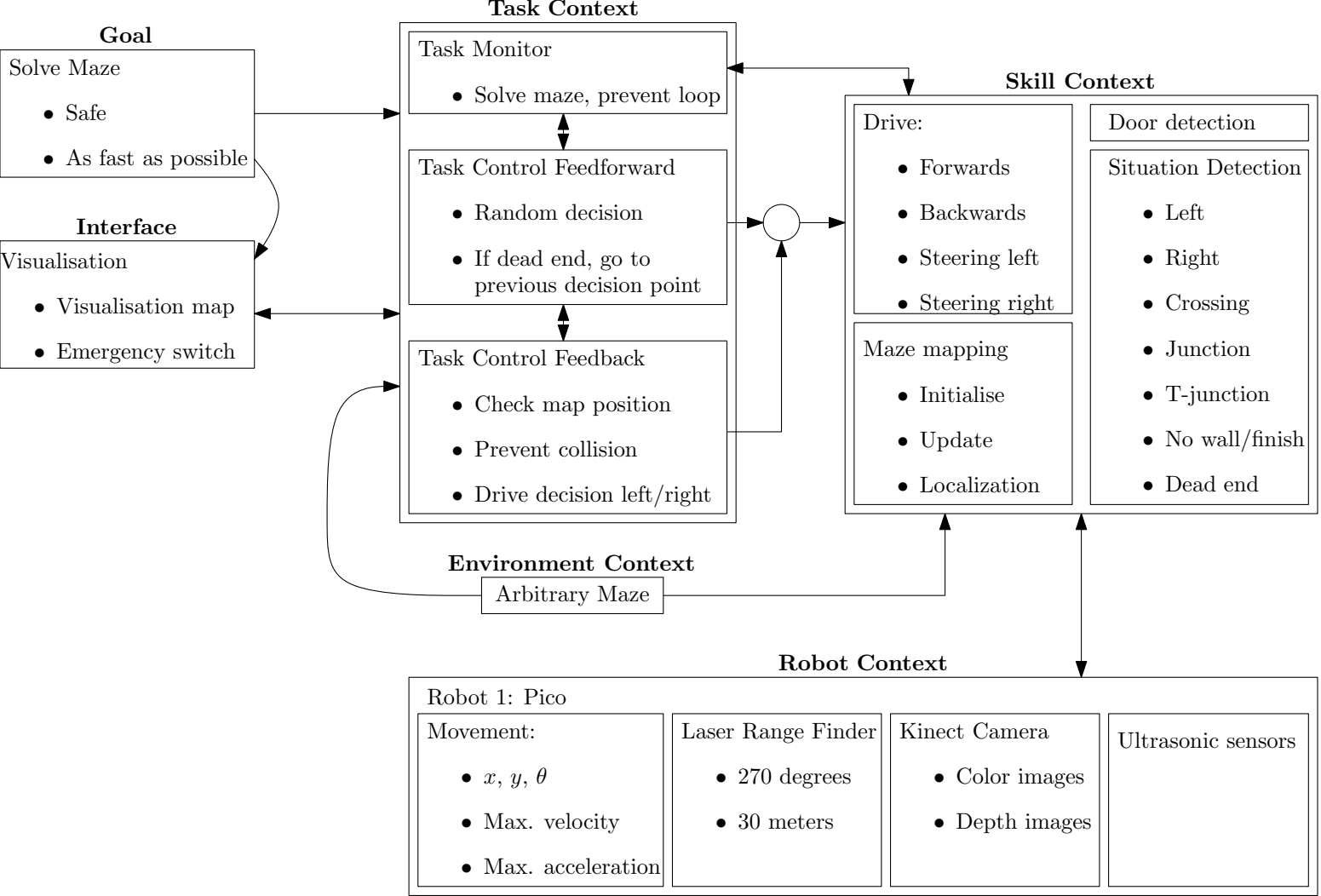
Goal
Solve Maze
Safe
As fast as possible
Interface
Visualisation
Visualisation map
Emergency switch
Task Context
Task Monitor
Solve maze, prevent loop
Task Control Feedforward
Random decision
If dead end, go to previous decision point
Task Control Feedback
Check map position
Prevent collision
Drive decision left/right
Skill Context
Drive:
Forwards
Backwards
Steering left
Steering right
Maze mapping
Initialise
Update
Localization
Door detection
Situation Detection
Left
Right
Crossing
Junction
T-junction
No wall/finish
Dead end
Environment Context
Arbitrary Maze
Robot Context
Robot 1: Pico
Movement:
x, y, θ
Max. velocity
Max. acceleration
Laser Range Finder
270 degrees
30 meters
Kinect Camera
Color images
Depth images
Ultrasonic sensors