

Development Environment Guide

Document status	RELEASED
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Version	Description	Author	Date (DD/MM/YYYY)
0.0	First version of the Development Environment Guide	AKHTAR KURNIAWAN	28/08/2020
1.0	Review	Isaac Pedroza Aguirre	30/08/2020

 This guide contains instructions for setting up the environment for the RoboMaster project. It also includes instructions for using supporting tools, such as Confluence and Trello.

You Only Look Once (YOLO) Requirements

YOLO is an object detection algorithm. The most popular frameworks compatible with YOLO are OpenCV and TensorFlow.

1. Install/check you have Python 3.8
 - a. To check: run **python --version** on command line
 - b. If not correct, download python from [python.org](https://www.python.org). During installation:
 - add python to path
 - Install pip
 - c. To verify installation, run **python** in command line
2. Install/check you have PIP
 - a. To check: run **pip -V** in command line
 - b. If not present:
 - i. Download [get-pip.py](https://bootstrap.pypa.io/get-pip.py) and store it in the same directory as python
 - ii. Move the current directory of command line to the above directory, then run:

```
python get-pip.py
```

3. Download and install OpenCV
 - a. Go to command line and run:
- ```
pip install opencv-python
```
4. Make sure version 4+ is installed. To check, run:

```
python
>>>import cv2
>>>print(cv2.__version__)
```

4. Install TensorFlow
  - a. Run:
- ```
pip install tensorflow
```

5. Check installation:

```
python -c "import tensorflow as tf; print(tf.__version__)"
```

Communication Plan

Communication Charter

The Communication Charter specifies the agreement points about team communications.

- The team is virtual. All communications rely on communication technologies.
- The primary written communication channel is the team's Slack channels. Secondary options are this Confluence space and emails.
- The formal written communication channel is email. However, any written communication channel mentioned previously can be used in an informal or formal communication mode.
- The primary conference call platform is Zoom.
- Each team member must attend all the meetings according to the Communication Matrix.
- Each team member should participate in all team decisions as possible.
- The time limit to answer text messages is 24 hours.
- The time limit to answer a call is 24 hours.
- Each team member must refer to the Communication Matrix for every project communication.

Communication Matrix

Communication Type	Communication Objective	Channel	Frequency	Audience	Owner
First meeting	Introduce each member. Filling out the project priority form.	• Email • Zoom	Once	Project team	Project team
Stand-up meetings	Provide updates on assigned tasks by answering: What I did yesterday, what will I do today, what is in my way to get my work completed.	• Slack • Zoom	3x/week	Project team	Scrum Master
Ideas sharing	Share and discuss a technical or project management idea to the group.	Slack	as needed	Project team	Team Member
Client meetings	Periodically meet the client to gain feedback regarding the progress of the project and identify any changes required in the requirements of the project based on the feedback provided	Zoom	Once/week	Project team and Guang Hu	Product Owner
Supervisor meetings	Periodically meet with COMP90082 supervisor to ensure that the project is still within the subject's aims and intended learning outcome.	Zoom	Once/week	Project team and Ed uardo Oliveira	Project team
Sprint Planning Meetings	Define what can be done in the coming sprint and then figure out how the work will be done. Create sprint backlog from the product backlog	Zoom	Once before each sprint	Project team	Product Owner
Sprint Review Meetings	Present what the team has accomplished in the current sprint. The team will present it in the form of a demo to the clients and other stakeholders.	Zoom	Once at the end of each sprint	Everyone including all stakeholders	Scrum Master
Sprint Retrospective Meetings	Identify what went wrong and what was wrong in the sprint. Discuss what to stop, start, and continue doing.	Zoom	Once after every sprint	Project team	Product Owner and Scrum Master

Confluence

This Confluence space is used to help the team organise, create, and discuss work. The space consists of documents in the form of pages. Each page can be filled with formatted texts and rich content such as images, videos, files, and links. Project documents that can be created in Confluence space include:

- project plans
- product requirements
- documentation
- meeting minutes
- team member contact details

Creating a Page

To create a new page, click the "Create" button at the navigation bar at the top of the screen. This new page will be located depending on the page you are in. To create a page from a template, click the "..." button next to "Create" button. Available templates include meeting notes, project requirements, retrospective, and file list. To insert rich content, click the "+" in the page editor's toolbar. To add dynamic contents ("Macros"), click "+" "Other macros". Some useful macros are **status**, **Table of contents**, **info**, and **expand**. Click "Publish" at the bottom of the page to publish. After a page is published, it can be viewed and edited by anyone with the right permissions.

Collaborations in Confluence

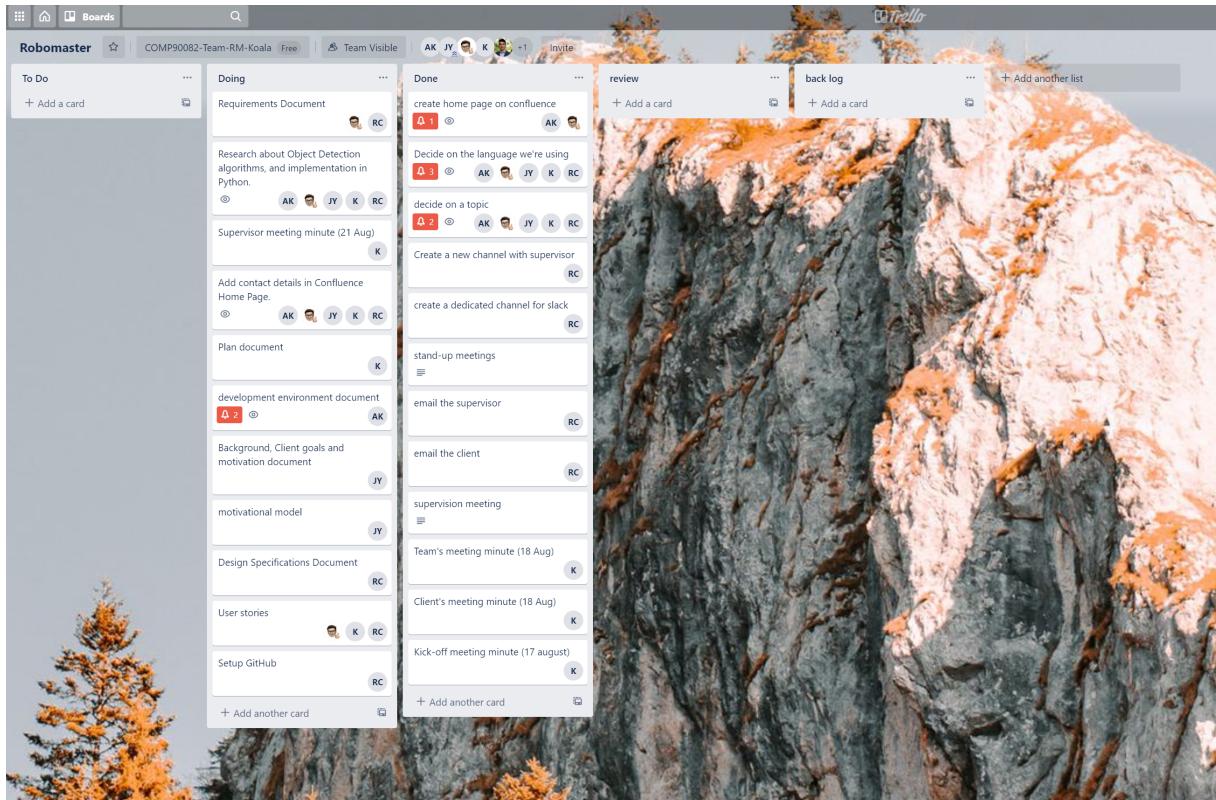
Team members can comment on any content on Confluence. Since the comment is located next to the work, it is easy to see the full context of discussions. Comments can be made either on the page, inline or on a file. Page comments are located at the bottom of the page. The inline comment appears on the side of particular contents on the page. These can be made by first highlighting the content, then click the pop-up "Add inline comment". The commented text will then be highlighted until the page owner resolves the comment. File comments are placed on embedded files. These can be added when previewing a file on Confluence.

To encourage discussions, **Share**, **Watch**, and **Like** buttons can be used. A page can be shared with an individual user or a group. "Watching" a page means you receive notifications about all changes to the page. Likes can be used to acknowledge or approve a page.

Trello

A Trello board is used to keep track of all the tasks in the project. The board is located [here](#). An invitation from any member is needed to join the board. The board comprises of 6 lists: To do, Doing, Done, Review, Backlog and Sprint 1, where each list represents different stages of the tasks. A task is represented as a card that is moved across the lists as it progresses.

When a task is identified, the member in charge of the Trello board (currently [Jia Yin](#)) will create a card and assign the responsible members. As the task progresses, the assigned member needs to move the card forward accordingly.



Version	Published	Changed By	Comment
CURRENT (v. 7)	31 Aug, 2020 08:48	Isaac Pedroza Aguirre	
v. 6	31 Aug, 2020 05:12	Isaac Pedroza Aguirre	
v. 5	31 Aug, 2020 05:11	Isaac Pedroza Aguirre	
v. 4	28 Aug, 2020 15:48	AKHTAR KURNIAWAN	
v. 3	28 Aug, 2020 12:28	AKHTAR KURNIAWAN	Added YOLO requirements

v. 2

28 Aug, 2020 01:18



AKHTAR KURNIAWAN

v. 1

27 Aug, 2020 00:11



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