Embedded Software Butler James

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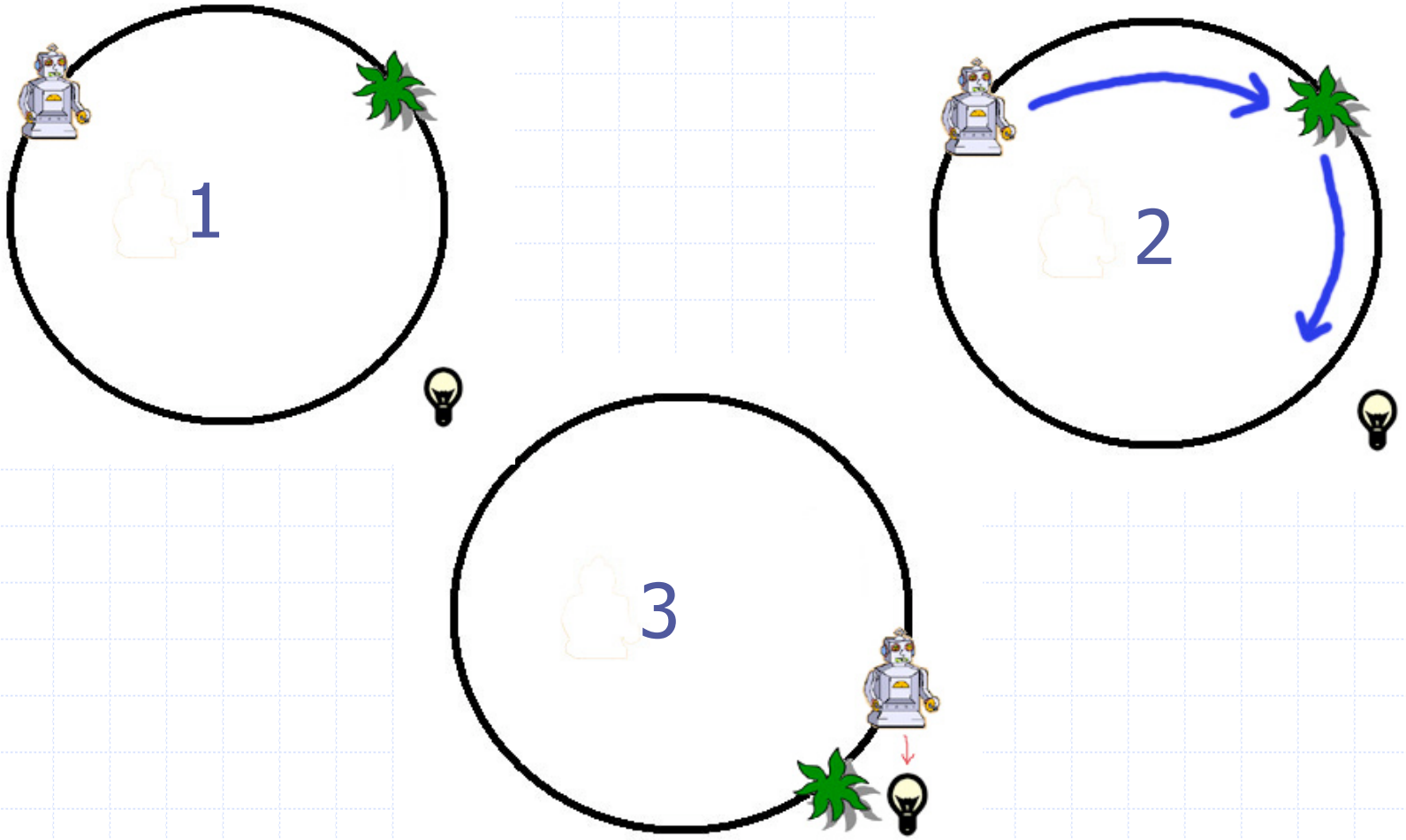
1. Conceptual Formulation

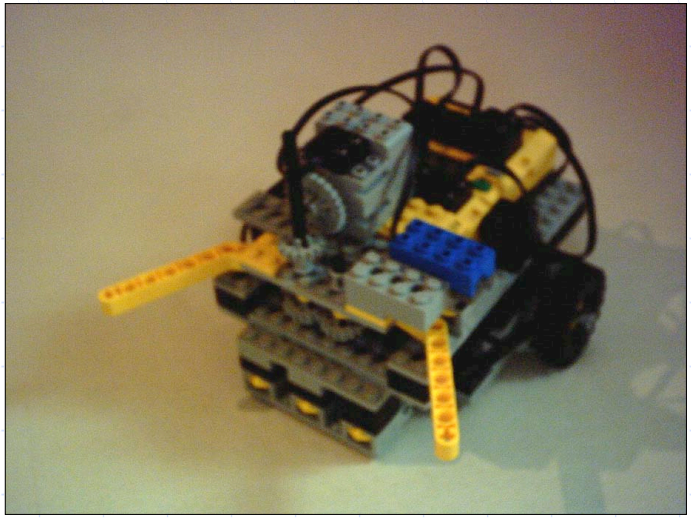
- Idea: The roboter James has to put the plant to the light (the light can change its position)

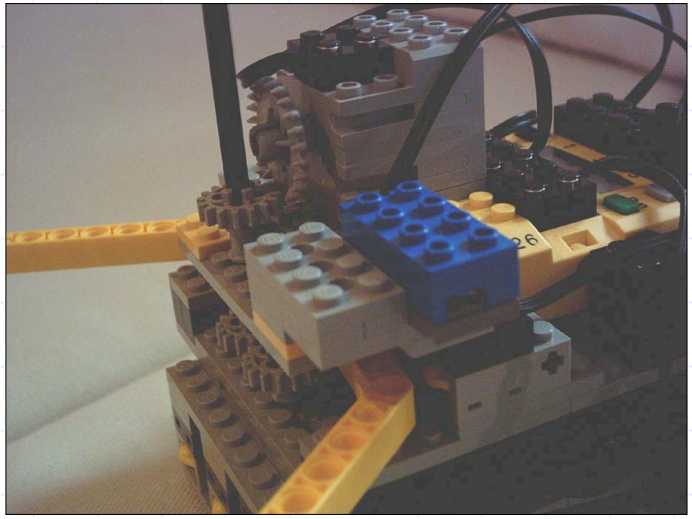
- 3 steps:
  - Searching for the plant
  - Put the plant to the light
  - Observe the light – respond, if the light change its position

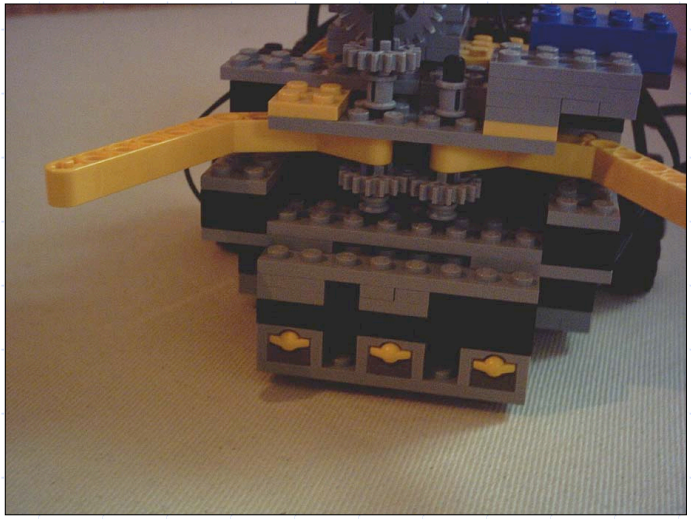
1. Conceptional Formulation

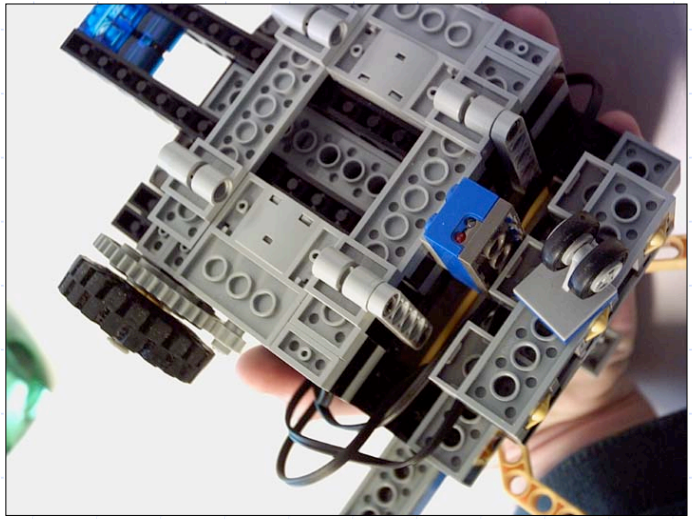


2. Test-Environment









2. Test-Environment

- James: Lego-Mindstorms Roboter
- Operating-System: BrickOS
- Programming Language: C

- Problems:
  - Sensors
  - Ports

3. Realisation of the project

Tasks:

- Follow line
- Touchsensor
- Light-Source

- Main:
  - Take plant
  - Put plant
  - Observe light

3. Realisation of the project

Software Modes:

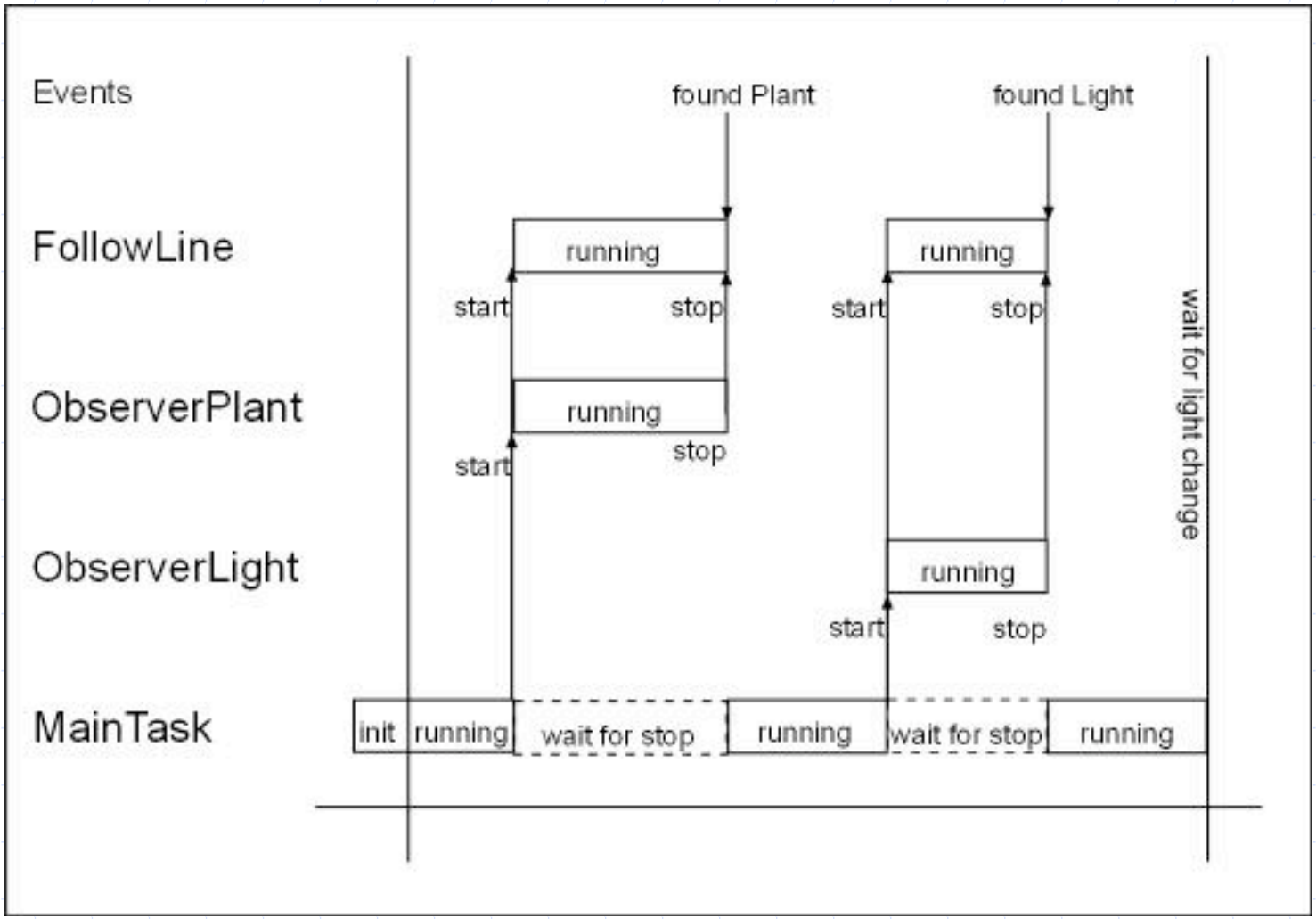
- Searching for the plant (Task 1, 2)
- Searching for the light (Task 1, 3)
- Observe the light

3. Realisation of the project

Task:

- periodic
- stops after complete run
- control:
  - `new_task, init_task`
  - `run_task, stop_task, finish_task`
  - `wait_task_stop`

3. Realisation of the project



4. Demo

Demo