| Topic | SELF DESIGN PROJECT STAGE 2: ADDING CONTROLS | |
|---|---|---|
| Class Description | Students will add controls in the virtual reality scene for the car drive simulation. | |
| Class | C190 | |
| Class time | 45 mins | |
| Goal | ● Design / add features in the project by writing code.<br>● Test and debug the code for the project. | |
| Resources Required | ● Teacher Resources:<br>　○ Visual Studio Code Editor<br>　○ laptop with internet connectivity<br>　○ smartphone<br>　○ earphones with mic<br>　○ notebook and pen<br><br>● Student Resources:<br>　○ Visual Studio Code Editor<br>　○ laptop with internet connectivity<br>　○ smartphone<br>　○ earphones with mic<br>　○ notebook and pen | |
| Class structure | Warm-Up<br>Teacher-led Activity<br>Student-led Activity<br>Wrap-Up | 05 mins<br>15 mins<br>20 mins<br>05 mins |

### CONTEXT
- **Review the progress in the project so far.**
- **Continue working on the self designed project.**

**Teacher Starts Slideshow**
**Slide 1 to 3**
Refer to speaker notes and follow the instructions on each slide.

| | |
|---|---|
| Hey <student's name>. How are you? It's great to see you! Are you excited to learn something new today?<br><br>**Following are the WARM-UP session deliverables:**<br>● Greet the student.<br>● Revision of previous class activities. | **ESR**: Hi, thanks!<br>Yes I am excited about it!<br><br>Click on the slide show tab and present the slides |

**WARM-UP QUIZ**
Click on In-Class Quiz

**Continue WARM-UP Session**
**Slide 4 to 6**

**Following are the session deliverables:**
● Appreciate the student.
● Narrate the story by using hand gestures and voice modulation methods to bring in more interest in students.

| Class Steps | Teacher Action | Student Action |
|---|---|---|
| **Step 1:**<br>**Warm-Up**<br>**(5 mins)** | Hi, how are you?<br><br>Great! | **ESR:** I am good! |
| | Let's quickly review our progress in the project so far. | *The student reviews the different features, storyline, characters etc. built in the project so far.* |

| | | |
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| | *Note: Encourage the student to discuss what they remember and help them to be more involved.* | *Note: The student discusses his/her views with the teacher.* |
| | What is the feature we will be adding in our simulation today? | *The student identifies the next feature to be added in the project.* |

<table>
<tr><td colspan="3" align="center">**Teacher Ends Slideshow**</td></tr>
<tr><td colspan="3" align="center">**TEACHER-LED ACTIVITY - 15 mins**</td></tr>
<tr><td colspan="3" align="center">**Teacher Initiates Screen Share**</td></tr>
<tr><td colspan="3">

**CHALLENGE**
- **Review the progress in the project so far.**
- **Continue working on the self designed project.**

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| Step 2: Teacher-led Activity (15 mins) | Now what do we need to do in the car drive simulation next from what we did in the previous class?<br><br>Superb!<br><br>Let's add the code to add controls? *Challenge the student's thought process to write better quality and more structured code.*<br><br>Are you excited? | **ESR**: We need to controls for the:<br>● Car speed/acceleration<br>● Car steering wheel controls(turning into left, right or reverse direction)<br><br><br>**ESR**: Yes! |

| | | |
|---|---|---|
| **Teacher Stops Screen Share** | | |
| | Now it's your turn. Please share your screen with me. | |
| **Teacher Starts Slideshow** **Slide 7 to 10** Refer to speaker notes and follow the instructions on each slide. | | |
| We have one more class challenge for you. Can you solve it? Let's try. I will guide you through it. | | |
| **Teacher Ends Slideshow** | | |
| **STUDENT-LED ACTIVITY - 20 mins** | | |
| <ul><li>**Ask the student to press the ESC key to come back to the panel.**</li><li>**Guide the student to start screen share.**</li><li>**Teacher gets into fullscreen.**</li></ul> | | |
| **ACTIVITY** | | |
| <ul><li>**Review the progress in the project so far.**</li><li>**Continue working on the self designed project.**</li></ul> | | |
| **Step 3: Student-led Activity (20 mins)** | How can we add the code to add controls?<br><br>Great!<br><br>*Guide the student to come with their ideas on how they can add controls to:* | **ESR**: We can register an A-Frame component to add the controls. |

|  | <ul><li>*To <u>move the car </u>in left/ right direction:* **steering wheel controls**</li><br><li>*<u>Move the view</u> along with the car movement:* **camera direction**</li><br><li>*To <u>stop the car</u>:* **break controls**</li><br><li>*To <u>speed up the car</u>:* **acceleration control**</li></ul> |  |
|---|---|---|

*Note: This is <u>just for the teacher's reference</u>. Since this is a self design class students will build their own VR scene and then add controls to the elements in the scene.*



**Teacher Guides Student to Stop Screen Share**

**WRAP UP SESSION - 5 mins**

**Teacher Starts Slideshow**

| Slide 11 to 14 |
| --- |

**Activity details**

**Following are the WRAP-UP session deliverables:**
- Appreciate the student.
- Revise the current class activities.
- Discuss the quizzes.

| **WRAP-UP QUIZ**<br>Click on In-Class Quiz |
| --- |

**Continue WRAP-UP Session**
**Slide 15 to 20**

**Activity Details**

**Following are the session deliverables:**
- Explain the facts and trivia
- Next class challenge
- Project for the day
- Additional Activity (Optional)

**FEEDBACK**
- **Appreciate and compliment the student for trying to learn a difficult concept.**
- **Get to know how they are feeling after the session.**
- **Review and check their understanding.**

| Teacher Action | Student Action |
| --- | --- |
| You get Hats off for your excellent work! | *Make sure you have given at least 2 Hats Off during the class for:*<br><br>Creatively Solved Activities  +10 |

|  | PROJECT OVERVIEW DISCUSSION<br>Refer the document below in Activity Links Sections |  |
|---|---|---|
|  | **Teacher Clicks**  |  |
| **Additional Activities** | *Encourage the student to write reflection notes in their reflection journal using markdown.*<br><br>Use these as guiding questions:<br>● What happened today?<br>    ○ Describe what happened.<br>    ○ The code I wrote.<br>● How did I feel after the class?<br>● What have I learned about programming and developing projects?<br>● What aspects of the class helped me? What did I find difficult? | *The student uses the markdown editor to write their reflections in a reflection journal.* |

| Activity | Activity Name | Links |
|---|---|---|
| Teacher Reference | Self Design Project Final Code | https://github.com/whitehatjr/PRO-C189-192-Reference<br><br>*Note: The model used in the Reference might* |

| | | |
|---|---|---|
| | | *vary based on availability of model as these models are used form a third-party website. Although the functionality of the project will not be affected by this.* |
| Student Activity | Self Design Project Stage 2 | --NA--<br>***Note****: As it is an open-ended project, there is no specific solution. The student is expected to work on this project on their own, with teacher's guidance.* |
| Teacher Reference 1 | Project Document | https://s3-whjr-curriculum-uploads.whjr.online/79d33e0d-d97c-46de-9099-339097259ac1.pdf |
| Teacher Reference 2 | Visual-Aid | https://s3-whjr-curriculum-uploads.whjr.online/3190b3c2-0a2c-4cd8-9bfc-767c1fa99b06.html |
| Teacher Reference 3 | In-Class Quiz | https://s3-whjr-curriculum-uploads.whjr.online/e9abdec4-f0d8-41d2-a3ac-4eda6286e404.pdf |