Lesson 2.2

3.7.2020

Project Design #1

DAILY OBJECTIVE

In this lesson, students will engage in a short design process aimed at creating a few ideas for projects that incorporate the AI systems we've used in class and the Wick Editor.

MATERIALS

Educator

- None

Students

- Note taking materials
- Sketching materials

PREP

Educators should attempt the brainstorming activities below prior to running the class to get a better feel for the exercise in order to help students that may be struggling.

DEFINITIONS

No new definitions today!

LESSON PLAN

Section 1: Brainstorming

Objective	Students will brainstorm ideas that correspond to each initiative area, and utilize the Azure Cognitive Services APIs available to them.
Duration	15-20 Minutes
Class Style	Computers should be away if working with physical worksheets. Students should be ready to individually develop project ideas. Talking and collaboration can be useful here, if students stay on task!
Materials	“Brainstorming” Activity Worksheets. Sketching Materials. (Pencils)

1.1 Creating Ideas

Now that students have seen the AI for Good Initiative areas, and had some time to consider them, we’ll be aiming to create some project ideas that we can later implement.

1. Students should have access to “Brainstorming” worksheets. The worksheets have several elements that should be filled out that educators should introduce, including:
    a. **Name:** A short name for the project concept
    b. **Description:** A 1-3 sentence description of the project concept
    c. **Target Population:** A short description of who this project is designed for
    d. **Initiative Area(s):** The initiative areas the project could impact, if applicable.
    e. **Tech:** The Azure Cognitive Services APIs that will be used in this project.
    f. **Sketch:** An area where students should create a small sketch or two describing the concept.
2. Students should complete the following activity.

A	**15-20 Minutes**	Students should write down 3-5 ideas. The objective is to create some quick ideas that are interesting to them, and could potentially be in scope to create.

Section 2: Winnowing Down

Objective	Students will review their ideas with a partner, and describe positive and negative aspects of their designs, creating a top 3 choices list.
Duration	15-20 Minutes
Class Style	Students should be paired up with a partner and have their completed “Brainstorming” worksheets ready to discuss and critique.
Materials	Completed “Brainstorming” worksheets

2.1 Pairing Up and Reviewing

Students should pair with a peer to review their ideas. Students will take turns reviewing their peer’s work.

1. Students will develop at least 6 suggestions for each idea developed.
    a. 3 Suggestions on “What should be changed?”
    b. 3 Suggestions on “What could be removed or added?”
    c. If something was unclear, add suggestions on how to make the idea easier to understand.

2. Students should complete the following activity, twice! One for each partner.

A	**7-10 Minutes**	**Reviewing Peer Ideas** Take 1-2 minutes explaining your idea to a peer. Then allow you

		peer to review your idea, and provide suggestions based on the questions in the worksheet.

Section 3: Class Review

Objective	Students will share semi-refined ideas with the class, talking about critiques and suggestions from peers.
Duration	10 Minutes
Class Style	Students should be in their seats, ready to present ideas to the class either voluntarily or when called on.
Materials	Completed and critiqued Brainstorming worksheets.

3.1 Pairing Up and Reviewing

Bring the classes attention to the front of the room and ask for volunteers to describe on of their refined ideas.

1. When students present their ideas, ensure that they cover these concepts.
    a. **What was their original idea?**
    b. **How has that idea changed, after working with a peer?**
        i. What changes were suggested?
        ii. What additions were suggested?
    c. **Who is the primary audience of the project?**

2. Ask students from the broader class to provide comments on the idea.
    a. **What do they like about the idea?**
    b. **What do they think could be changed?**
    c. **Who could this project benefit that the original creator has not thought of?**

Common Misconceptions

Below are some common misconceptions that may appear in discussion around today's content.

1. "Why aren't we just coding?"

Many students might think that working with paper and pencil techniques is not a real way of designing projects and applications. In fact, most major technical projects will not enter development until a number of pre-production activities occur like sketches, early project documentation, and product designs!

It's important to understand your project as a whole before diving straight into development. Creating a project without clear guidelines on how it will work, or who will use it, is an almost assured way of creating an unsuccessful project, or inefficient design practices.

COMMON PITFALLS

1. Students are uncomfortable providing critical feedback.

While providing project critiques, students might find it really difficult to provide critical feedback to their peers. It's important to assure students that providing, and receiving, critical feedback is an integral part of the design process, and will lead to better projects overall, and to create a space in which students feel comfortable providing that feedback.

SUCCESS CRITERIA

These success criteria are a simple way to ensure students are on track. They are designed to help educators guide conversations and example development between each day's content.

Discussion	Exploration	Application
Students should be able to comfortably describe their own project ideas to peers. Students should be able to provide positive and critical feedback on peer project ideas.	Students should be able to reference AI for Good project examples, and Azure Cognitive Services project demos, when describing their own projects.	Students should be able to create project ideas that fall into multiple different categories, including multiple different AI for Good initiative areas.