

Initial Design Report

Group 5 –

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Introduction

Goals: To build an algorithm for a maze
Solving robot(PICO).

Requirements:

Corridor Challenge:

Pico must drive through a corridor and take the first exit.

It must not touch the wall.

Must detect the exit on its own.

We have total 5 minutes to complete the challenge.

Maze Challenge:

1.Pico must be able to solve the maze and find the exit point which is not known.

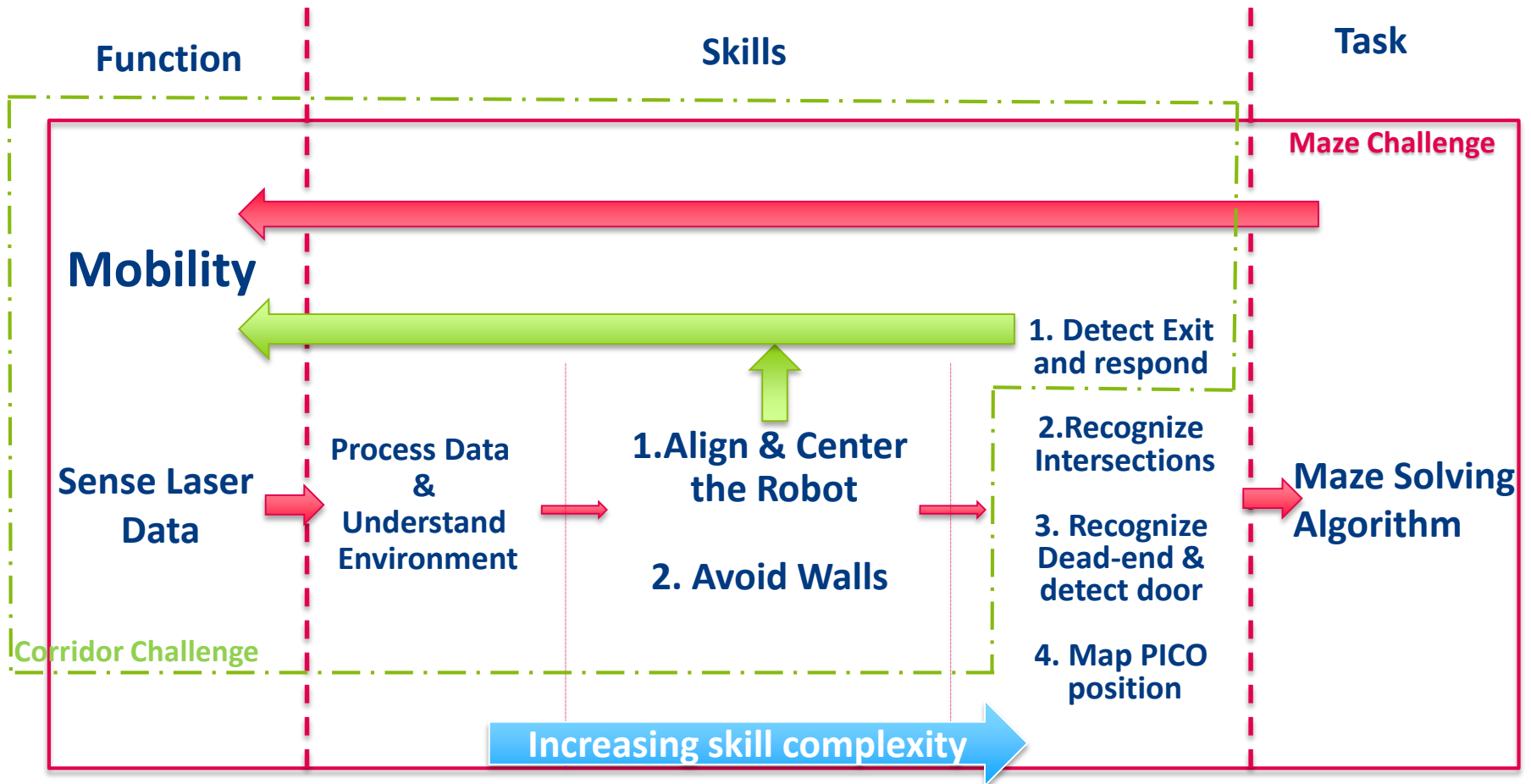
2.It should detect the door and send the request command for the door to open.

3.The door opens when the robot is stationary.

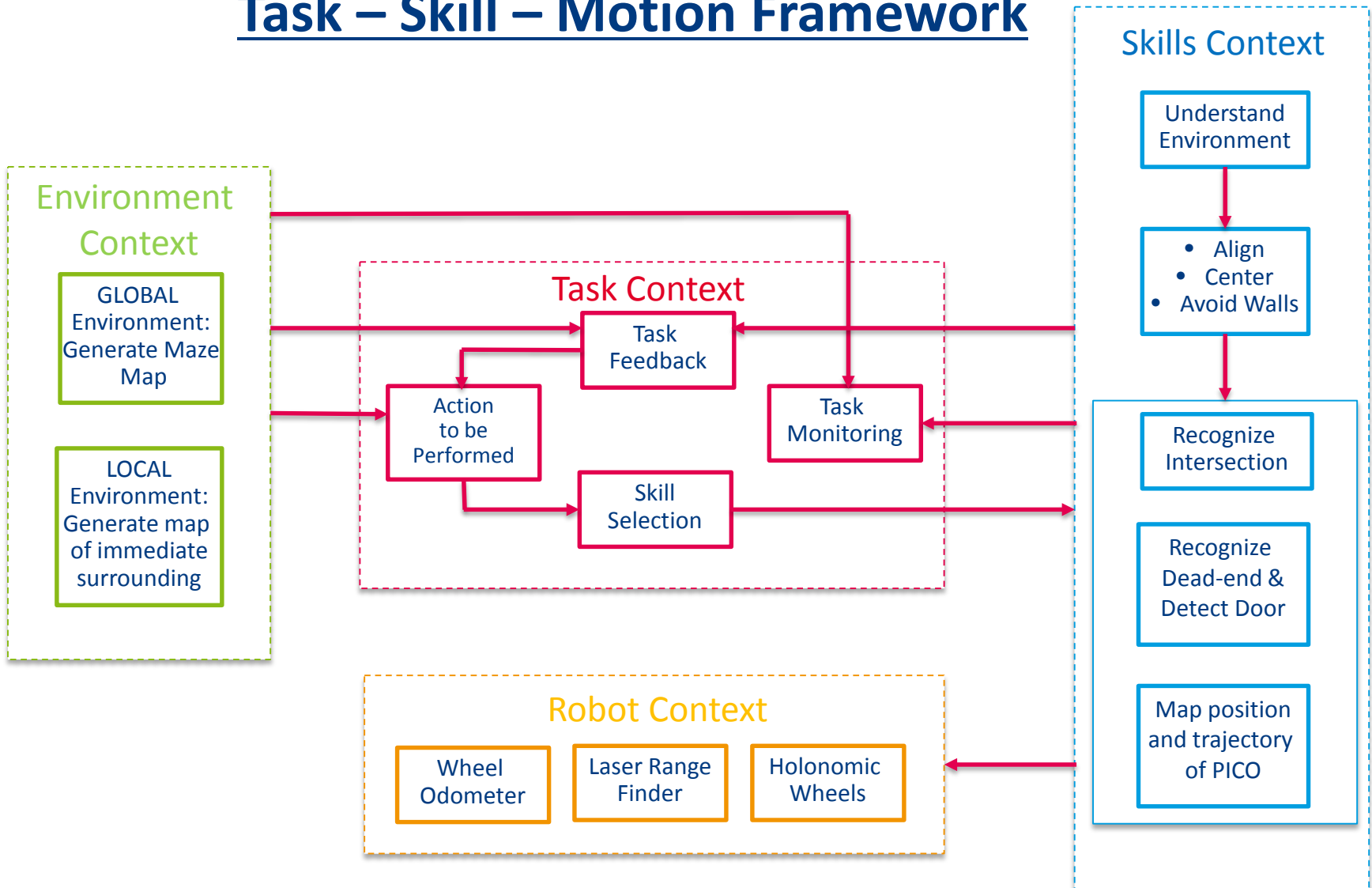
4.We have total 7 minutes to complete the challenge



Functionality



Task – Skill – Motion Framework



STRUCTURE

SENSOR SYSTEM: Obtains data and sends to processor



MAPPING SYSTEM: Converts sensor data to an environment.



NAVIGATION SYSTEM: Decide trajectory based on mapping.



MOTION SYSTEM: Make the robot navigate around the environment