

# Project Management

## BME Ranger 12

### Scrum Board

We update the scrum 3 times a day

The screenshot shows a Trello board titled "Daily\_Scrum" under the workspace "BME\_RANGER\_12". The board has three columns representing different days: "Day1 - 06/09/65", "Day2 - 07/09/65", and "Day3 - 08/09/65". Each column contains several cards. The "Day1" column has cards for "1st Stand up meeting (morning)", "2nd Stand up meeting (launch break)", and "3rd Stand up meeting (evening)". The "Day2" column has cards for "1st Stand up meeting (morning)" and "2nd Stand up meeting (launch break)". The "Day3" column has cards for "1st Stand up meeting (morning)" and "Code Review". A modal window is open over the "Code Review" card on Day3, showing a list of items: "Code Review" (2/3), "GitHub" (1), and "+ Add a card". There are also buttons for "Add another list" and "Power-Ups" at the top right.

Scrum board in Trello



We had already met and discussed through the work flow



Discuss and plan the integration project

We use GitHub to save our code progression. In the meeting, we reviewed the code together to edit some conflicts or update the code version. Then, plan the next steps.

The screenshot shows the GitHub desktop application interface. The left sidebar displays the repository structure for 'TESA2022'. The main area shows a complex commit history graph for the 'robot' branch. A specific commit message is highlighted: "Merge branch 'robot' of https://github.com/Sirapakit/TESA2022 into robot". The commit was made by 'Cat Savinee' on 9/4/2022 at 10:23 PM. The commit message details the merge of pull requests #41, #42, #39, and #38 from various branches into the 'robot' branch. The commit also includes changes related to Matlab scripts like 'showromsgFn', 'ros sub', 'mqtt pub', 'Mqtt2ros', and 'ui-new-update', as well as C files like 'Gripper2DRepresent.m' and 'RobotMove\_0409.mlx'.

## Meeting 07/09/2022

### ⌚ 1st Stand up meeting (morning)

in list [Day2 - 07/09/65](#)

☰ Description Edit

#### Hardware

1. What have you done since yesterday?
  - completed the haptic glove
  - completely sending data as json pattern to mqtt
  - completed the rest of the problems
2. What are you planning to do today?
  - write I2C code by not using the library
3. Are there any impediments or stumbling blocks?
  - nothing

#### Server

1. What have you done since yesterday?
  - connected nide-red and influx db
2. What are you planning to do today?
  - help other sections running their works
3. Are there any impediments or stumbling blocks?
  - nothing

#### Cyber Physical

1. What have you done since yesterday?
  - reviewed pick and place robot simulation
  - non linear (not fully understand but I think they are not gonna use this)
  - checked collision
  - reviewed state flow machine
  - coded for joint space
2. What are you planning to do today?
  - apply state flow machine to the robot simulation processing
  - apply mqtt for receive and send data
3. Are there any impediments or stumbling blocks?
  - The example or tutorial are quite limited, so I decided to learn as much as I can and then, learn more in the class session

## ⌚ 2nd Stand up meeting (launch break)

in list [Day2 - 07/09/65](#)

☰ Description Edit

### Hardware

1. What have you done?
  - studied waijung and examples
  - I2C without adafruit library
2. What are you planning to do?
  - read temperature from LM73 without library
  - read potentiometer value from ADS1115 without library
3. Are there any impediments or stumbling blocks?
  - waijung license as old version cannot work offline, the company created new version for TESA

### Server

1. What have you done?
  - created dashboard of system
2. What are you planning to do?
  - help friends to finish their tasks
  - edit and redesign dashboard
3. Are there any impediments or stumbling blocks?
  - nothing

### Cyber Physical

1. What have you done?
  - learnt the solution of the 6th problems by the lecturer's live coding
2. What are you planning to do?
  - use ROS (toolbox) in MATLAB for transmission the data (two ways)
  - apply mqtt and ROS together
  - use Stateflow in the logic of system
3. Are there any impediments or stumbling blocks?
  - computer out of memory space, so it was hang over while using MATLAB. Then, I clean the drive and recover the memory space
  - I had a diarrhea, so I decided to join the zoom instead. However, one of my friend was in the live class session.

## ⌚ 3rd Stand up meeting (evening)

in list [Day2 - 07/09/65](#)

☰ Description Edit

### Hardware

1. What have you done?
  - completed reading temperature from LM73 with KidBright board
  - knew backbone I2C protocol
2. What are you planning to do?
  - coding ADS1115 to read potentiometer value with Kidbright board and without library
3. Are there any impediments or stumbling blocks?
  - code was not functional, we rewrote it and checked carefully
  - potentiometer was not working, so we improvised it

### Server

1. What have you done?
  - completed the tasks with friends both hardware and robot simulation
  - completed editing dashboard
2. What are you planning to do?
  - be supporter to hardware and robot simulation parts
3. Are there any impediments or stumbling blocks?
  - To help them, I needed to have more fundamental knowledge about their tasks.  
Then, I spent time to learn

### Cyber Physical

1. What have you done?
  - Stateflow with robot simulation
  - ROS and mqtt communication
2. What are you planning to do?
  - apply Stateflow of pick and place robot
3. Are there any impediments or stumbling blocks?
  - quite confuse with MATLAB syntax
  - the conflict of data translation in MATLAB (type and class)

## Meeting 08/09/2022

### ⌚ 1st Stand up meeting (morning)

in list [Day3 - 08/09/65](#)

☰ Description Edit

#### Hardware

1. What have you done since yesterday?
  - refactor code firmware and hardware
  - tested delay when publish to MATLAB
  - found delay when subscribe
  - reviewed changing accelerate to coordinate
2. What are you planning to do today?
  - separate ports
  - find coordinate
3. Are there any impediments or stumbling blocks?
  - the data was sent slowly because of same port, so we need to separate the ports

#### Server

1. What have you done since yesterday?
  - helped friends to do their works
  - provided the server for communication
2. What are you planning to do today?
  - integrate the system
  - provide the server
3. Are there any impediments or stumbling blocks?
  - nothing

#### Cyber Physical

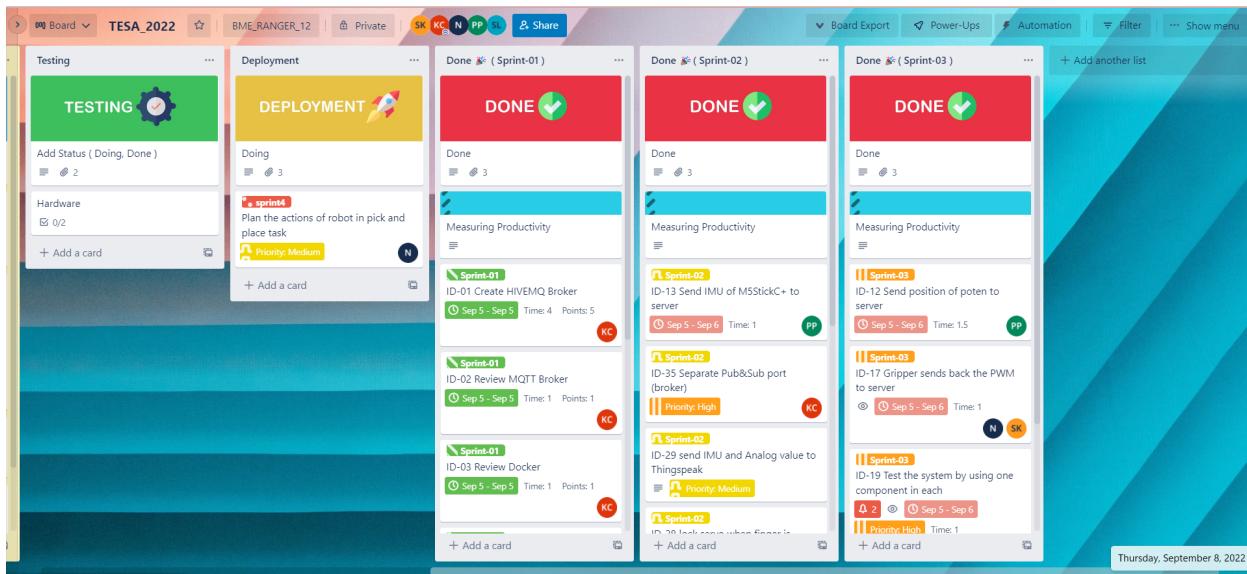
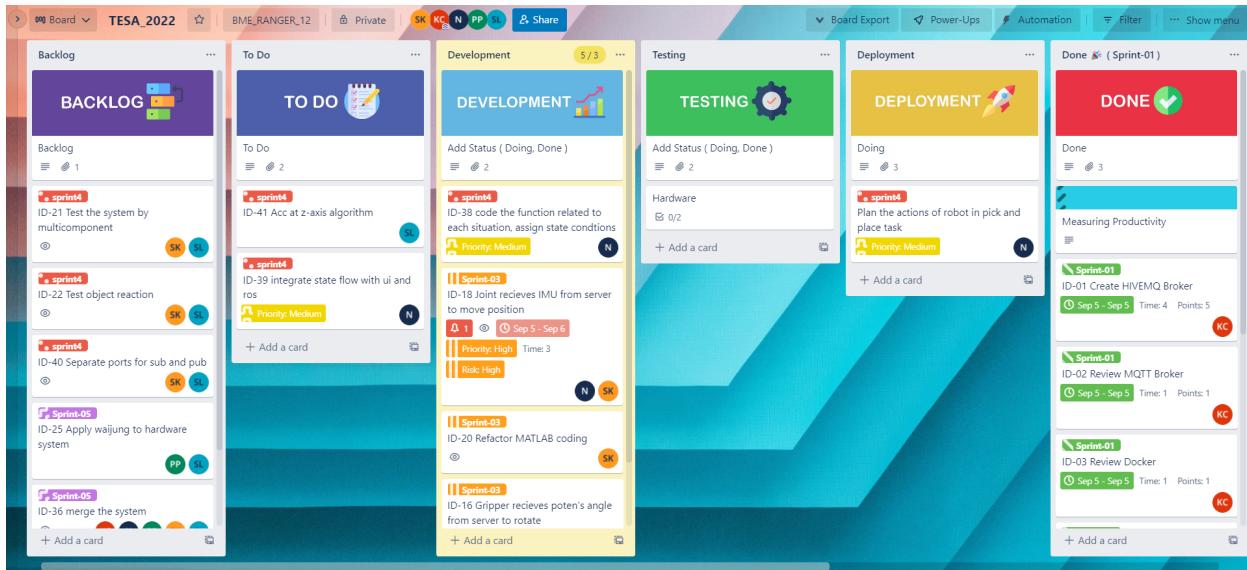
1. What have you done since yesterday?
  - published pwm value to moving servo motor by MATLAB
  - subscribed to receive the position value from IMU
2. What are you planning to do today?
  - try grip action and set the value
  - integrate the processing by using Stateflow
  - refactor
3. Are there any impediments or stumbling blocks?
  - robot cannot move smoothly, edit code by adding iteration
  - connect wrong internet, we need to be more careful

Link for viewing the scrum's board:

<https://trello.com/invite/b/gqY8u91Y/8ca619c8a1b6f1831ab75c3fab5a9591/dailyscrum>

## Kanban Board

We update the Kanban board which adds the backlog from the class session and also rearrange the tasks in each sprint. Moreover, we calculate the velocity which identifies the group's productivity.



Link for viewing the Kanban board:

<https://trello.com/invite/b/3Lwu6SLK/8e53cdf111439169cbaf55383ca48396/tesa2022>

## Measuring Productivity

### Measuring Productivity

in list Done (Sprint-02)

#### Description Edit

total tasks = 12  
total points = 60 pts.

finish tasks = 12  
story points = 60 pts.

velocity  
= amount of tasks / total tasks points in the sprint  
= 1

### Measuring Productivity

in list Done (Sprint-03)

#### Description Edit

total tasks = 9  
total points = 45 pts.

finish tasks = 6  
story points = 30 pts.

velocity  
= amount of tasks / total tasks points in the sprint  
= 30 / 45  
= 0.667

According to the calculation of productivity, we measure by using points with the number of tasks we have to do in each sprint. The maximum productivity is 1. We have 5 sprints. First 2 sprints were completed. Now, we are going on the rest of sprint3 and continue to sprint 4 and 5.

## Graph Progression

### Tasks and Completed tasks



Graph shows the comparison between our tasks and complete tasks in each sprint (currently is on sprint3)