Topic	CAPSTONE CLASS: BRAINSTORMING	
Class Description	**Students list down the problems around them to which they are connected to. Students identify and categorize the problems which can be solved by using technology. They select a problem which they deeply connect to and plan for a technological solution for it. They come up with user stories for the application which they will be building. Students brainstorm areas for a technological problem and try to find an app to solve it.**	
Class	**C90**	
Class time	**45 mins**	
Goal	● List down and categorize problems which students connect to ● Select a problem which can be solved using technology ● Write user stories for the application	
Resources Required	● Teacher Resources ○ Laptop with internet connectivity ○ Earphones with mic ○ Notebook and pen ● Student Resources ○ Laptop with internet connectivity ○ Earphones with mic ○ Notebook and pen	
Class structure	**Warm Up** **Teacher-led Activity** **Student-led Activity** **Wrap up**	**05 mins** **15 mins** **15 mins** **05 mins**
WARM-UP SESSION - 05 mins		

<table>
<tr><td colspan="2"><u>CONTEXT</u>
• Setting the student up for creating their own app.</td></tr>
<tr><td colspan="2">Teacher starts slideshow  from slides 1 to 8
Refer to speaker notes and follow the instructions on each slide.</td></tr>
<tr><td>Activity details</td><td>Solution/Guidelines</td></tr>
<tr><td>Hey <student's name>. How are you? It’s great to see you! Are you excited to learn something new today?

Run the presentation from slide 1 to slide 3

Following are the WARM-UP session deliverables:
• Greet the student.
• Revision of previous class activities.
• Quizzes</td><td>ESR: Hi, thanks, Yes I am excited about it!

Click on the slide show tab and present the slides</td></tr>
<tr><td colspan="2">Display the WARM-UP Quiz session</td></tr>
<tr><td>Activity details</td><td>Solution/Guidelines</td></tr>
<tr><td>Run the presentation from slide 4 to slide 8 to set the problem statement.

Following are the WARM-UP session deliverables:
• Appreciate the student.
• Brainstorming about apps.</td><td>Narrate the story by using hand gestures and voice modulation methods to bring in more interest in students.</td></tr>
<tr><td colspan="2">Teacher ends slideshow  </td></tr>
<tr><td colspan="2">TEACHER-LED ACTIVITY - 15 mins</td></tr>
<tr><td colspan="2">Teacher Initiates Screen Share</td></tr>
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CHALLENGE ● **List down the problems around them to which they feel connected.**		
Step 2: Teacher-led Activity (15 min)	All good applications were built to solve a problem. Can you name any good apps which you use?	**ESR:** Varied *The Student mentions a few apps which they use.*
	What problem do you think these apps were solving?	**ESR:** Varied Few examples Whatsapp - Instant communication between two parties without SMS charges. Facebook - connecting people in a wider network. Amazon - Allow people to buy and sell items from anywhere.
	Great! To be able to solve a problem, you need to understand the problem in depth. What is a problem anyway? Problems which we have faced or which we have seen people to whom we are connected to face, are understood better by us. We also deeply care about these problems.	**ESR:** A problem is an inconvenience or an obstacle which we face in our lives. Removing the obstacle or overcoming it will make us more productive, happy, etc. *The student articulates their thoughts about problems around them.*

	Let's do a simple exercise. You and I, together, are going to come up with at least 50 problems which we see around us. We might be the people who are facing this problem or we might be connected to people who are facing this problem. While thinking about these problems, let's not filter anything. We will not think about solutions to the problems. We will not think about which problems can be solved using an app or not. We will only think about the core problem which you or someone connected to you might be facing. Try to think about all the problems you are aware of.	*The students ask questions for clarity.*
	Teacher opens the Google Sheet from Student Activity 1 and creates a copy of the sheet. *Teacher jots down the problems which they discuss in the Problems column.*	*The student and the teacher take turns to talk about a problem which they are facing in their lives/seeing others face the problem. Along with the problem, teacher should also model and get the student to talk about:* *- Context behind the problem. When do they face this problem?* *- What problem inconveniences them?*

		- What is the pain that the student is facing? *- How does it affect them?*
	Teacher stops after the student and the teacher jot around 50 or so problems.	-
Teacher Stops Screen Share		
	Now it's your turn. Please share your screen with me.	
STUDENT-LED ACTIVITY - 20 mins		
• **Ask Student to press ESC key to come back to panel** • **Guide Student to start Screen Share** • **Teacher gets into Fullscreen**		
ACTIVITY • **Identify and categorize problems which can be solved using technology.** • **Select a problem which they deeply connect to.**		
Teacher starts slideshow  **from slides 9 to 10** Refer to speaker notes and follow the instructions on each slide.		
	Now it's your turn. Please share your screen with me.	
Teacher ends slideshow 		

Step 3: Student-Led Activity (15 min)	Now, let's think and talk about what will be the ideal solution for each of these problems. Again, let's not be constrained by technology. Technology is just a tool which helps us solve a problem. Let's think more broadly on the ideal solution for each kind of problem.	*The student asks questions to clarify.*
	The student and teacher, alternately, go over the problems listed and talk about the ideal solution for each of their problems. *Teacher writes down the solution in the "Ideal Solution" column on the Google Sheet.*	*Student talks about the ideal solution for each of his/her problems.*
	Now, let's try to identify which of these solutions uses Tech or Tech tools. *Teacher goes over each solution with the student and identifies the solutions which use technology - apps/game design etc.* *The teacher can highlight such problems in the sheet.*	*The student identifies solutions which require a tech solution.*
	Awesome. Now we will do one final thing in order to identify the problem which we are going to work on in the upcoming classes. Let's add a column called preference to work.	*The student rates each problem on a scale of 1 to 10 based on their preference.* *These will only be for problems which need a tech solution.*

	On a scale of 1 to 10, let's give a rating to each problem based on how much we care about the problem and our preference to work on them.	
	Finally, let's choose ONE problem which we are going to work on in the coming classes. *Help the student choose that ONE problem which they want to solve. The ONE problem chosen should be around an app which the student can build in the class.*	*The student talks about the problem which they chose and why they chose the problem.*
Teacher Guides Student to Stop Screen Share		
WRAP-UP SESSION - 05 Mins		
FEEDBACK • **Ask the student to design the mockups / wireframe for their application before the next class.**		
Teacher starts slideshow  **from slide 11 to slide 20**		
Activity details		**Solution/Guidelines**
Run the presentation from slide 11 to slide 20 **Following are the wrap-up session deliverables:** • **Explain the facts and trivias** • **Next class challenge** • **Project for the day** • **Additional Activity**		Guide the student to develop the project and share with us.
Quiz Time - Click on In-Class Quiz		

	You get a “hats off”.	Make sure you have given at least 2 Hats Off during the class for:   
	Before our next class, I want you to come with a mock up / wireframe for the app which you have chosen to build. You can draw the wireframe on a piece of paper. You can draw the different screens of your app and how you move between them. While designing the wireframe, think about the user experience you want your users to have on your app. We will discuss your wireframe in the next class and start working on them!	-
	Congratulations! New milestone unlocked. In this capstone project, we will brainstorm for our new app. And then, you will have to create an empty repository with the project name.	

	Later, use git commands to push your project repository to this github repo. Finally, submit the link to your github repo for the project to us.	
Project Overview	*** This Project will take only 30 mins to complete. Motivate students to try and finish it immediately after the class.** **Brainstorming** **Goal of the Project:** In class 90, you brainstormed the idea for our new project. In this project, you will have to apply what you have learned in the class and you'll have to brainstorm the idea for your new project. **Story**: Riya is a social worker and wants your help to create an app which will help her with her social work. **Note: You will need help from your parents for submitting the final output of this project.** I am very excited to see your project solution and I know you will do really well. Bye Bye!	

Teacher Clicks ✖ End Class		
Additional Activities	*Encourage the student to write reflection notes in their reflection journal using markdown.* Use these as guiding questions: What happened today? - Describe what happened - Code I wrote How did I feel after the class? What have I learned about programming? What aspects of the class helped me? What did I find difficult?	*The student uses the markdown editor to write her/his reflection as a reflection journal.*

Activity	Activity Name	Links
Student Activity 1	Empty Google Sheet	https://docs.google.com/spreadsheets/d/1l-SYWJuR-s3DjOcwqLwy-fu4Ru84lhSdk_1R6-_36cI/edit?usp=sharing
Teacher Activity 1	Teacher Reference	https://s3-whitehatjrcontent.whjr.online/curriculum/PRO+Asset/Copy+of+BrainStorm+Ideas+-+Sheet1.pdf
Project Solution	Brainstorming	Solution depends on students' submission.

Teacher Ref. Visual Aid Link	Visual Aid Link	https://s3-whjr-curriculum-uploads.whjr.online/49088215-e3bb-45c3-bd0e-30f7af12e57f.html
Teacher Ref. In-Class Quiz	In-Class Quiz	https://s3-whjr-curriculum-uploads.whjr.online/7df3428d-56ec-44bb-b109-fdd12d08ad8e.pdf