Before starting the workshop, we need to make sure the students have the access to a computer, paper, pen or pencil, and calculator.

The workshop will start by going through the slides. Note: You might not need to use all these slides, but this is what was needed for our group.

**Workshop Slides:**

The first slide will be an introduction of the team members as well as a title card of the game.

A video game logo with green and pink letters

Description automatically generated

On the second slide we will be giving a description of what TAP. Not on this slide, we explain how the students can join the program if they are interested after the workshop.

A black and pink background with white text

Description automatically generated

On our third slide, we explain the goals of the project and what we are trying to achieve within this workshop. Our goal is to teach the concepts of binary through a video game and to see if this medium is a good way to teach students about technical concepts.

***Note: Something we did was also if the learning medium can be effective through online learning since the game is played on the browser.***

A black background with pink and green text

Description automatically generated

On the fourth slide, we explain how this game was build using Unity and give a description of what Unity is. This slide can also be useful to students who have interest in game developing.

A computer program with a green screen

Description automatically generated with medium confidence

On the fifth slide, we explain what the game is about, and the name of the 3 mini games within display.

A screenshot of a video game

Description automatically generated

On the sixth slide, we go into further detail about each mini-game description and explains the order in which the games are played.

***Note: RGB Paint usually always be played last since game is more of an art interactive game that is more of an award after playing the other two games.***

A screenshot of a video game

Description automatically generated

On the 7th, 8th, and 9th slide, we go into introduction of explaining binary. These slides will explain the concepts of binary on how it works and the conversions between decimal to binary and vice versa.

***Note: These slides are important for students to remember because some of this information will be in the mini games.***

A black background with numbers and arrows

Description automatically generated

A screenshot of a computer

Description automatically generated

A black background with colorful squares and text

Description automatically generated

On the 10th slide, we explain how to get to the game and the instructions to play it. The instructions are brief because they are explained more within the game.

***Note: we visibility showed them how to get to the site in real time.***

A screenshot of a video game

Description automatically generated

On the 11th & 12th slide, we go over the tutorial part of the game. This is done at the beginning of game before the students can get to the main menu.

We displayed the tutorial questions and asked them to solve the questions first before we went over the answers.

A screenshot of a computer game

Description automatically generated

A screenshot of a computer screen

Description automatically generated

On the 13th & 14th slide, we show the students the awards that they can win if they were to win the game. We did this to try to the students be more engage into learning the concepts.

Students were also given extra credit from their professors to further the engagement.

A screenshot of a video game

Description automatically generated

A screenshot of a video game

Description automatically generated

On the 15th & 16th slide, we ask the students if they have any more questions before we start the mini-games and thanked them for taking part within our workshop.

A black background with colorful triangles and squares

Description automatically generatedA white text on a black background

Description automatically generated

**During Game:**

While the students are playing the mini games, we played some music to drown out the silence since there is no audio within the games.

Here is a link to the music we played: <https://www.youtube.com/watch?v=UIvNT7NOY9A>

Because we usually only had an hour for our workshop, we would only allow for the students to play only one of the main games. So, some workshops, they played **Binary Maze & RGB Paint** while the other workshops would play **Planet 01000010 & RGB Paint**.

During our workshop, we would have students write their name and score either on a white board or a blank piece of paper, so we could see who won which awards and send that list to their professors.

The professors also had them screen shot their score to get their extra credit.

Here is an example layout of what it looks like for each game.

**Binary Maze Game**

|  |  |  |
| --- | --- | --- |
| Name | Maze Final Time | Did you beat it under 20 mins? |
| John Walker | 15:46 | Yes |

**Planet 01000010**

|  |  |  |
| --- | --- | --- |
| Name | Game Score | Did you get the alien back home? |
| John Walker | 9 / 12 | Yes |

***Note: not everyone’s score will be the same because not everyone will get the same number of questions.***

The great thing about this workshop is that the if the student didn’t like the score they got, they can keep playing until the end of the workshop or can draw and paint within the RGB Paint game because now the game would be disabled for the students to engage with.