



# Tower Defence game with MoCap Technology

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## Introduction

- Most games make players sit for hours.
- Motion Capture can be a solution\*.
- My project has researched how.

\*If money and space aren't a problem

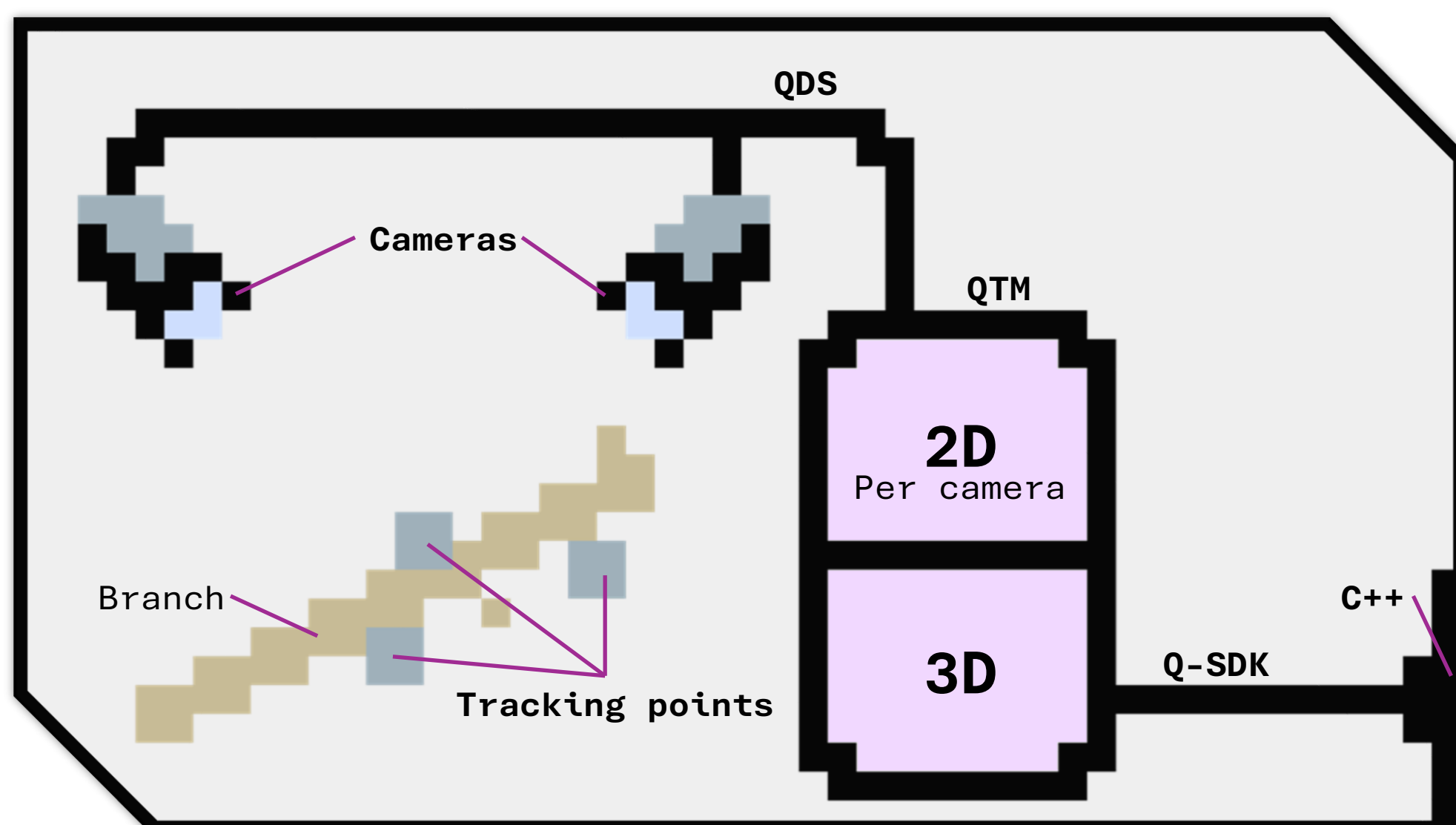


Fig. 2: Pipeline from Tracking points to C++



Fig. 1: Branch with Tracking Points

## MoCap

- Motion capture uses cameras to track reflective points in a 3D space.
- Qualisys's system was used:
  - Qualisys DHCP Server (QDS)
  - Qualisys Track Manager (QTM)
  - Qualisys\_cpp\_sdk (Q-SDK)
  - 8 Miquis cameras
  - 3 tracking points
- Anything with trackers can be used for input: branch fits the natural theme (See Fig. 1)
- This together forms a pipeline as seen in Fig. 2.
- Calibration with a kit is needed for 3d tracking.

## Fungods

- Kingdom Fungi does not get enough attention
- Fungi vs. Bacteria Tower Defense
- Displayed on the ground with a projector
- Use the branch to place and control the fungi
- There are 6 fungi, all with different:
  - Attacks
  - Stats
  - Mycelium
- C++ was used with:
  - SDL graphics (for flexibility)
  - Qualisys\_cpp\_sdk MoCap



Fig. 4: Active gameplay

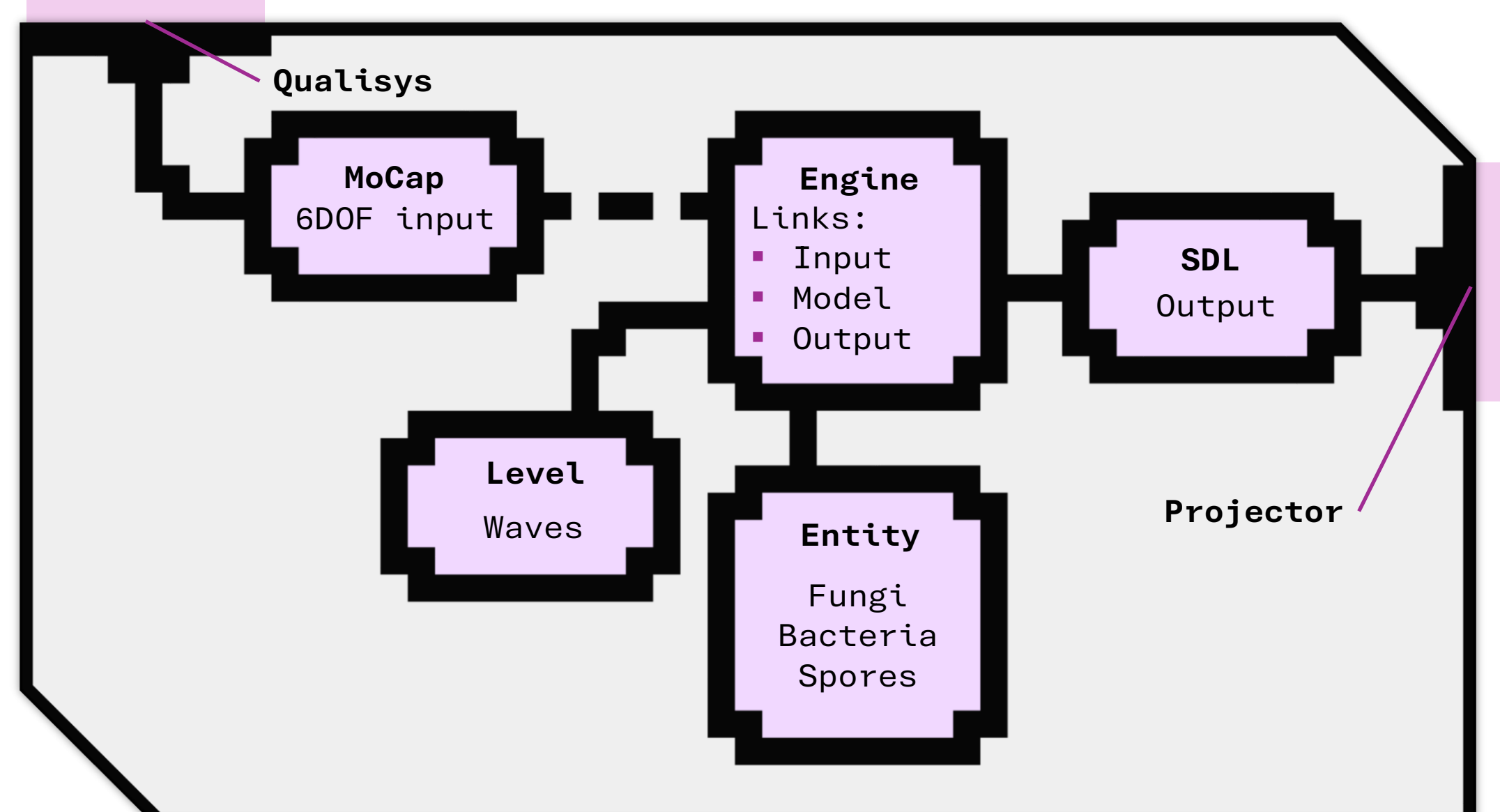


Fig. 3: High-level representation of the code

## Final Remarks

- Result is nearly to my expectations.
- Fungods "engine" has a lot of potential.
- Game design was the hardest part.
- MoCap makes the game much more active.
- Qualisys's name is accurate.