

Enabling the Community:

Software Functionality Targets

Revision 2022.08

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Software Functionality Spread

Version 2022.08.12 Auth: D Malawey

nodered installed on viewing PC

nodered installed on embedded PC



F02 drag/drop Graphical

multiple bots in one (kinematics, of mobile manipulator OR other coupling of machines)

ROS ROS

OpenCV with Kinematics in Python + numPy



Node-RED

F03
Obstacle detection
& avoidance

Robot function has been accomplished without ROS

Install remoty, configure with selection of camera, speaker, wheels

Install hiveMQ & develop

our own Topics Structure



realtime private or public/ sharing of telepresence with x number of user

M2M communication via
Wifi – local AND worldwide

Visualization of path plan before execution

Function Number
TOOLS IMPLEMEN



So far, can only be achieved with ROS or advanced tools.

(Requiring Two computers, and Linux-based host PC)

For beagle and PI – installed C9



Access file browser and command-line of robot, run programs without installing anything on Host PC

SLAM, with obstacle detection & realtime visual

EROSRequires

Cayenne AKA "myDevices" open in web browser & receive MQTT messages



docking with a smart dock, reporting battery SOC

ser & ____

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Enabling the Community of Roboticists

none

linux

linux

linux

none

windows

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MQTT Raw

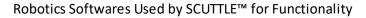
ROS

ROS

ROS

AWS

Numpy



M2M communication

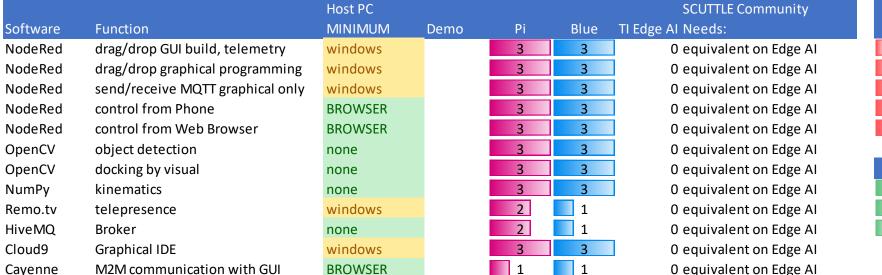
SLAM

Visualization of path-plan

MQTT Broker, self-owned

Collaborating robtos in realtime

Obstacle detection (range-based)



Executed already?



LIMITATIONS

1 none

2 web brows<mark>er</mark>

3 mobile phone

4 windows

5 linux

EXECUTION

3 standard: written on image

2 trial only; not on image

1 research: 1-off execution

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2

0 equivalent on Edge AI

0 equivalent on Edge AI

0 equivalent on Edge AI

1 ability without Linux Host

1 ability without Linux Host

1 ability without Linux Host