Spark Maintenance Guide

Spark Challenge Page:

Tabs

- This section holds different tabs for each academic year, helping to organise the events. Each tab allows users to view events specific to a particular year, making it easier to navigate and manage the events being offered.

1. **Name**:
   This is the year(e.g., "Celebration 2025/26").

2. **Description**:
   This explains what theSpark Challenge for that year is about. It describes the section (e.g., What the Spark Challenge for that year is goes here)
   Note: Keep this description under **500** characters - **Provided by the sponsor**

3. **Winning Team**:
   Each tab showcases the winner.

   a. **Team Name**:
   This is the name of Winning team for that year.

   b. **Team Description**:
   A short summary of what the winning team's project is about.
   Note: Keep this description under **800** characters.

   c. **Images**:
   Make sure the images are in the correct folders with the correct format (png, jpg, jpeg)

   - There are 4 folders: challenge, piMora, techDemo and finalYear
   - **Note**: You can add a maximum of **2** images per event.
     (e.g. `"/images/maintainedData/challenge/image_name.png"`)

   d. **Members**:
   This is a list of names of people who participated in the winning team (e.g., "John Doe, Jane Smith").
   Note: You can include a maximum of **5** members.

4. **Runner - Up Teams**: (**Note:** Max of **2** Teams)
   Inside each tab, there are details about the runner up teams for that year.

   a. **Team Name**:
   This is the team name of each runner up for that year.

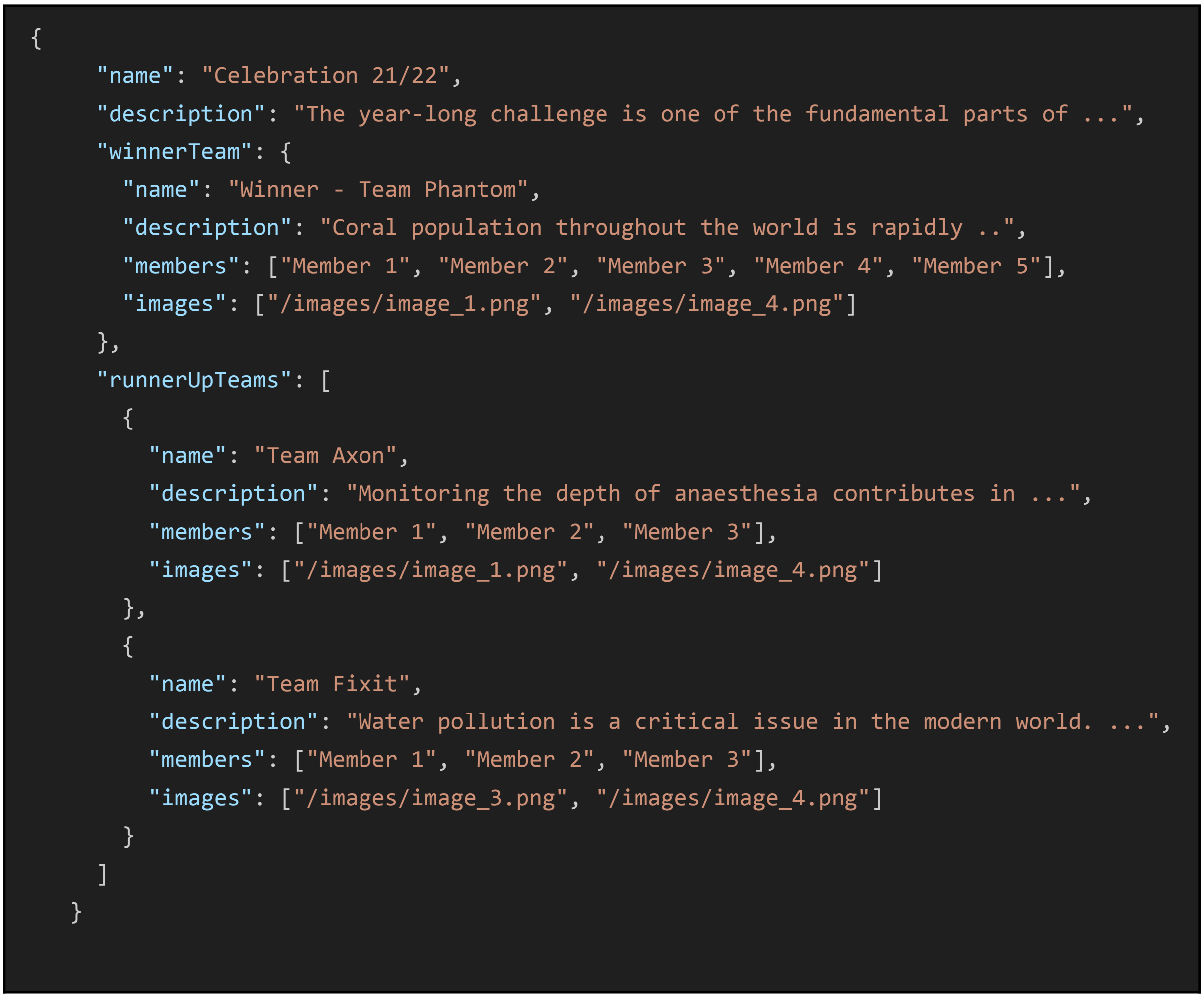
   b. **Event Description**:
   A short summary of what the team's project is about.
   Note: Keep this description under **800** characters.

   c. **Images**:
   Make sure the images are in the correct folders with the correct format (png, jpg, jpeg)

   - There are 4 folders: challenge, piMora, techDemo and finalYear
   - **Note**: You can add a maximum of **2** images per event
     (e.g. `"/images/maintainedData/challenge/image_name.png"`)

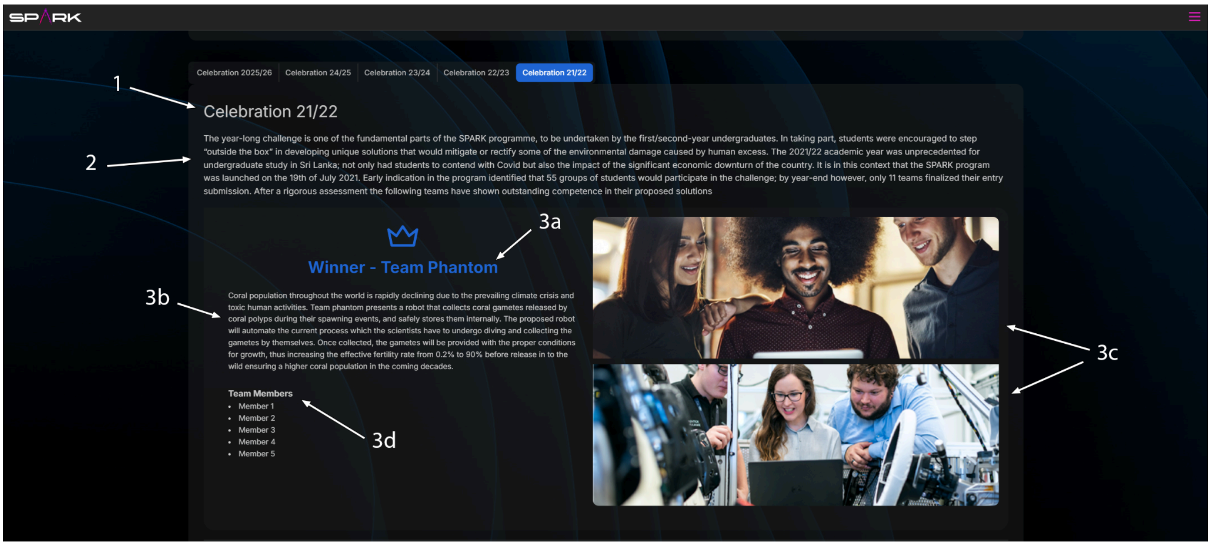
   d. **Members**:
   This is a list of names of people who participated in the event (e.g., "John Doe, Jane Smith").
   Note: You can include a maximum of **5** members.

JSON File Example



```
{
     "name": "Celebration 21/22",
     "description": "The year-long challenge is one of the fundamental parts of ...",
     "winnerTeam": {
       "name": "Winner - Team Phantom",
       "description": "Coral population throughout the world is rapidly ..",
       "members": ["Member 1", "Member 2", "Member 3", "Member 4", "Member 5"],
       "images": ["/images/image_1.png", "/images/image_4.png"]
     },
     "runnerUpTeams": [
       {
         "name": "Team Axon",
         "description": "Monitoring the depth of anaesthesia contributes in ...",
         "members": ["Member 1", "Member 2", "Member 3"],
         "images": ["/images/image_1.png", "/images/image_4.png"]
       },
       {
         "name": "Team Fixit",
         "description": "Water pollution is a critical issue in the modern world. ...",
         "members": ["Member 1", "Member 2", "Member 3"],
         "images": ["/images/image_3.png", "/images/image_4.png"]
       }
     ]
   }
```

Image Example



Celebration 2025/26 | Celebration 24/25 | Celebration 23/24 | Celebration 22/23 | Celebration 21/22

Celebration 21/22

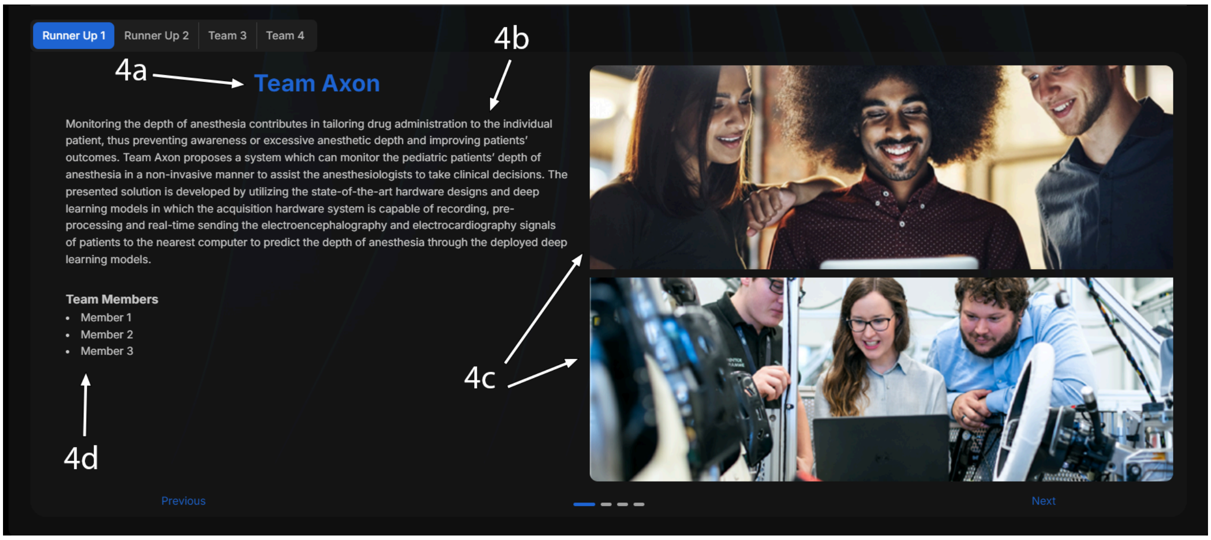
The year-long challenge is one of the fundamental parts of the SPARK programme, to be undertaken by the first/second-year undergraduates. In taking part, students were encouraged to step "outside the box" in developing unique solutions that would mitigate or rectify some of the environmental damage caused by human excess. The 2021/22 academic year was unprecedented for undergraduate study in Sri Lanka; not only had students to contend with Covid but also the impact of the significant economic downturn of the country. It is in this context that the SPARK program was launched on the 19th of July 2021. Early indication in the program identified that 55 groups of students would participate in the challenge; by year-end however, only 11 teams finalized their entry submission. After a rigorous assessment the following teams have shown outstanding competence in their proposed solutions

Winner - Team Phantom

Coral population throughout the world is rapidly declining due to the prevailing climate crisis and toxic human activities. Team phantom presents a robot that collects coral gametes released by coral polyps during their spawning events, and safely stores them internally. The proposed robot will automate the current process which the scientists have to undergo diving and collecting the gametes by themselves. Once collected, the gametes will be provided with the proper conditions for growth, thus increasing the effective fertility rate from 0.2% to 90% before release in to the wild ensuring a higher coral population in the coming decades.

Team Members

- Member 1
- Member 2
- Member 3
- Member 4
- Member 5



Runner Up 1 | Runner Up 2 | Team 3 | Team 4

Team Axon

Monitoring the depth of anesthesia contributes in tailoring drug administration to the individual patient, thus preventing awareness or excessive anesthetic depth and improving patients' outcomes. Team Axon proposes a system which can monitor the pediatric patients' depth of anesthesia in a non-invasive manner to assist the anesthesiologists to take clinical decisions. The presented solution is developed by utilizing the state-of-the-art hardware designs and deep learning models in which the acquisition hardware system is capable of recording, pre-processing and real-time sending the electroencephalography and electrocardiography signals of patients to the nearest computer to predict the depth of anesthesia through the deployed deep learning models.

Team Members

- Member 1
- Member 2
- Member 3

PI Community Page:

Note: TechDemo and Final Year follow the same logic and structure.

Note: **DO NOT** add any members under Pi-Mora, you can just leave it blank

Section

(**Note:** Sections are the following: PI-MORA, Technology Demonstrators and Final Year)

Title:
This is the name of the section (e.g., "PI - MORA").

Description:
This explains what the section is about. It describes the section (e.g., What PI-MORA is, goes here)
Note: Keep this description under **500** characters.

Tabs:
This section holds different tabs for each academic year, helping to organise the events. Each tab allows users to view events specific to a particular year, making it easier to navigate and manage the events being offered.

1. **Tab Name**:
   Each tab has a name that indicates the year of the events (e.g., "2024/2025").

2. **Details**:
   Inside each tab, there are details about the events happening that year.

   a. **Event Name**:
      This is the title of each event (e.g., "Event Name 1").

   b. **Event Description**:
      A short summary of what the event is about.
      Note: Keep this description under **800** characters.

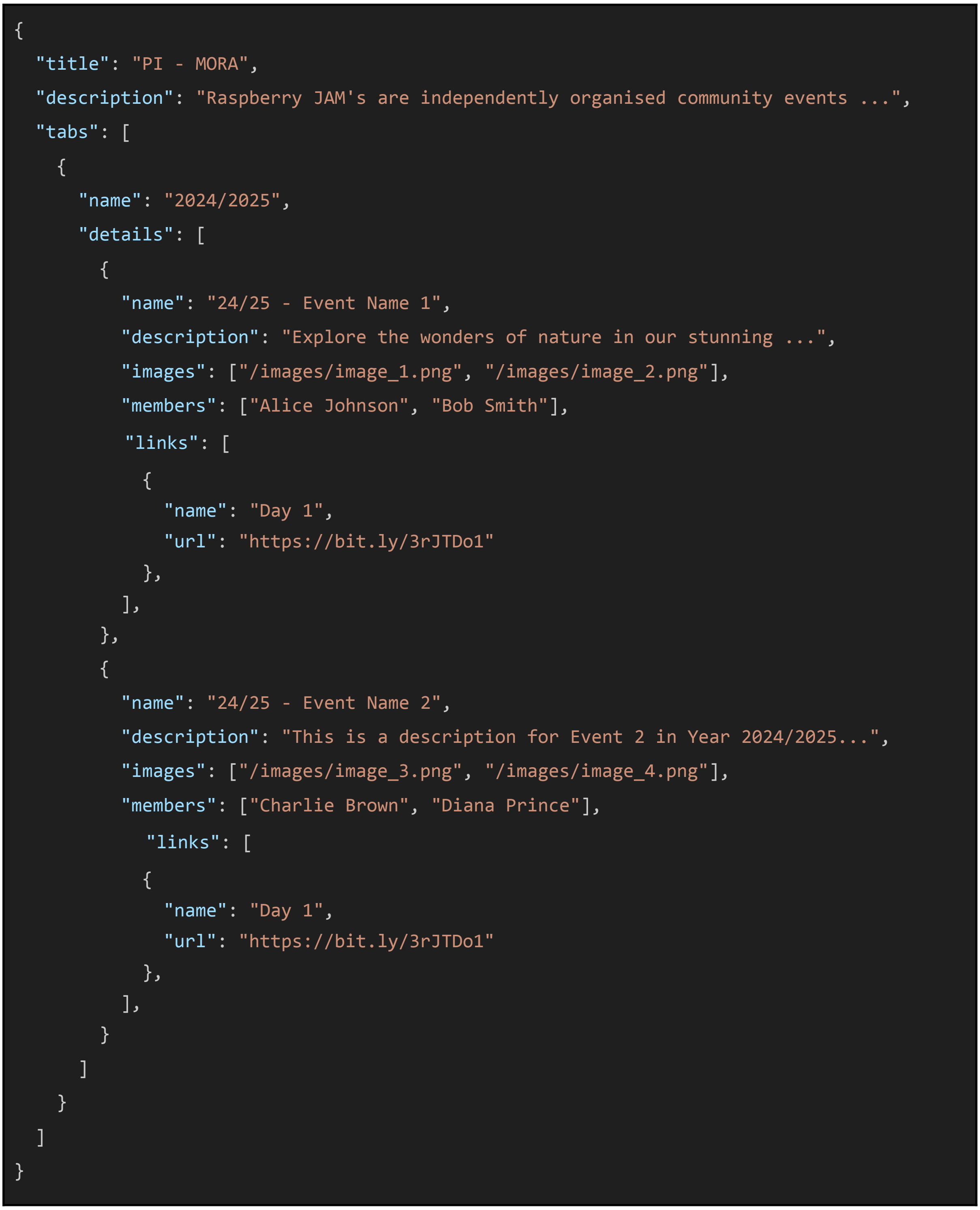
   c. **Images**:
      Make sure the images are in the correct folders with the correct format (png, jpg, jpeg)

      - There are 4 folders: challenge, piMora, techDemo and finalYear
      - **Note**: You can add a maximum of **2** images per event.
        (e.g. `“/images/maintainedData/challenge/image_name.png”`)

   d. **Members**:
      This is a list of names of people who participated in the event (e.g., "John Doe, Jane Smith").
      Note: You can include a maximum of **5** members.
      Note: If Members are not there it will be hidden.

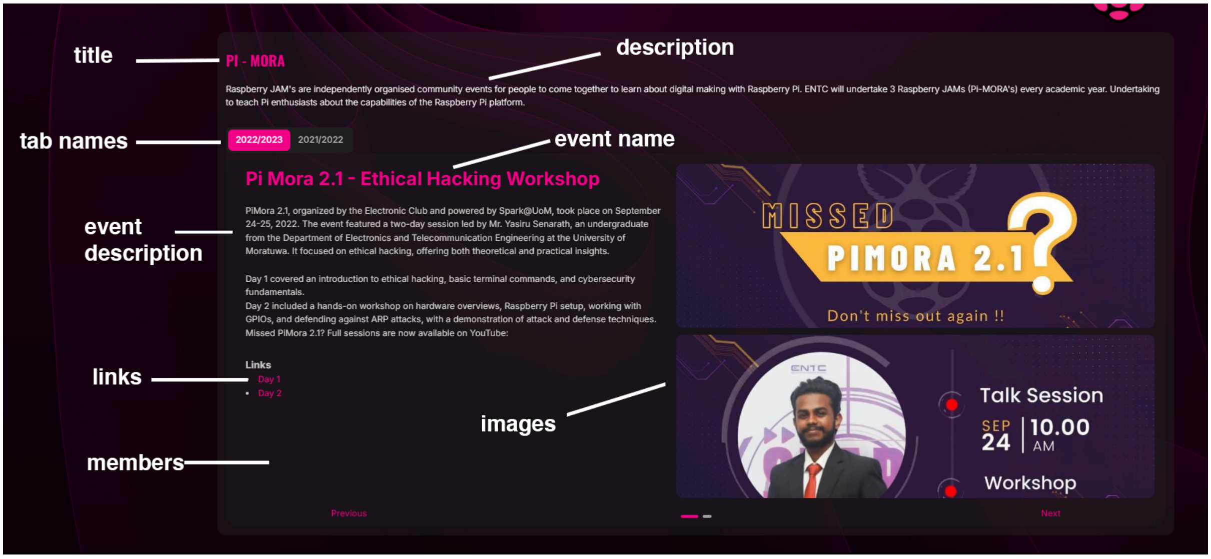
   e. **Links**:
      Add any links here with a name and the url that link should go to.
      Note: Refer to Json below on how to add a link
      Note: Leave empty if no links are needed.

JSON File Example



```
{
  "title": "PI - MORA",
  "description": "Raspberry JAM's are independently organised community events ...",
  "tabs": [
    {
      "name": "2024/2025",
      "details": [
        {
          "name": "24/25 - Event Name 1",
          "description": "Explore the wonders of nature in our stunning ...",
          "images": ["/images/image_1.png", "/images/image_2.png"],
          "members": ["Alice Johnson", "Bob Smith"],
          "links": [
            {
              "name": "Day 1",
              "url": "https://bit.ly/3rJTDo1"
            },
          ],
        },
        {
          "name": "24/25 - Event Name 2",
          "description": "This is a description for Event 2 in Year 2024/2025...",
          "images": ["/images/image_3.png", "/images/image_4.png"],
          "members": ["Charlie Brown", "Diana Prince"],
            "links": [
            {
              "name": "Day 1",
              "url": "https://bit.ly/3rJTDo1"
            },
          ],
        }
      ]
    }
  ]
}
```

Image Example



PI - MORA

Raspberry JAM's are independently organised community events for people to come together to learn about digital making with Raspberry Pi. ENTC will undertake 3 Raspberry JAMs (Pi-MORA's) every academic year. Undertaking to teach Pi enthusiasts about the capabilities of the Raspberry Pi platform.

2022/2023 2021/2022

Pi Mora 2.1 - Ethical Hacking Workshop

PiMora 2.1, organized by the Electronic Club and powered by Spark@UoM, took place on September 24-25, 2022. The event featured a two-day session led by Mr. Yasiru Senarath, an undergraduate from the Department of Electronics and Telecommunication Engineering at the University of Moratuwa. It focused on ethical hacking, offering both theoretical and practical insights.

Day 1 covered an introduction to ethical hacking, basic terminal commands, and cybersecurity fundamentals.
Day 2 included a hands-on workshop on hardware overviews, Raspberry Pi setup, working with GPIOs, and defending against ARP attacks, with a demonstration of attack and defense techniques.
Missed PiMora 2.1? Full sessions are now available on YouTube:

Links
- Day 1
- Day 2

Previous Next

Extra Notes:

Note: If you want to add separate paragraphs in the descriptions, use **\n** for a single line or **\n\n** for double lines. (e.g. `“...practical insights.  \n\nDay 1 covered...”`)

Note: Make sure the images are in the correct folders with the correct format (png, jpg, jpeg)
There are 4 folders: challenge, piMora, techDemo and finalYear
(e.g. `“/images/maintainedData/challenge/image_name.png”`)

Note: Maintained data is within the constants folder.
There are 4 json files: challenge, pi_mora, tech_demo and final_year
(constants => challenge => challenge.json)
(constants => community => pi_mora.json)
(constants => community => tech_demo.json)
(constants => community => final_year.json)

Note: Constants for colors and image urls
(utils => color_utils)
(utils =>image_utils)

How to Build the App

This guide will walk you through the steps to build the application and prepare it for hosting. Follow the instructions carefully to ensure a successful build.

Build the Application

1. **Open the Project in VSCode**
   Launch Visual Studio Code (VSCode) on your computer.
   Click on **File > Open Folder** and select the folder containing the project files.
   Ensure the folder name ends with `/spark-web`.
2. **Open the Terminal in VSCode**
   In VSCode, click on **Terminal** in the top menu and select **New Terminal** from the dropdown.
   Ensure the terminal is open in the `/spark-web` directory.

Clean and Install Project Dependencies
In the terminal, type the following command to clean and install all necessary dependencies:

```
npm run clean
```

3. This installs all required packages before building.

Run the Build Command
Type the following command in the terminal:

```
npm run build
```

4. The build process may take a few moments to complete, depending on your system.
5. **Run the Build Command and Wait for Completion**
   Once the build process is complete, a folder named `out` will be created or updated in the project directory, containing all the necessary files for hosting the application.
6. **Prepare the `out` Folder for Hosting**
   The `out` folder is the output directory with all the built files.
   To host the application, upload the `out` folder to your server.
   (We have sent this `out` folder before to you as a zip, which you used to host the site on your server)

Prerequisites

- Ensure you have Node.js and npm installed on your system before running the build process.
- Install Visual Studio Code (VSCode) to follow these instructions.

Notes

- Run `npm cache clean --force` to clear the npm cache if you encounter dependency issues during installation or building.
- The `npm run clean` command also handles installing dependencies, so there is no need to run `npm install` separately.
- If you encounter any issues, double-check that you're in the correct project directory and that all dependencies have been installed.