

PEI HWA HACKATHON 2026

REGISTRATION AND TRAINING DAY

9 April 2026

PEI HWA HACKATHON



Organiser and Support

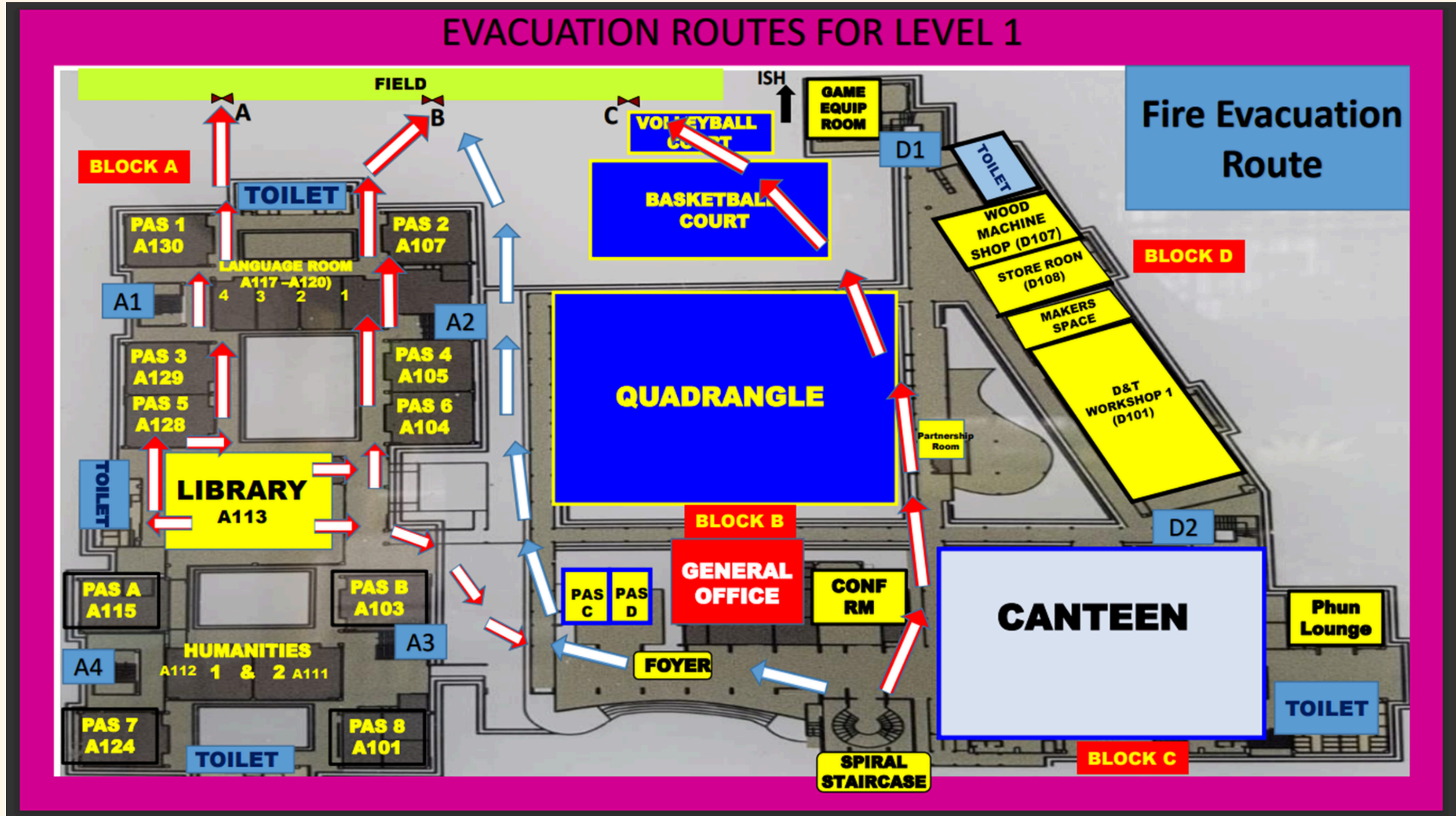
ORGANISED BY



SUPPORTED BY



Evacuation Plan



Programme Outline (9 April)

Time	Agenda	Venue
2:30 - 3:30PM	<ul style="list-style-type: none">• Distribution of Unihiker set• Pei Hwa Hackathon Briefing	Library
3:30 - 5:30PM	Unihiker Training	Computer Labs 1 / 2 / 4

Briefing Agenda

1. Hackathon Theme
2. Rules and Regulations
3. Competition Deliverables and Requirements
4. Judging Criteria
5. Awards
6. Components in Unihiker set
7. Carnival & Showcase Day Programme Outline (3 June)
8. Training Session Details

Unihiker Components

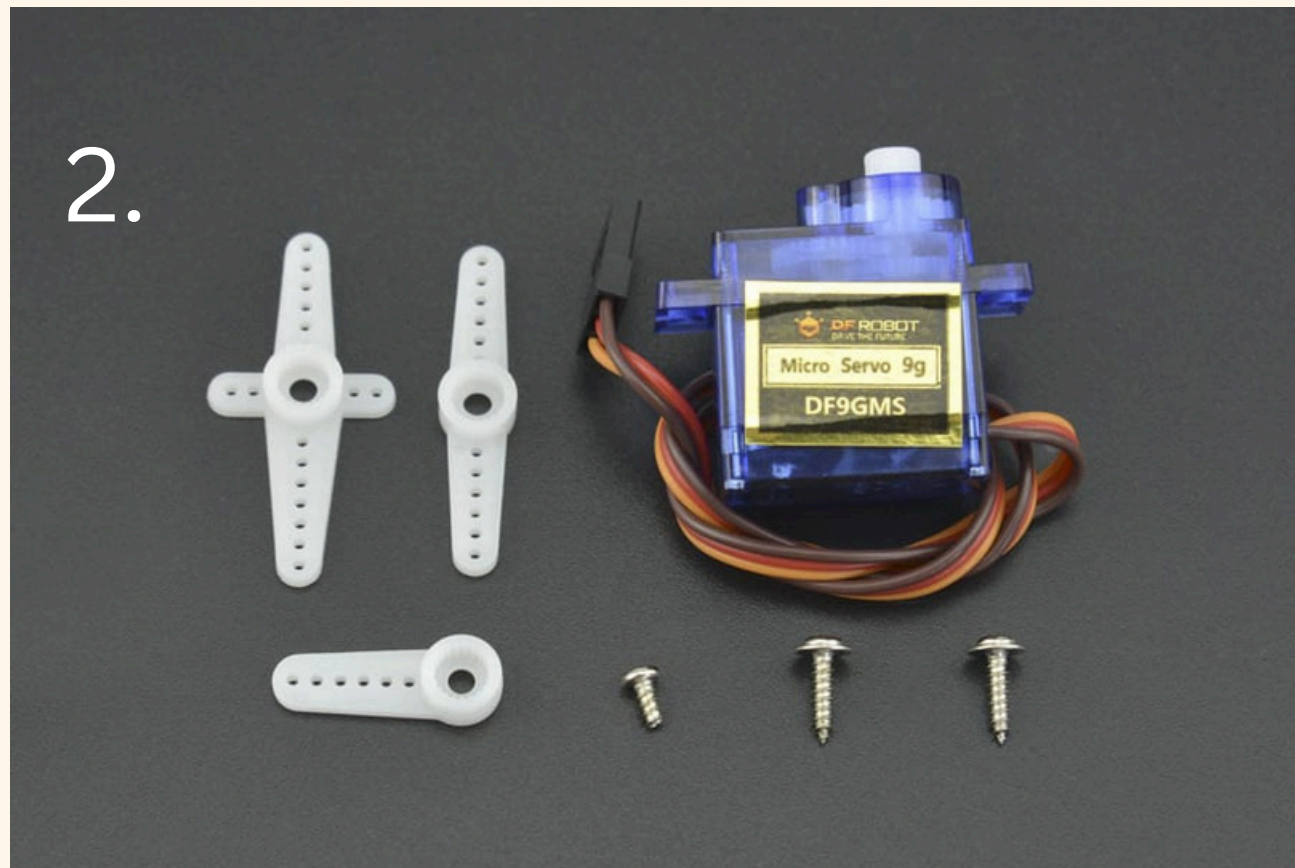
1.



3.



2.



1. UNIHAKER K10 microcontroller
2. Servo Motor
3. Ultrasonic Sensor





Innovative Solutions
to Tomorrow's Problems

2026 Pei Hwa Hackathon Theme

**Innovating with Kindness:
Caring for People and the Planet**

Examples

“

1. Sustainable Living Solutions

Design ideas that help people reduce waste, save energy, or protect natural resources.

→ Focus: Caring for the planet while helping people live more responsibly.

”

Examples

“

2. Supporting Well-being and Inclusion

Create solutions that help people feel supported, included, and cared for in their daily lives.

→ Focus: Caring for people, especially those who may feel left out or need extra support.

”

Examples

“

3. Smarter Use of Resources for Communities

Develop ideas that make better use of shared resources like food, water, or materials.

→ Focus: Helping both people and the planet by reducing waste and sharing responsibly.

”

Overall, innovation is not just about solving problems — it is about making a difference with kindness.

By caring for people and the planet, we can create solutions that are meaningful, inclusive, and sustainable.

Through empathy, creativity, and responsibility, each idea has the power to improve lives and shape a better future for all.

Because the future we build should not only be smarter, but kinder.

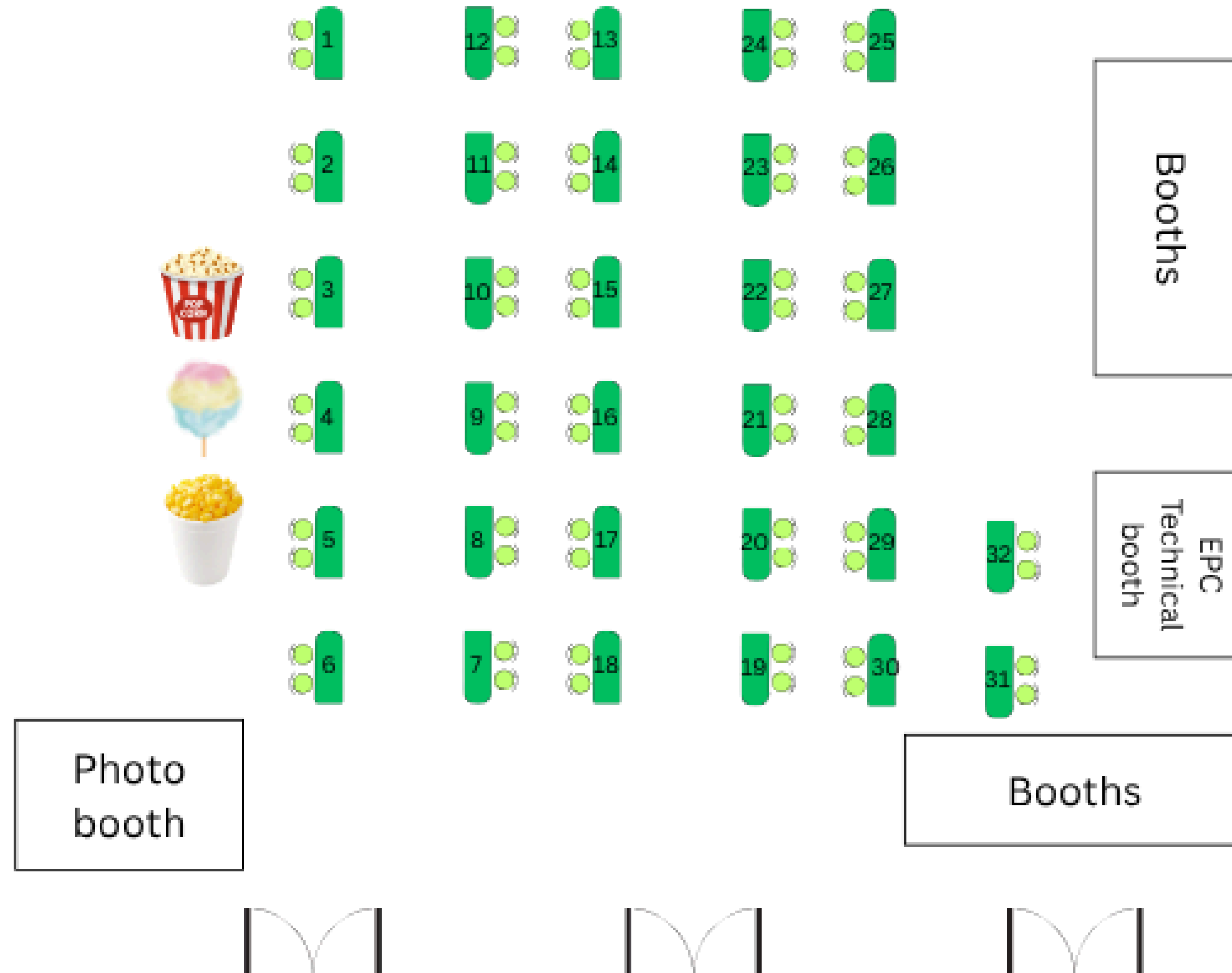


Innovative Solutions
to Tomorrow's Problems

Programme Outline (Finale, 3 June 2026)

8:00 - 9:30AM	Participants set up allocated booth
9:30 - 10:00AM	Opening Ceremony
10:00AM - 12:30PM	Judging (5 mins presentation, 5 mins Q&A), participants visit different booths / carnival
12:30 - 1:30PM	Lunch (provided), Judges deliberation
1:30 - 2:30PM	Photo-taking, Prize Presentation and Closing Ceremony

Final Layout (3 June 2026, Hall)



Rules

1. Hackathon teams will be a maximum of 4 students.
2. Teams should be made up exclusively of students who are not organizers, volunteers, judges, sponsors, or in any other privileged position at the event.
3. All the students must uphold Academic Integrity in the competition and ensure that all project-related information submitted and presented is their original work.
4. Teams can gain advice and support from organizers, volunteers, facilitators, and others.
5. Teams should complete their project prototypes before the Finale Day. Touching up/refinement of projects and decoration of project booth can be done on day of finale.

Competition Deliverables

1. Physical Prototype with Unihiker solution

2. Visual Aid for Presentation

Choose one of the following presentation options:

(a) ****Only one poster is allowed (not larger than A2 size)**

(b) Presentation Slides

(c) Video

(d) Skit

Contents for Visual Aid:

Team name

Project Title

Problem Statement

Solution

Impact of Solution

Competition Requirements

Prototype and Presentation Deliverables:

1. For Pei Hwa Hackathon 2026, participants are given the option to choose between 'Micro:bit' or/and 'Unihiker' as their microcontroller for their project. There are no limits on the inputs and outputs used.
2. Each team is only given 5 minutes for their presentation on Showcase Day. This includes time for prototype demonstration and Q & A from the panel of judges.

Competition Requirements

4. Teams are highly encouraged to prepare posters and other decorative materials to beautify their booth. Effort to engage the audience would also be observed.

5. The maximum size of the poster is A2 size. Students should only decorate within their booth space.

6. On the day of Finale, teams must stop all project refinement and booth decoration once time is up.

Competition Requirements

7. However, teams are allowed to debug and make small fixes to their programs after time is up.

E.g. During testing of your code, you find a bug that breaks your application and the fix is only a few lines of code, it's okay to fix that. Making large changes or adding new features is NOT allowed.

Option #1

Micro:bit + External Components



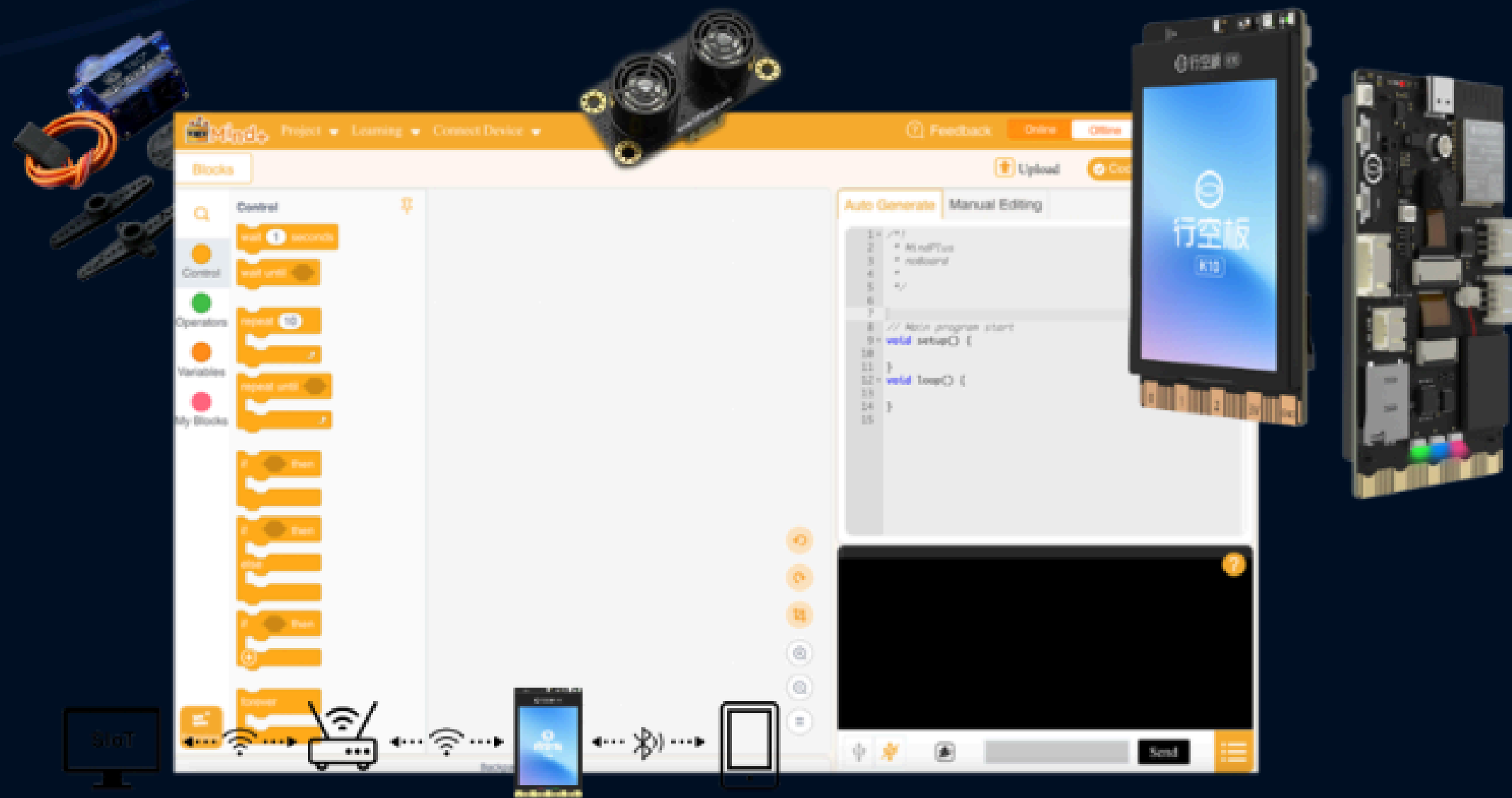
No kit will be given for this option.

You are not limited to the number of external components used with the microcontroller. Please view the next section (learning tutorials) for basics on using micro:bit.

There are no installation required for this option and students can achieve their coding (block-based/syntax) on makecode.

Option #2

Unihiker + External Components



Only this kit will be distributed to participants.

- Kit consists of the following: 1x Unihiker (microcontroller)
- 1x Servo Motor (180 deg)
- 1x Ultrasonic Sensor

Judging Rubrics

Criteria	Weightage
Adherence to Theme Relevance of concept to the theme, including display of features concerning the theme	20 %
Presentation Quality and clarity of presentation	20 %
Innovation Creativity and originality of the concept solution	20 %
Impact Extent of application of the concept solution to solve stated problem	20 %
Product Design Aesthetics of the concept solution	20 %

Awards

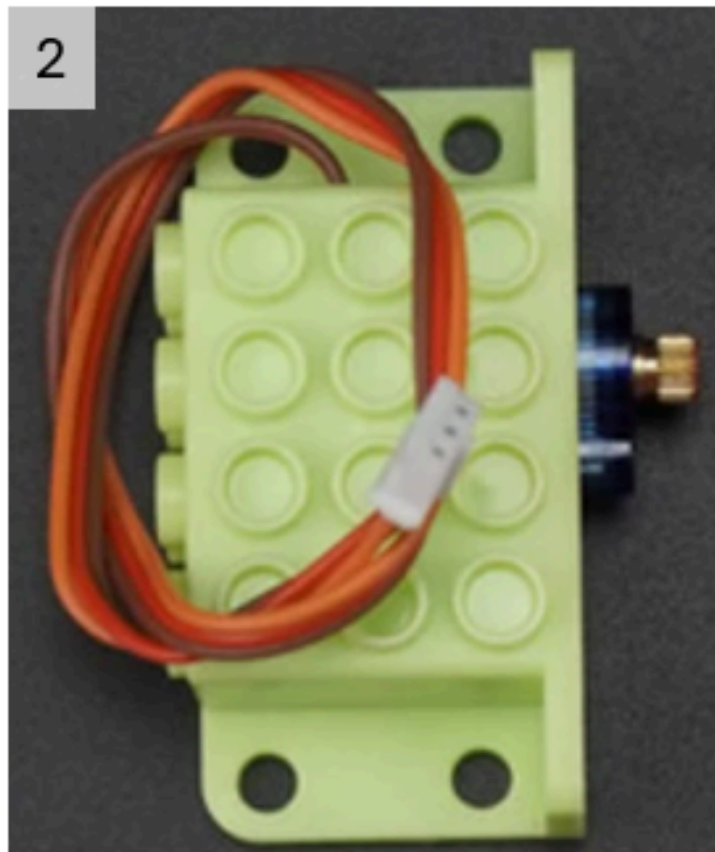
- Overall Champion
- Group Champion (x2)
- First Runner-up (x2)
- Second Runner-up (x2)
- Most Innovative Solution Award (x2)
- Best Presentation Award (x2)
- LionForge Best Design Award
- People's Choice Award
- Commendation Award (x4)

Hackathon Materials – Hardware

We propose the following microcontroller kit for use:

1. UNIHAKER K10 microcontroller
2. Servo Motor
3. Ultrasonic Sensor

All these will be kept in a storage box packaging.

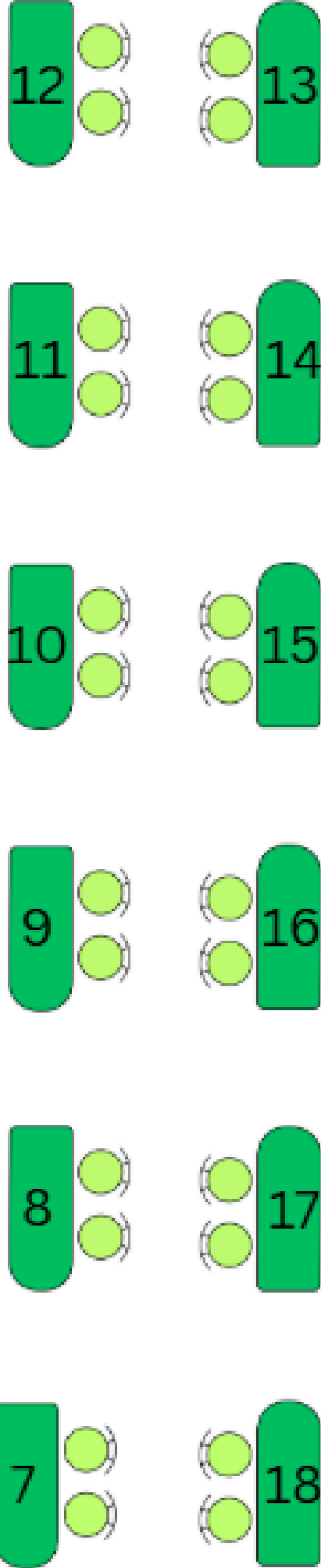
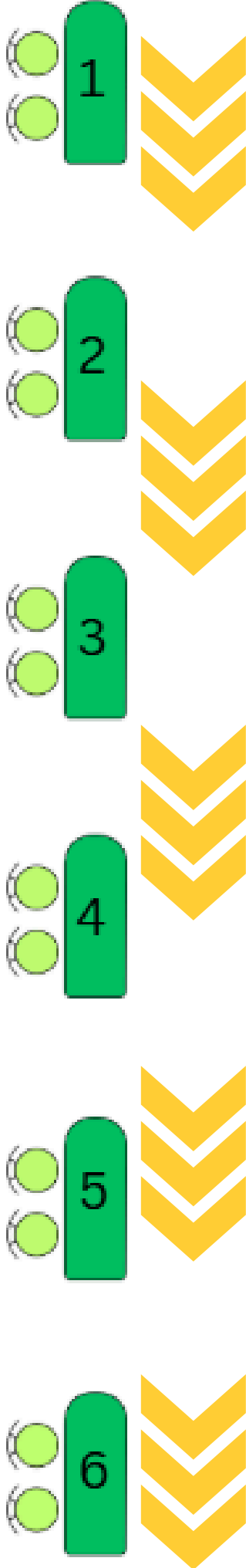


Programme Outline (Finale, 3 June 2026)

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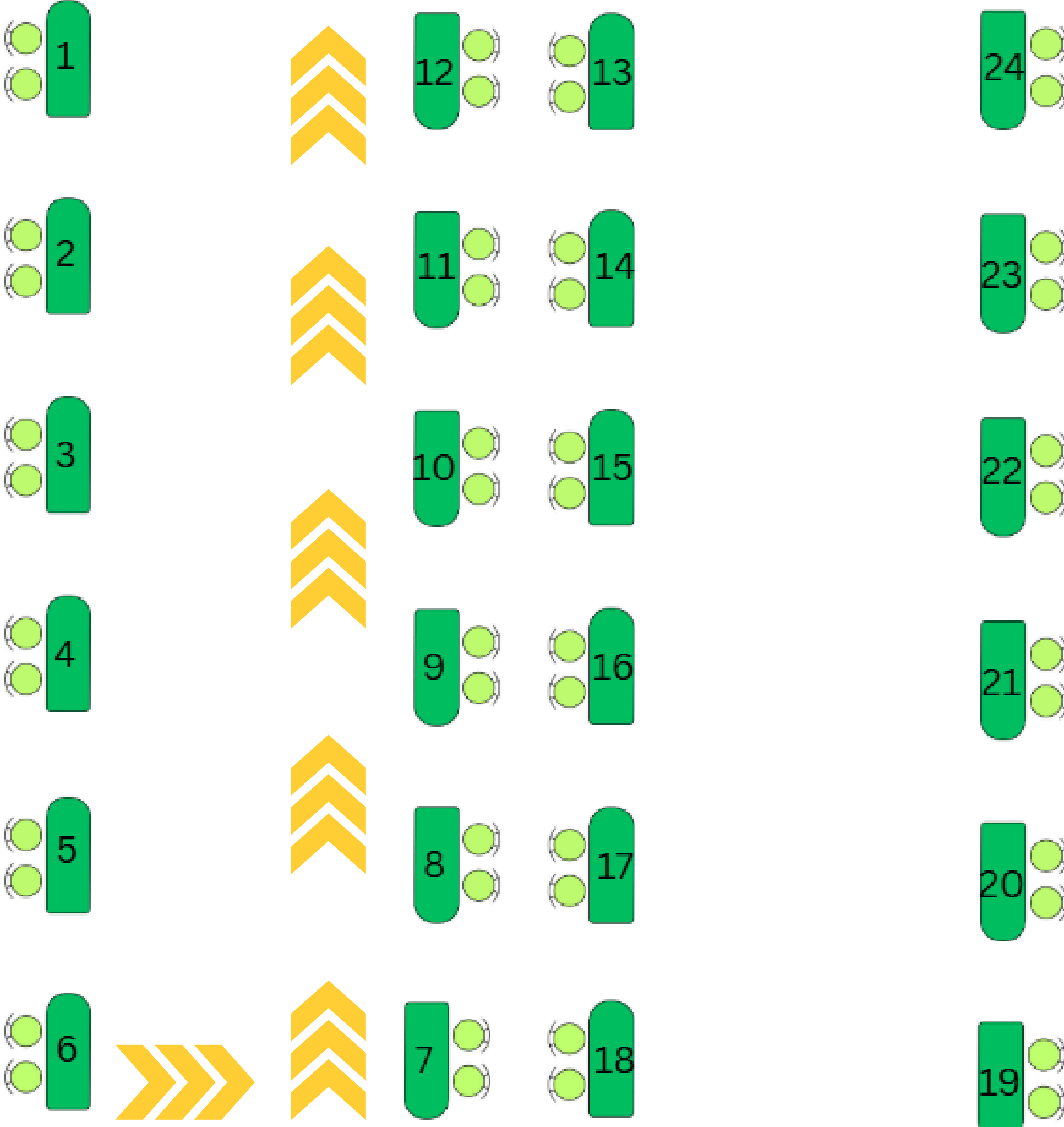
COMPETITION LAYOUT

BOOTH 1-6:
10-11AM



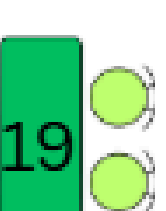
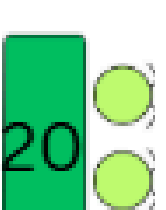
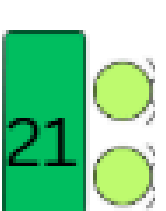
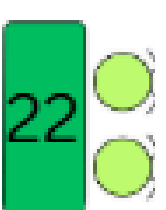
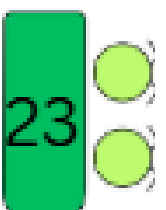
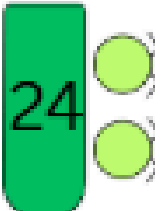
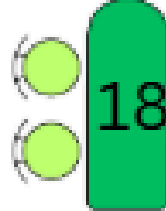
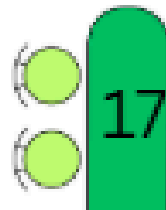
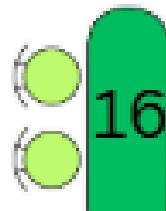
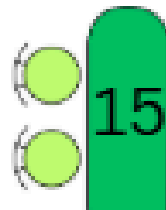
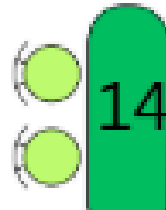
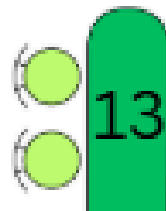
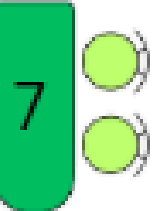
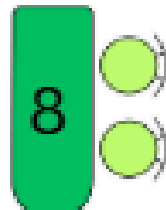
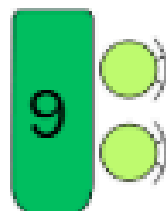
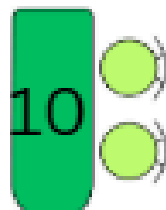
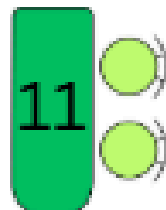
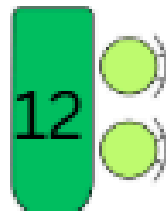
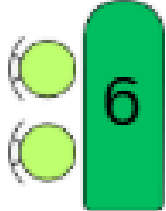
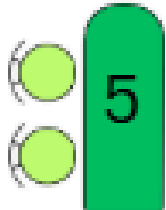
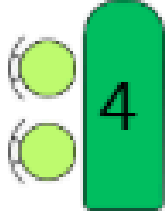
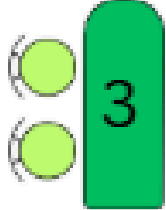
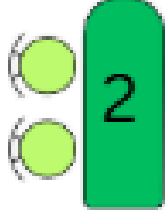
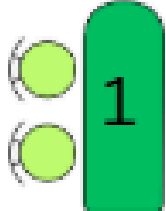
COMPETITION LAYOUT

BOOTH 7-12:
11AM - 12PM



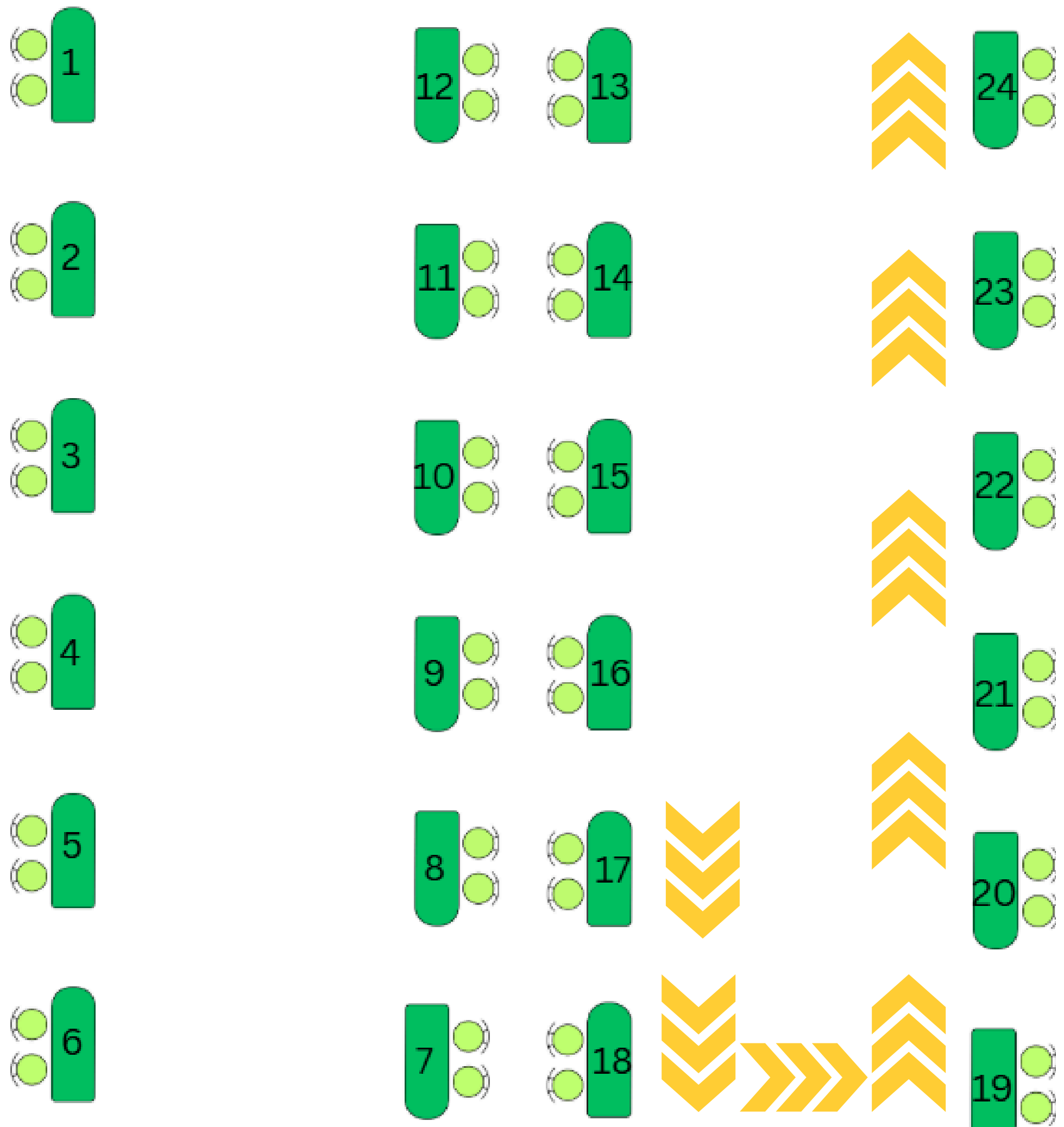
COMPETITION LAYOUT

BOOTH 13-16:
12PM - 12.30PM



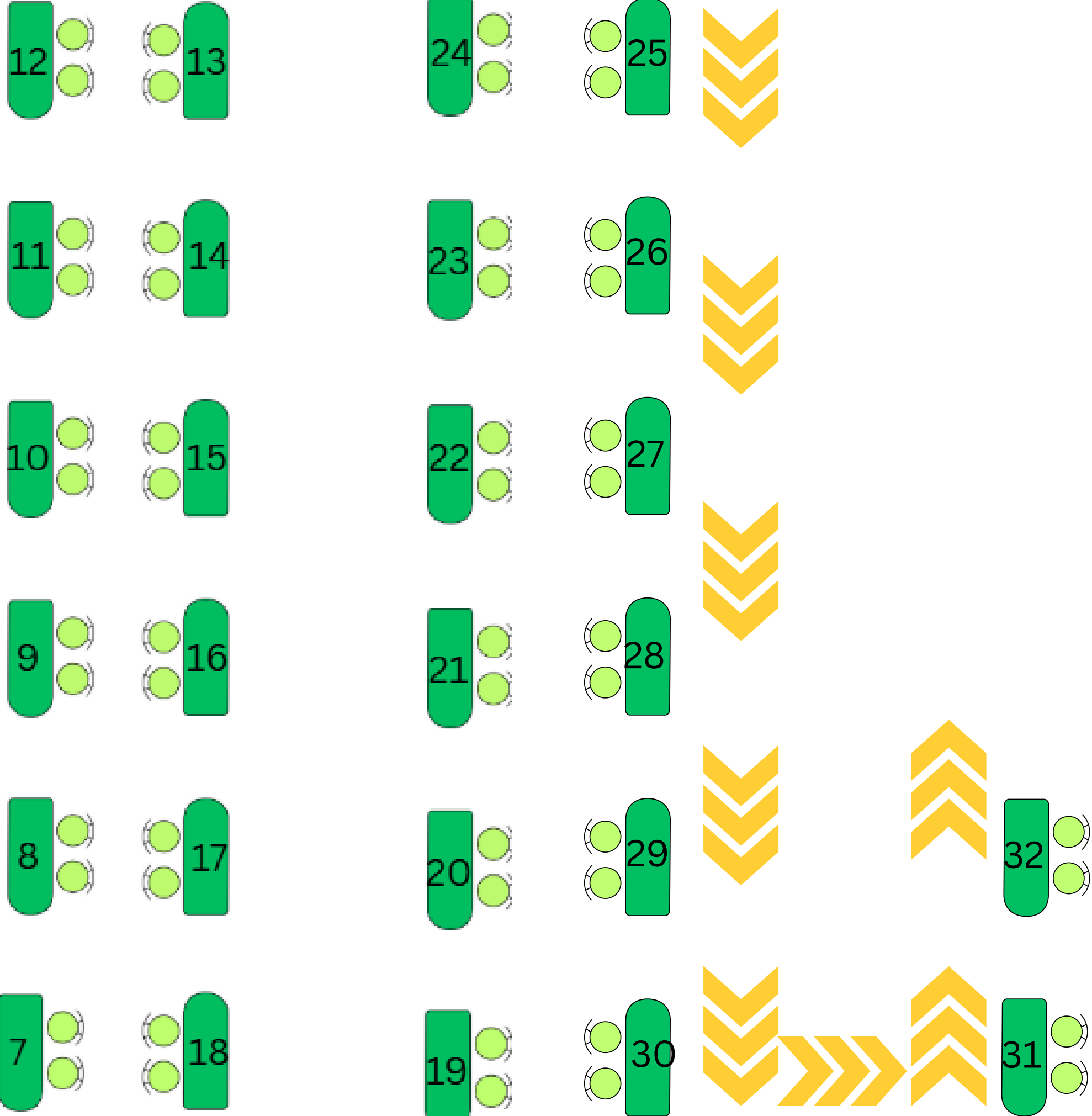
COMPETITION LAYOUT

BOOTH 17-24:
10-11.20AM



COMPETITION LAYOUT

BOOTH 25-32:
11.20AM - 12.30PM



Things to bring on 3 June 2026

Each team will bring along:

- **Laptop and Charger**
- **Physical Prototype with Unihiker / micro:bit solution**
- **Visual Aid for Presentation**

Either

- **Only one Poster** (not larger than A2 size)
- Presentation Slides
- Video
- Materials for skit

Booth Logistics

Each team will be provided with:

- 1 Easel
- 2 Tables
- 2 chairs
- Extension cable
- PHSS Student facilitator as Support



For More Information

1. Pei Hwa Hackathon Website:

<https://phss.epc-education.com/hackathon-2026/>

2. Instagram: @peihwahackathon



Unihiker Installation

1. Mind+ V1.8.1 software: mandatory platform for coding (block-based / syntax) on Unihiker microcontroller
2. The software is ONLY available on Windows and has been whitelisted.
3. Please seek technical support using the support button on Hackathon website if required.



Reminder

Please submit
'Media Release Consent Form for
Participants'



SCAN ME

Programme Outline (9 April)

Time	Agenda	Venue
2:30 - 3:30PM	<ul style="list-style-type: none">• Distribution of Unihiker set• Pei Hwa Hackathon Briefing	Library
3:30 - 5:30PM	Unihiker Training	Computer Labs 1 / 2 / 4

Q & A

