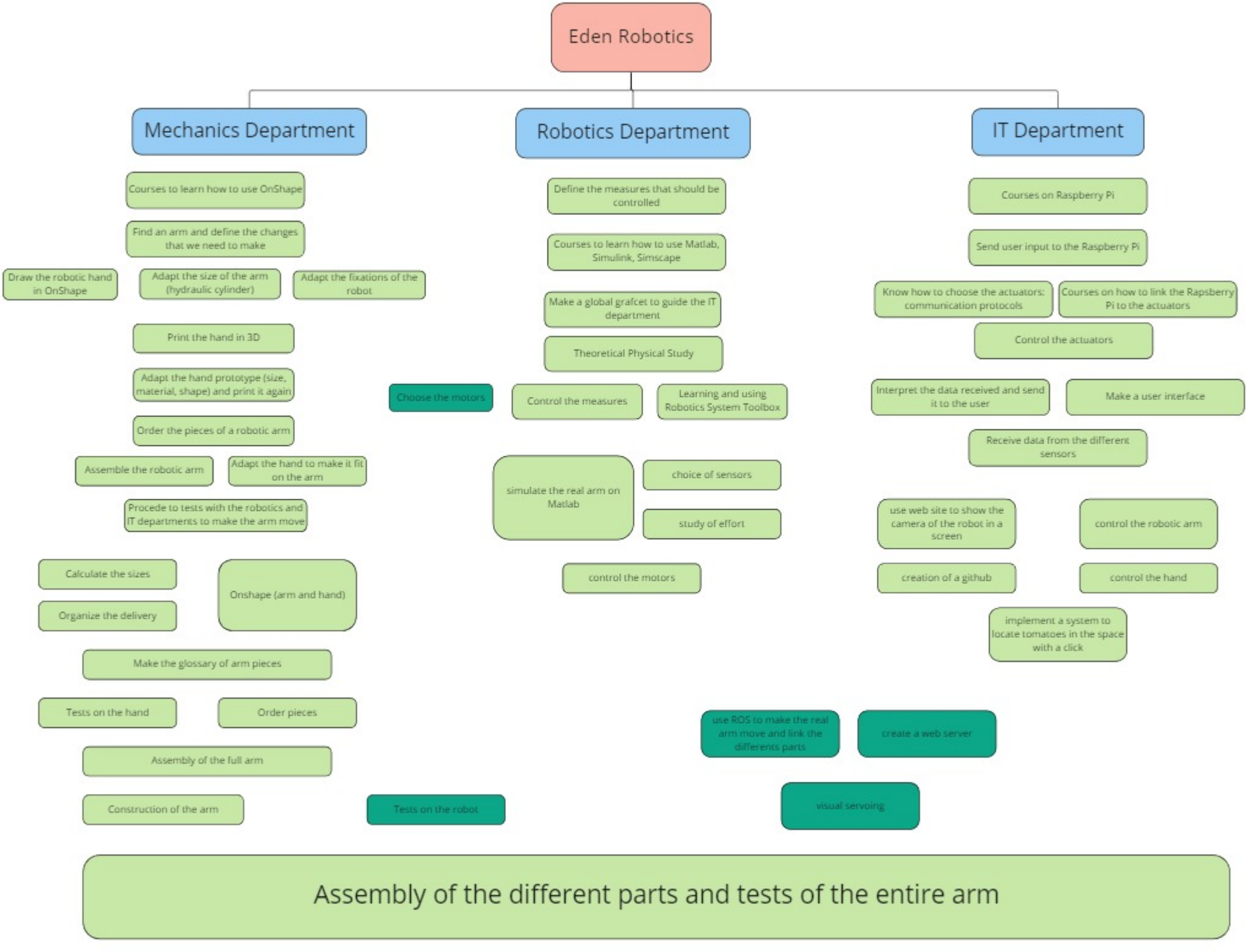
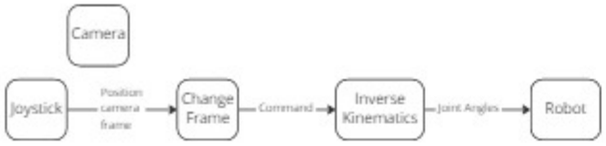
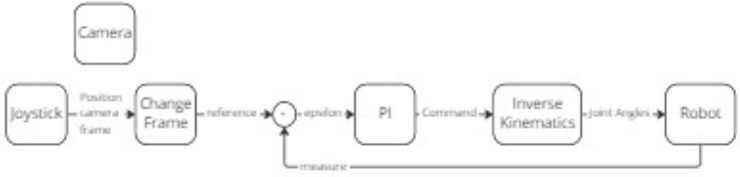
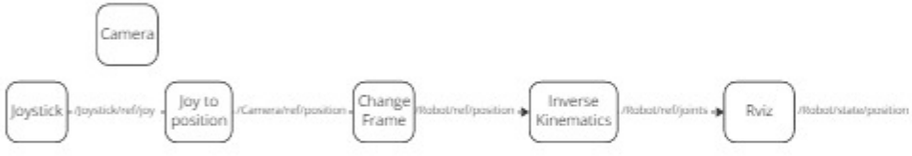

Eden Robotics
Mechanics Department
Courses to learn how to use OnShape
Find an arm and define the changes that we need to make
Draw the robotic hand in OnShape
Adapt the size of the arm (hydraulic cylinder)
Adapt the fixations of the robot
Print the hand in 3D
Adapt the hand prototype (size, material, shape) and print it again
Order the pieces of a robotic arm
Assemble the robotic arm
Adapt the hand to make it fit on the arm
Procede to tests with the robotics and IT departments to make the arm move
Calculate the sizes
Organize the delivery
Onshape (arm and hand)
Make the glossary of arm pieces
Tests on the hand
Order pieces
Assembly of the full arm
Construction of the arm
Tests on the robot
Robotics Department
Define the measures that should be controlled
Courses to learn how to use Matlab, Simulink, Simscape
Make a global grafcet to guide the IT department
Theoretical Physical Study
Choose the motors
Control the measures
Learning and using Robotics System Toolbox
simulate the real arm on Matlab
choice of sensors
study of effort
control the motors
IT Department
Courses on Raspberry Pi
Send user input to the Raspberry Pi
Know how to choose the actuators: communication protocols
Courses on how to link the Rapsberry Pi to the actuators
Control the actuators
Interpret the data received and send it to the user
Make a user interface
Receive data from the different sensors
use web site to show the camera of the robot in a screen
control the robotic arm
creation of a github
control the hand
implement a system to locate tomatoes in the space with a click
use ROS to make the real arm move and link the differents parts
create a web server
visual servoing
Assembly of the different parts and tests of the entire arm

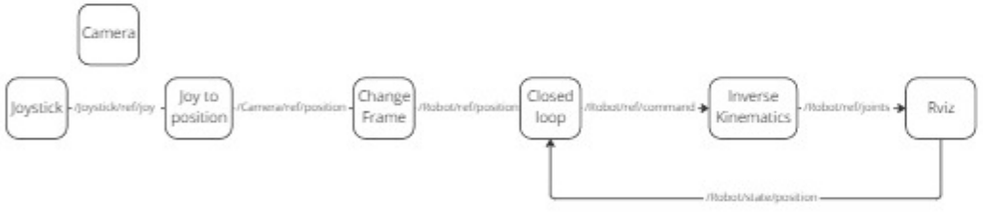

Camera
Joystick
Position camera frame
Change Frame
Command
Inverse Kinematics
Joint Angles
Robot


Camera
Joystick
Position camera frame
Change Frame
reference
+
-
epsilon
PI
Command
Inverse Kinematics
Joint Angles
Robot
measure


Joint Gui
/Robot/ref/joints
RVIZ
/Robot/state/position


/Robot/ref/position
Inverse Kinematics
/Robot/ref/joints
RVIZ
/Robot/state/position


Camera
Joystick
/Joystick/ref/joy
Joy to position
/Camera/ref/position
Change Frame
/Robot/ref/position
Inverse Kinematics
/Robot/ref/joints
Rviz
/Robot/state/position


Camera
Joystick
/Joystick/ref/joy
Joy to position
/Camera/ref/position
Change Frame
/Robot/ref/position
Closed loop
/Robot/ref/command
Inverse Kinematics
/Robot/ref/joints
Rviz
/Robot/state/position