, etc?

5. Pseudocode

Write some notes describing what you want your program to do, in Scratch or Python. What will your inputs and outputs be?

6. Implementation

Plan how you will implement in Python or in Scratch. What blocks will you need?

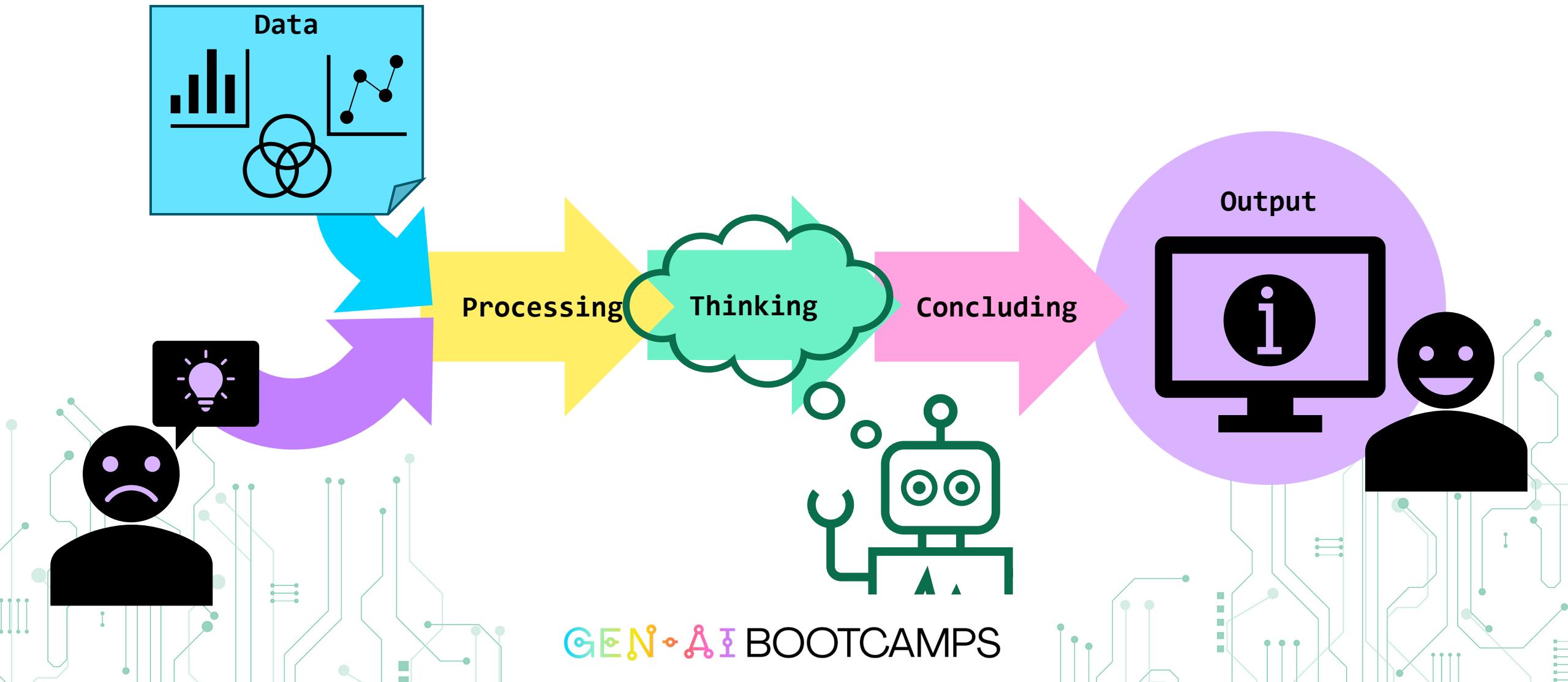
What will your Assistant do?

What does it need to “know”?

What data do we need? What can it do by itself?

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How will we implement?



Implementation

 Implementation Planning Worksheet

You can use this worksheet to brainstorm your program.

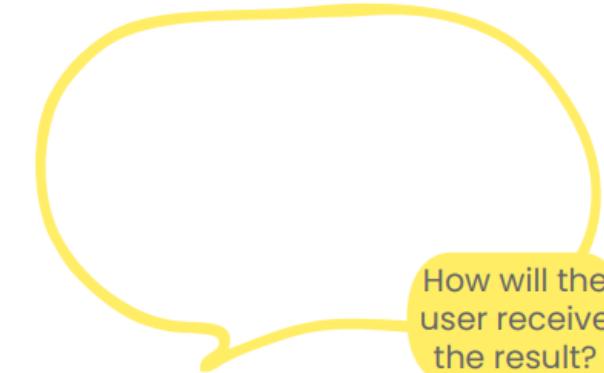
IMPLEMENTATION PLANNING

name: _____

What information do you need to be able to work out your result?
What will stay the same, and what will change each time?



What do you need to ask the user? What information will they give you?

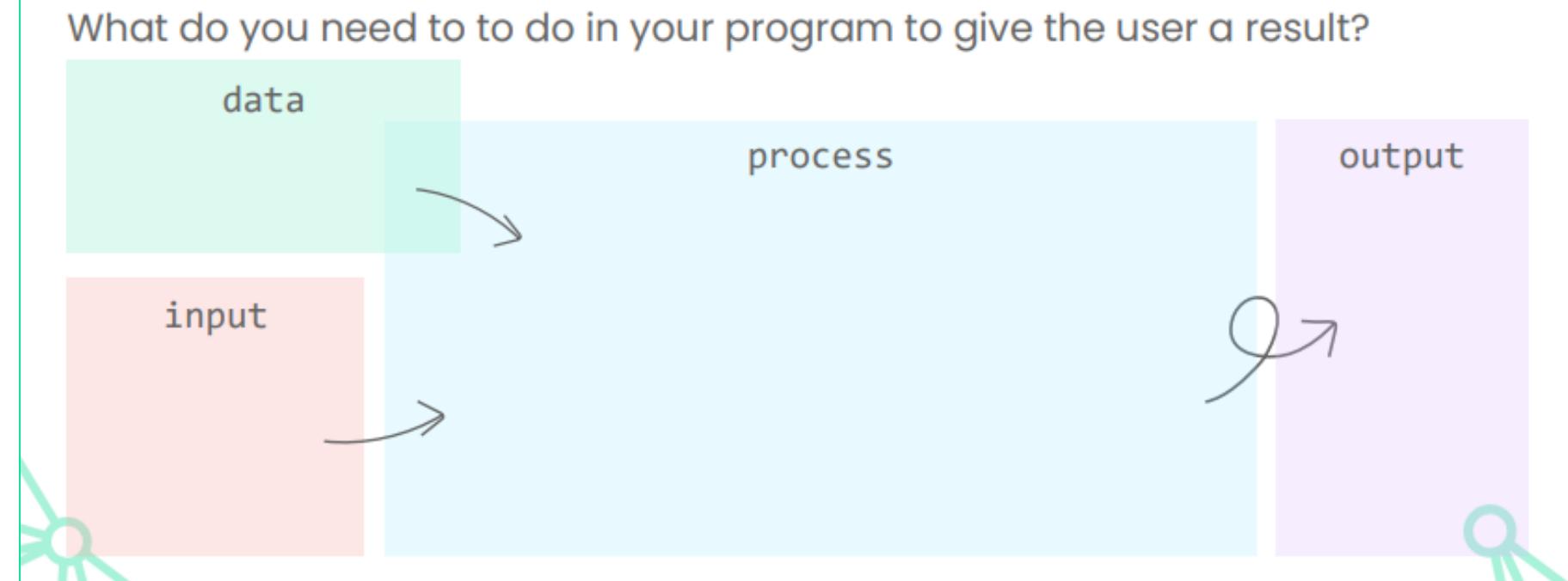


What information can you gather from elsewhere? What does your program need to know?



Implementation

You can use this worksheet to brainstorm your program.



Implementation...

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That's all for today...

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