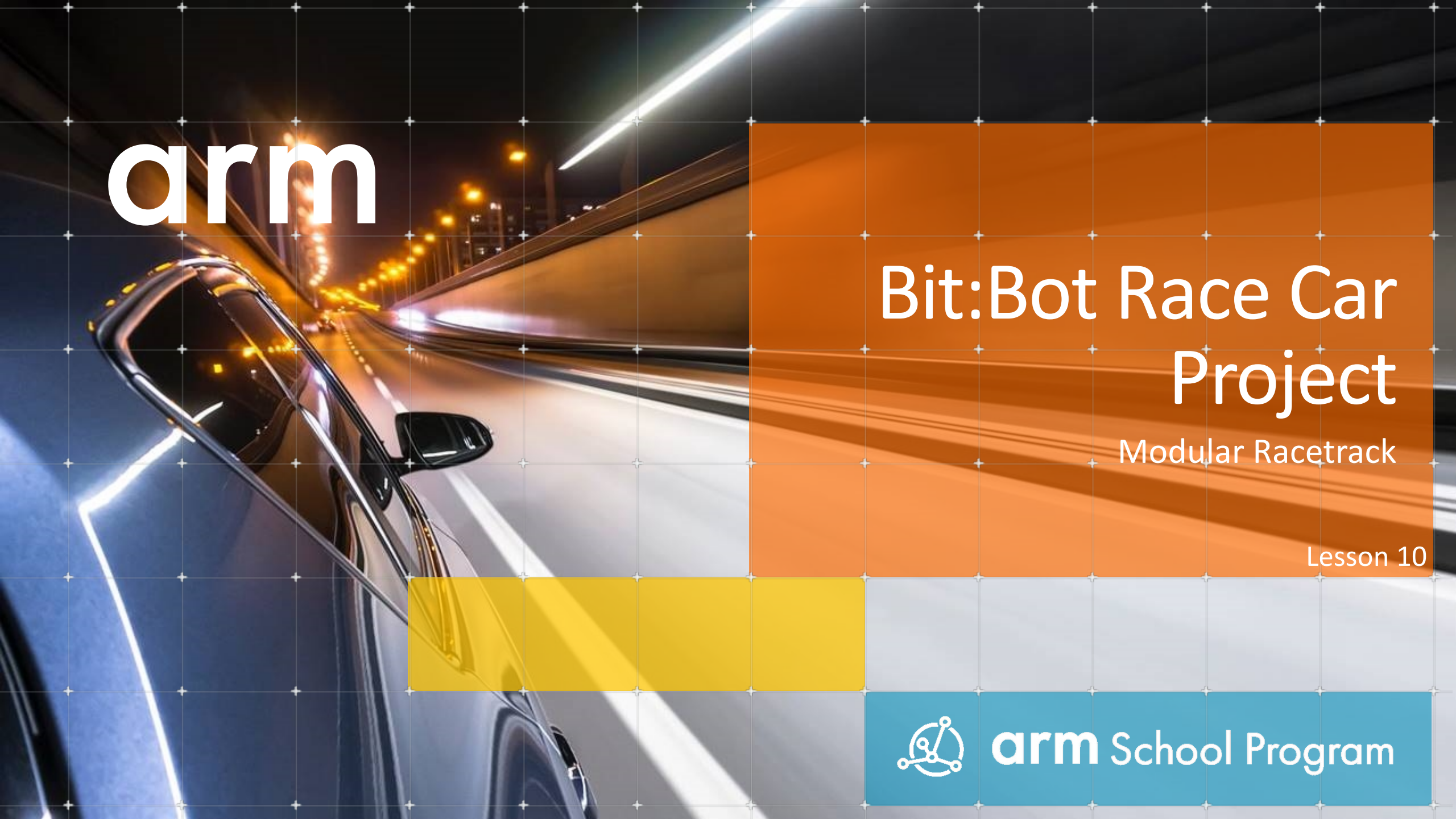

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Bit:Bot Race Car Project

Modular Racetrack

Lesson 10

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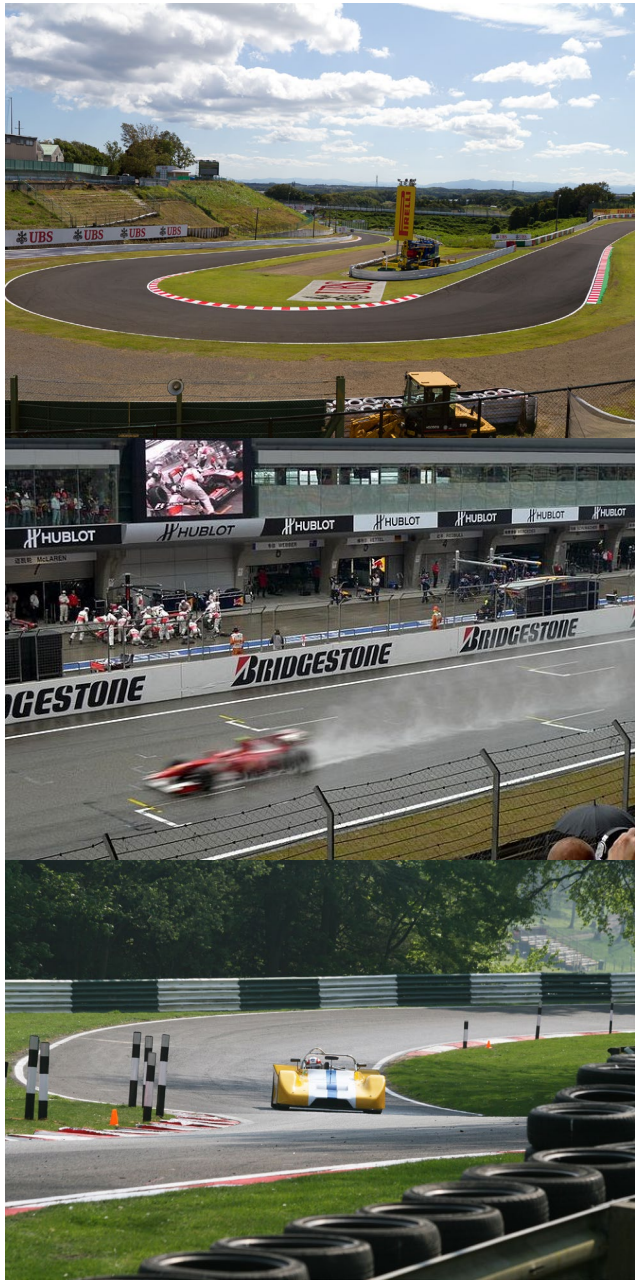
Objectives

- Apply your understanding of computational thinking and programming skills to achieve a goal
- Design a section of the racetrack that will test aspects of car design (cornering, speed etc)
- Develop a system that allows modular track sections to be connected together

Modular Racetrack

- **Modular design** is a design approach that:
  - Splits a system into smaller parts called modules
  - These can be independently created
  - They can used in different systems (eg Slot car race tracks like Scalextric)
- micro:bit International Racetrack are hosting a modular track race day
- Each competitor will design a section of the racetrack which will be fitted together to form a unique and challenging circuit



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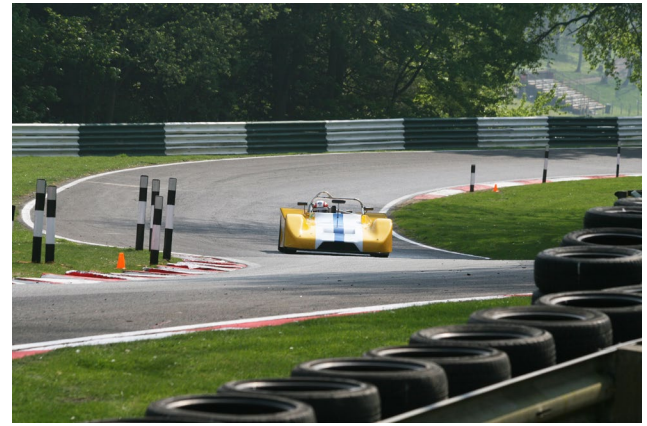
Modular Racetrack

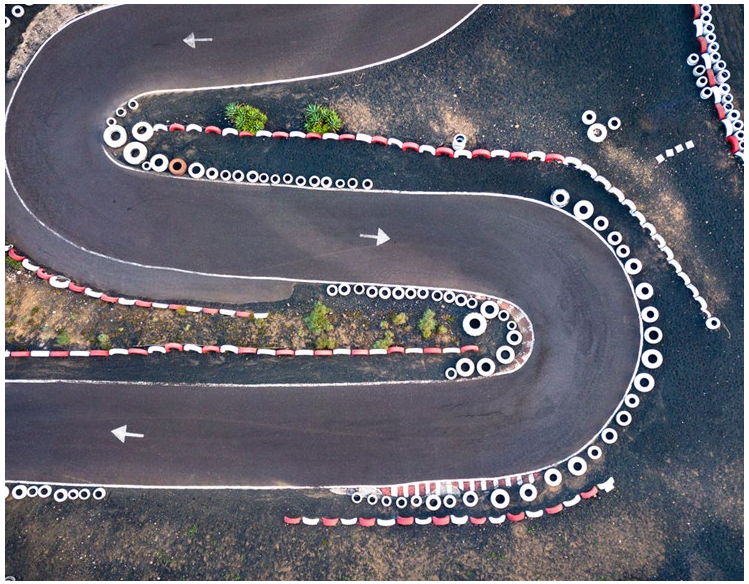
Research

- Look at race tracks such as Shanghai International, Cadwell Park, Suzuka and identify common features such as straights, hair-pins, crash barriers etc.
- Think Pair Share some ideas
- Could you make a circuit section that suits the design of your race car that might be difficult for your competitors?



Client Requirements – Modular Racetrack

- Each group needs to design at least one section of the racetrack
- The racetrack will need to be modular in nature – how they interconnect should be a joint decision – discuss
- Each section should include obstacles for example, barriers, gravel traps etc
- The race section should be big enough for two Bit:Bots to race around
- The racetrack must be designed be practical to store, transport and reassemble



Racetrack Build

- Use materials you have been provided with
  - Card
  - Glue
  - Balsa
  - Straws etc
- Design and build your section of the racetrack:
  - You will need to work as a team
  - You also need to communicate well with your competition to ensure your sections are compatible
  - Don’t give away any of the ‘secrets’ of your design!

Thank You
Danke
Merci
谢谢
ありがとう
Gracias
Kiitos
감사합니다
धन्यवाद
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7