Train Robot to Climb Stairs: Get Dimension of Staircase

21_22-J 34

Status Document 1

Dilshan H.V.V
IT18217100

Supervisor – Mr. Samantha Rajapakshe
Co-Supervisor – Mr.S.M.B. Harshanath

B.Sc. (Hons) Degree in Information Technology Specializing in Software Engineering

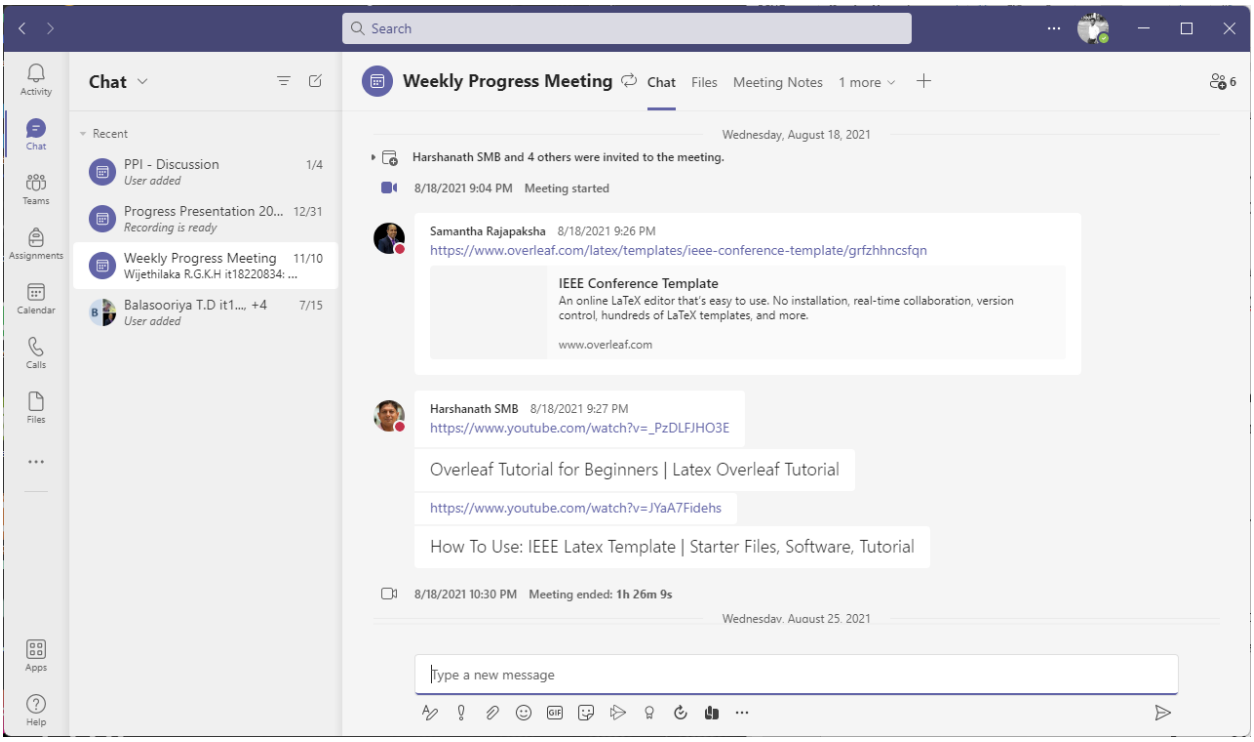
Department of Software Engineering

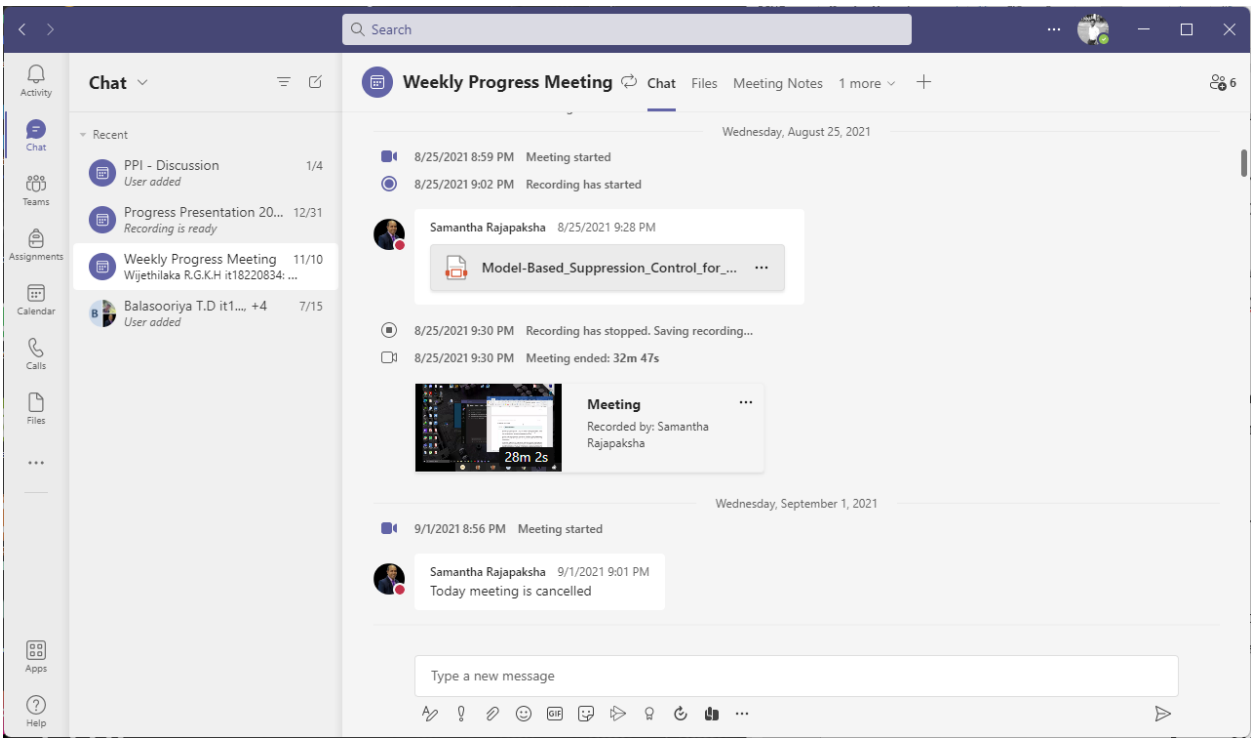
Sri Lanka Institute of Information Technology
Sri Lanka

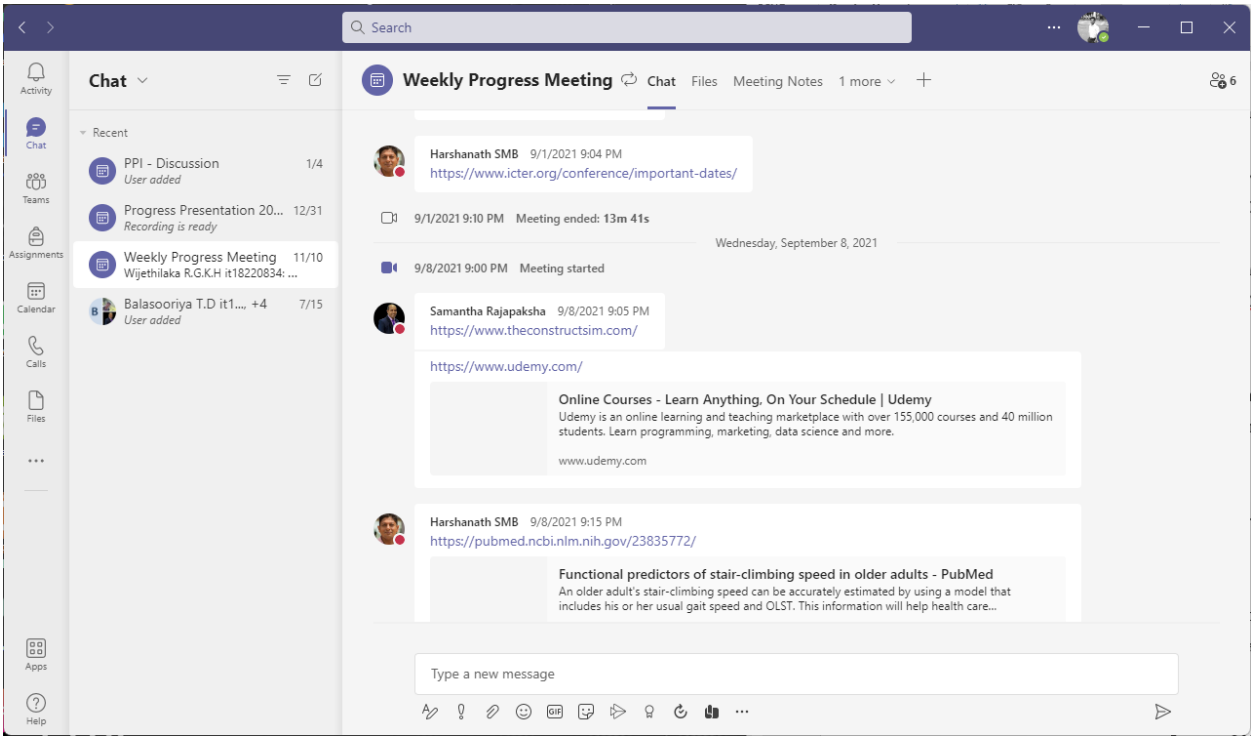
January 2022

1) Screenshots of chats and calls with supervisors

1.1 MS Teams



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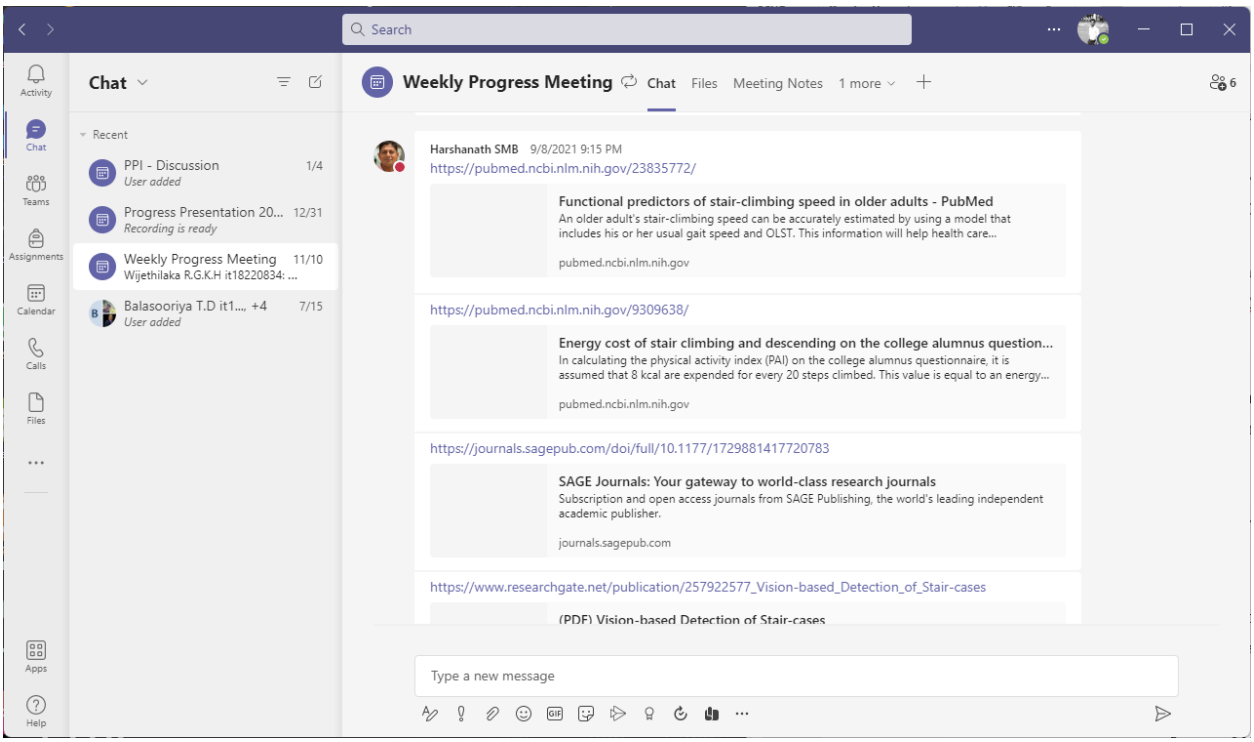
PPI - Discussion 1/4
User added
Progress Presentation 20... 12/31
Recording is ready
Weekly Progress Meeting 11/10
Wijethilaka R.G.K.H it18220834: ...
Balasooriya T.D it1..., +4 7/15
User added
Harshanath SMB 9/1/2021 9:04 PM
https://www.icter.org/conference/important-dates/
9/1/2021 9:10 PM Meeting ended: 13m 41s
Wednesday, September 8, 2021
9/8/2021 9:00 PM Meeting started
Samantha Rajapaksha 9/8/2021 9:05 PM
https://www.theconstructsim.com/
https://www.udemy.com/
Online Courses - Learn Anything, On Your Schedule | Udemy
Udemy is an online learning and teaching marketplace with over 155,000 courses and 40 million students. Learn programming, marketing, data science and more.
www.udemy.com
Harshanath SMB 9/8/2021 9:15 PM
https://pubmed.ncbi.nlm.nih.gov/23835772/
Functional predictors of stair-climbing speed in older adults - PubMed
An older adult's stair-climbing speed can be accurately estimated by using a model that includes his or her usual gait speed and OLST. This information will help health care...
Type a new message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https://pubmed.ncbi.nlm.nih.gov/23835772/
Functional predictors of stair-climbing speed in older adults - PubMed
An older adult's stair-climbing speed can be accurately estimated by using a model that includes his or her usual gait speed and OLST. This information will help health care...
pubmed.ncbi.nlm.nih.gov
https://pubmed.ncbi.nlm.nih.gov/9309638/
Energy cost of stair climbing and descending on the college alumnus question...
In calculating the physical activity index (PAI) on the college alumnus questionnaire, it is assumed that 8 kcal are expended for every 20 steps climbed. This value is equal to an energy...
pubmed.ncbi.nlm.nih.gov
https://journals.sagepub.com/doi/full/10.1177/1729881417720783
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Subscription and open access journals from SAGE Publishing, the world's leading independent academic publisher.
journals.sagepub.com
https://www.researchgate.net/publication/257922577_Vision-based_Detection_of_Stair-cases
(PDF) Vision-based Detection of Stair-cases
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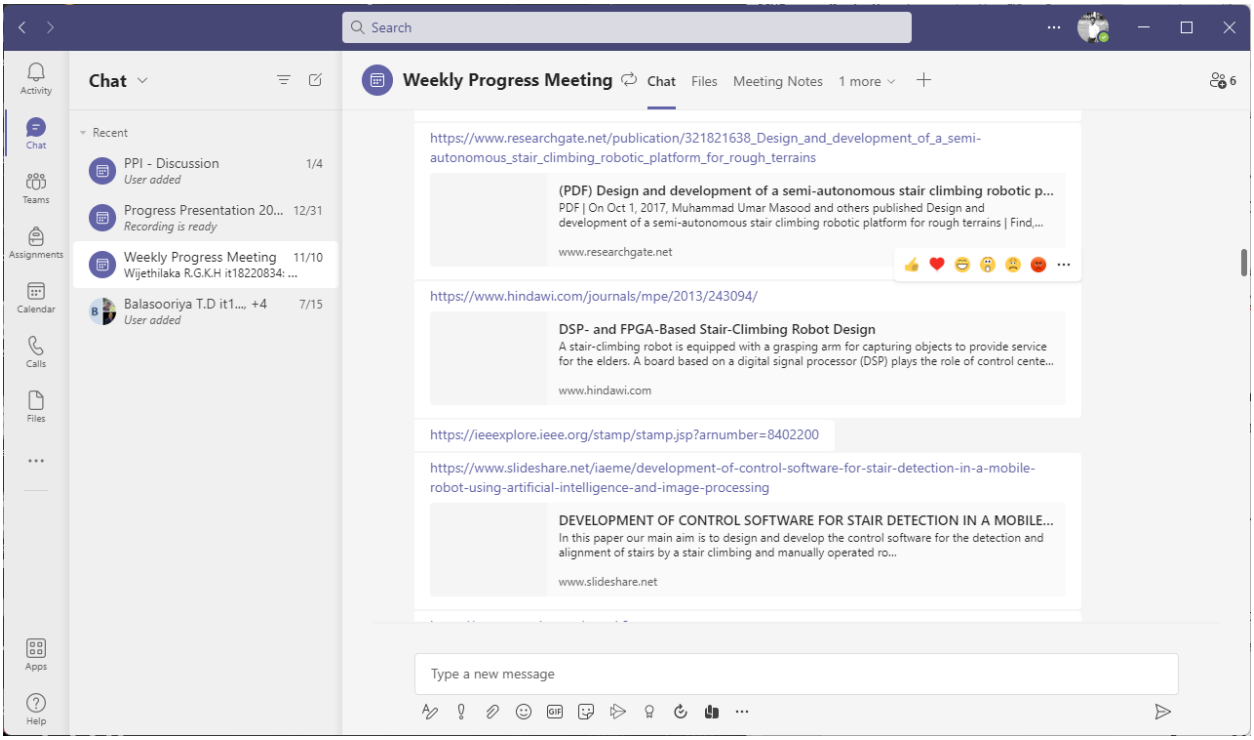
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https://www.researchgate.net/publication/321821638_Design_and_development_of_a_semi-autonomous_stair_climbing_robotic_platform_for_rough_terrains
(PDF) Design and development of a semi-autonomous stair climbing robotic p...
PDF | On Oct 1, 2017, Muhammad Umar Masood and others published Design and development of a semi-autonomous stair climbing robotic platform for rough terrains | Find,...
www.researchgate.net
https://www.hindawi.com/journals/mpe/2013/243094/
DSP- and FPGA-Based Stair-Climbing Robot Design
A stair-climbing robot is equipped with a grasping arm for capturing objects to provide service for the elders. A board based on a digital signal processor (DSP) plays the role of control cente...
www.hindawi.com
https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8402200
https://www.slideshare.net/iaeme/development-of-control-software-for-stair-detection-in-a-mobile-robot-using-artificial-intelligence-and-image-processing
DEVELOPMENT OF CONTROL SOFTWARE FOR STAIR DETECTION IN A MOBILE...
In this paper our main aim is to design and develop the control software for the detection and alignment of stairs by a stair climbing and manually operated ro...
www.slideshare.net
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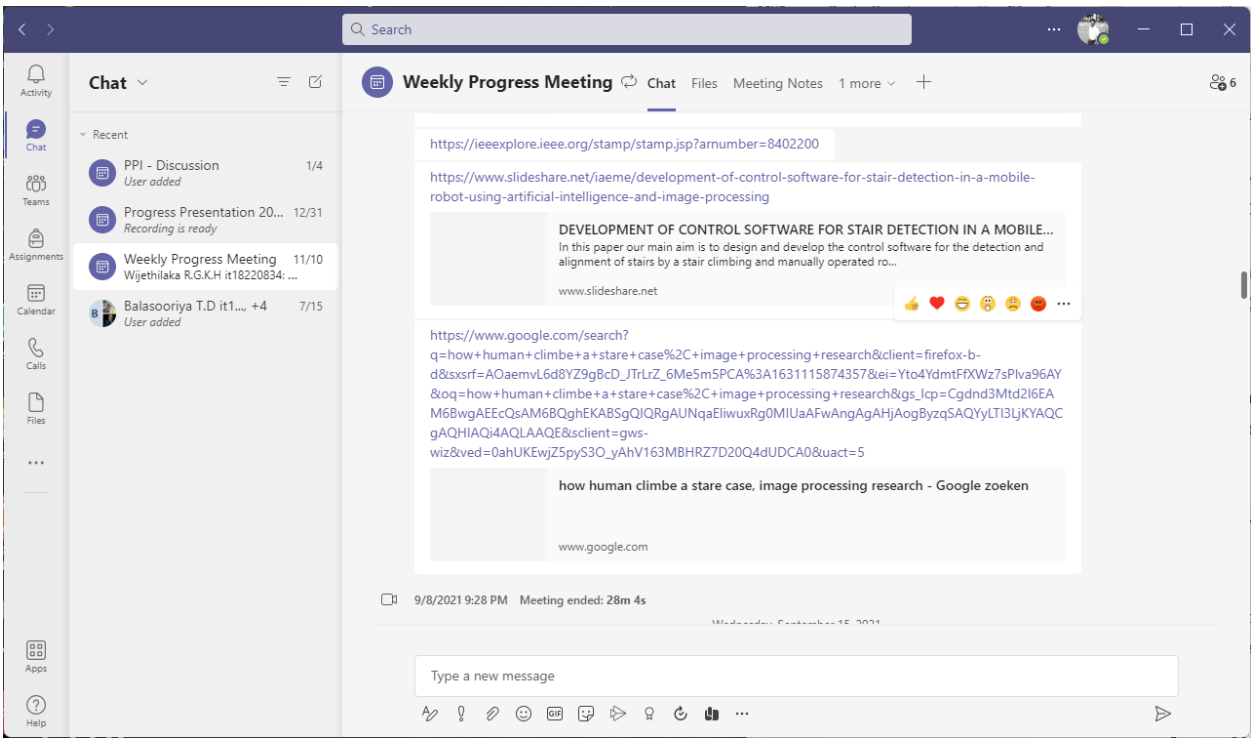
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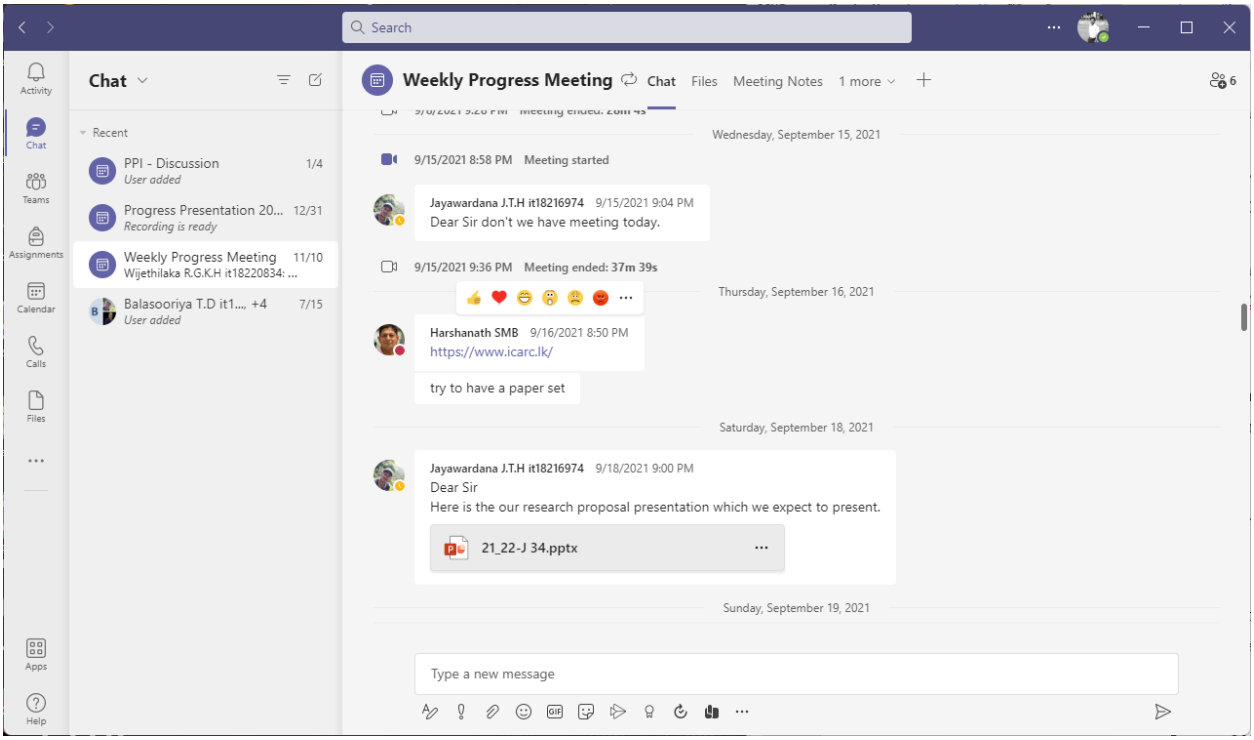
how human climbe a stare case, image processing research - Google zoeken
www.google.com
9/8/2021 9:28 PM Meeting ended: 28m 4s
Type a new message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User added
Wednesday, September 15, 2021
9/15/2021 8:58 PM Meeting started
Jayawardana J.T.H it18216974 9/15/2021 9:04 PM
Dear Sir don't we have meeting today.
9/15/2021 9:36 PM Meeting ended: 37m 39s
Thursday, September 16, 2021
Harshanath SMB 9/16/2021 8:50 PM
https://www.icarc.lk/
try to have a paper set
Saturday, September 18, 2021
Jayawardana J.T.H it18216974 9/18/2021 9:00 PM
Dear Sir
Here is the our research proposal presentation which we expect to present.
21_22-J 34.pptx
Sunday, September 19, 2021
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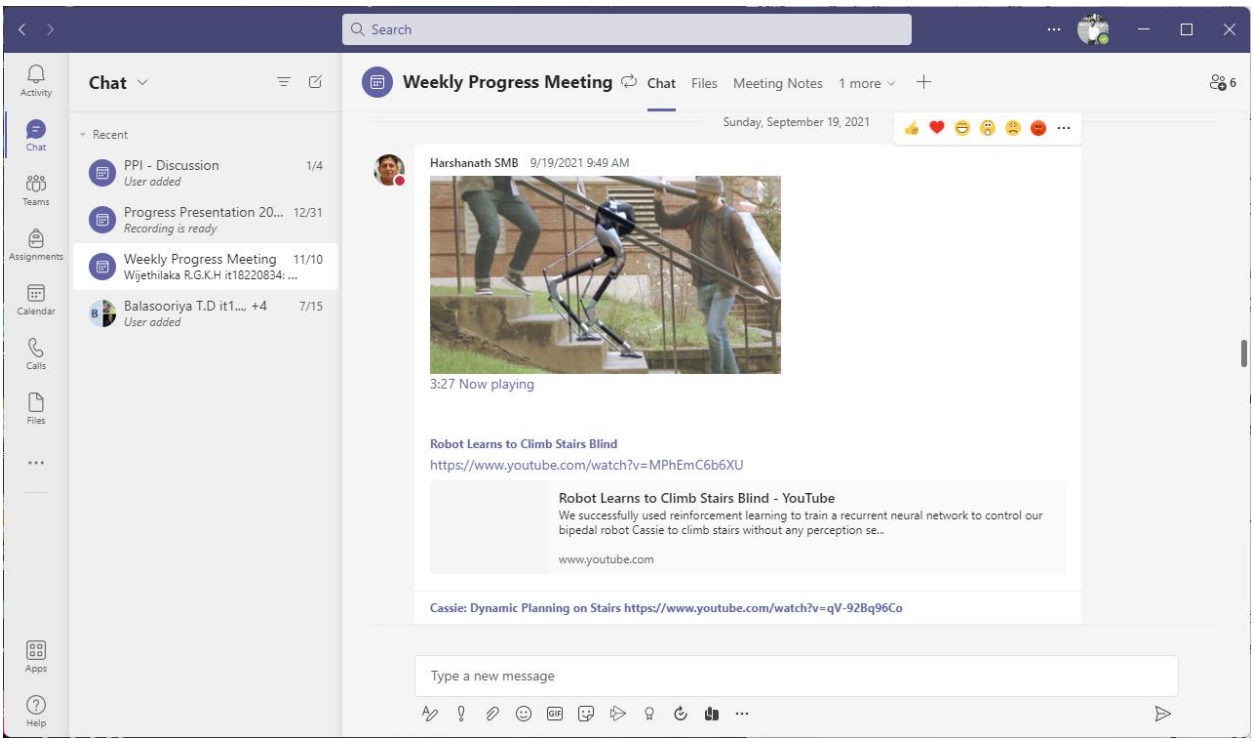
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User added
Sunday, September 19, 2021
Harshanath SMB 9/19/2021 9:49 AM
3:27 Now playing
Robot Learns to Climb Stairs Blind
https://www.youtube.com/watch?v=MPhEmC6b6XU
Robot Learns to Climb Stairs Blind - YouTube
We successfully used reinforcement learning to train a recurrent neural network to control our bipedal robot Cassie to climb stairs without any perception se...
www.youtube.com
Cassie: Dynamic Planning on Stairs https://www.youtube.com/watch?v=qV-92Bq96Co
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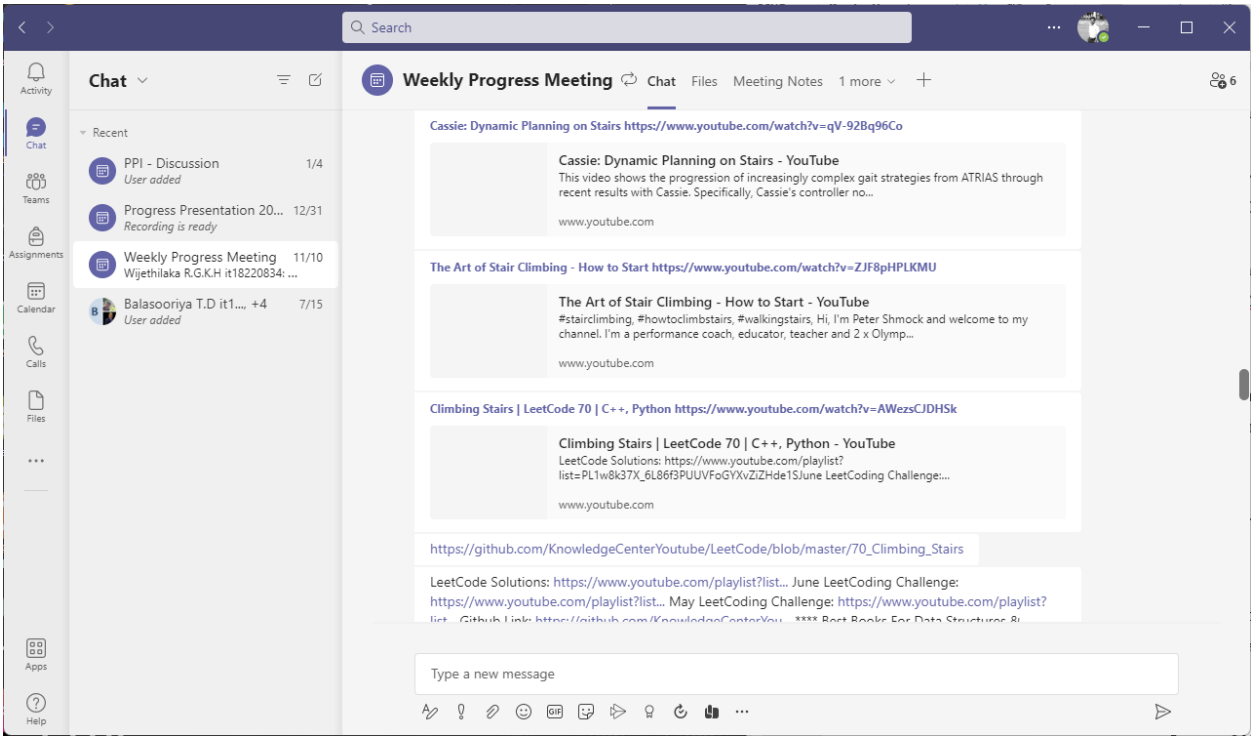
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Recording is ready
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Balasooriya T.D it1..., +4 7/15
User added
Cassie: Dynamic Planning on Stairs https://www.youtube.com/watch?v=qV-92Bq96Co
Cassie: Dynamic Planning on Stairs - YouTube
This video shows the progression of increasingly complex gait strategies from ATRIAS through recent results with Cassie. Specifically, Cassie's controller no...
www.youtube.com
The Art of Stair Climbing - How to Start https://www.youtube.com/watch?v=ZJF8pHPLKMU
The Art of Stair Climbing - How to Start - YouTube
#staircimbing, #howtoclimbstairs, #walkingstairs, Hi, I'm Peter Shmock and welcome to my channel. I'm a performance coach, educator, teacher and 2 x Olymp...
www.youtube.com
Climbing Stairs | LeetCode 70 | C++, Python https://www.youtube.com/watch?v=AWezsCJDHSk
Climbing Stairs | LeetCode 70 | C++, Python - YouTube
LeetCode Solutions: https://www.youtube.com/playlist?list=PL1w8k37X_6L86f3PUUVFoGYXvZiZHde1SJune LeetCoding Challenge:...
www.youtube.com
https://github.com/KnowledgeCenterYoutube/LeetCode/blob/master/70_Climbing_Stairs
LeetCode Solutions: https://www.youtube.com/playlist?list... June LeetCoding Challenge: https://www.youtube.com/playlist?list... May LeetCoding Challenge: https://www.youtube.com/playlist?
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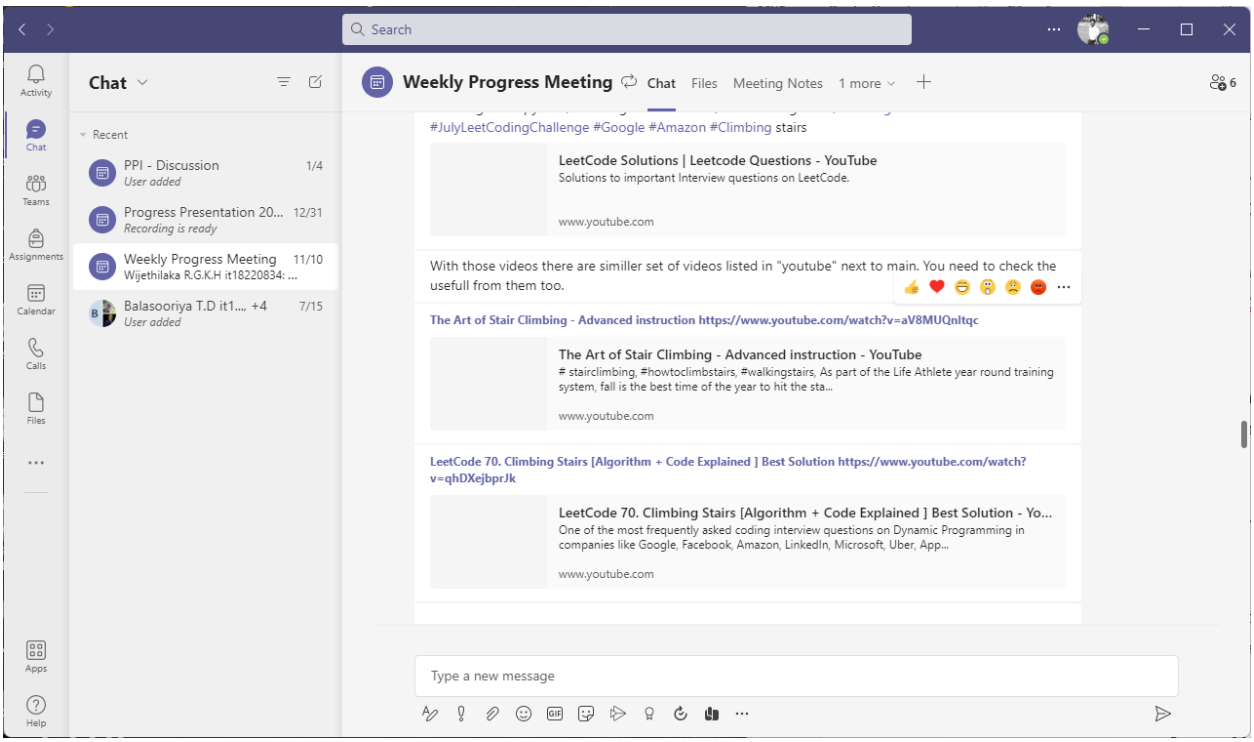
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User added
#JulyLeetCodingChallenge #Google #Amazon #Climbing stairs
LeetCode Solutions | Leetcode Questions - YouTube
Solutions to important Interview questions on LeetCode.
www.youtube.com
With those videos there are similler set of videos listed in "youtube" next to main. You need to check the usefull from them too.
The Art of Stair Climbing - Advanced instruction https://www.youtube.com/watch?v=aV8MUQnltqc
The Art of Stair Climbing - Advanced instruction - YouTube
staircimbing, #howtoclimbstairs, #walkingstairs, As part of the Life Athlete year round training system, fall is the best time of the year to hit the sta...
www.youtube.com
LeetCode 70. Climbing Stairs [Algorithm + Code Explained] Best Solution https://www.youtube.com/watch?v=qhDXejbprJk
LeetCode 70. Climbing Stairs [Algorithm + Code Explained] Best Solution - Yo...
One of the most frequently asked coding interview questions on Dynamic Programming in companies like Google, Facebook, Amazon, LinkedIn, Microsoft, Uber, App...
www.youtube.com
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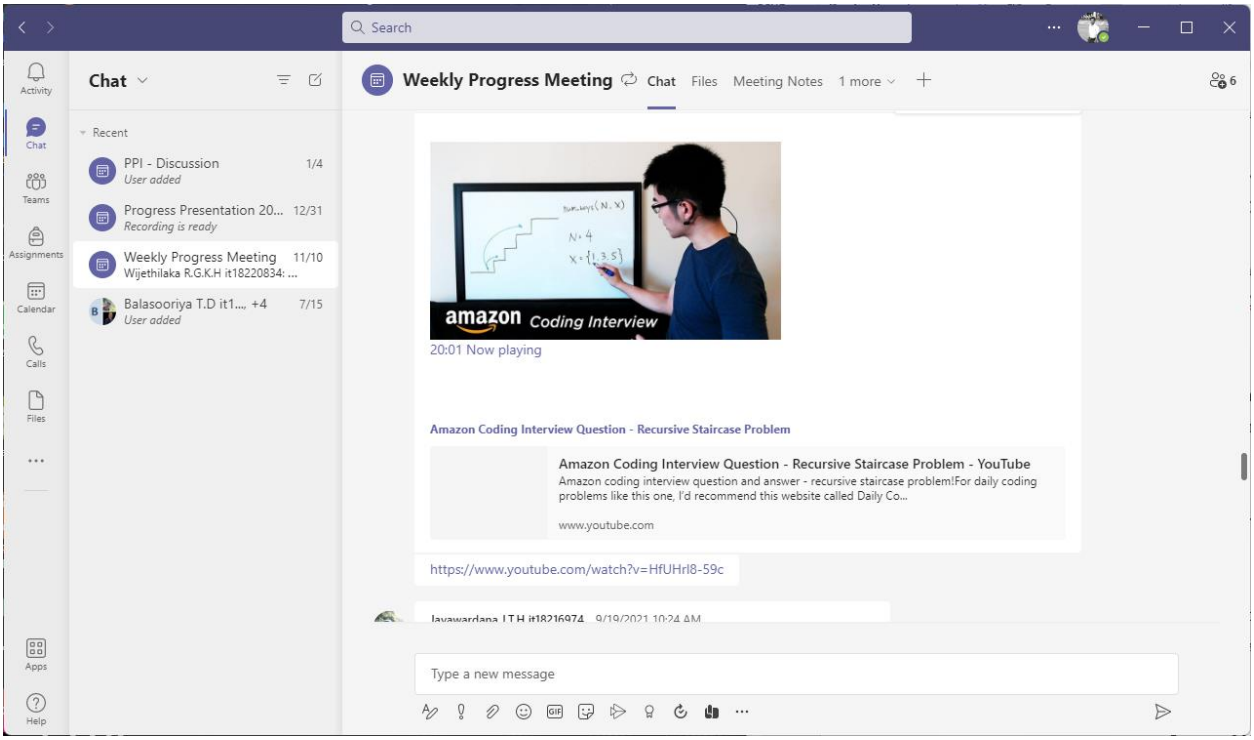
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Recording is ready
Weekly Progress Meeting 11/10
Wijethilaka R.G.K.H it18220834: ...
Balasooriya T.D it1..., +4 7/15
User added
amazon Coding Interview
20:01 Now playing
Amazon Coding Interview Question - Recursive Staircase Problem
Amazon Coding Interview Question - Recursive Staircase Problem - YouTube
Amazon coding interview question and answer - recursive staircase problem!For daily coding problems like this one, I'd recommend this website called Daily Co...
www.youtube.com
https://www.youtube.com/watch?v=HfUHrl8-59c
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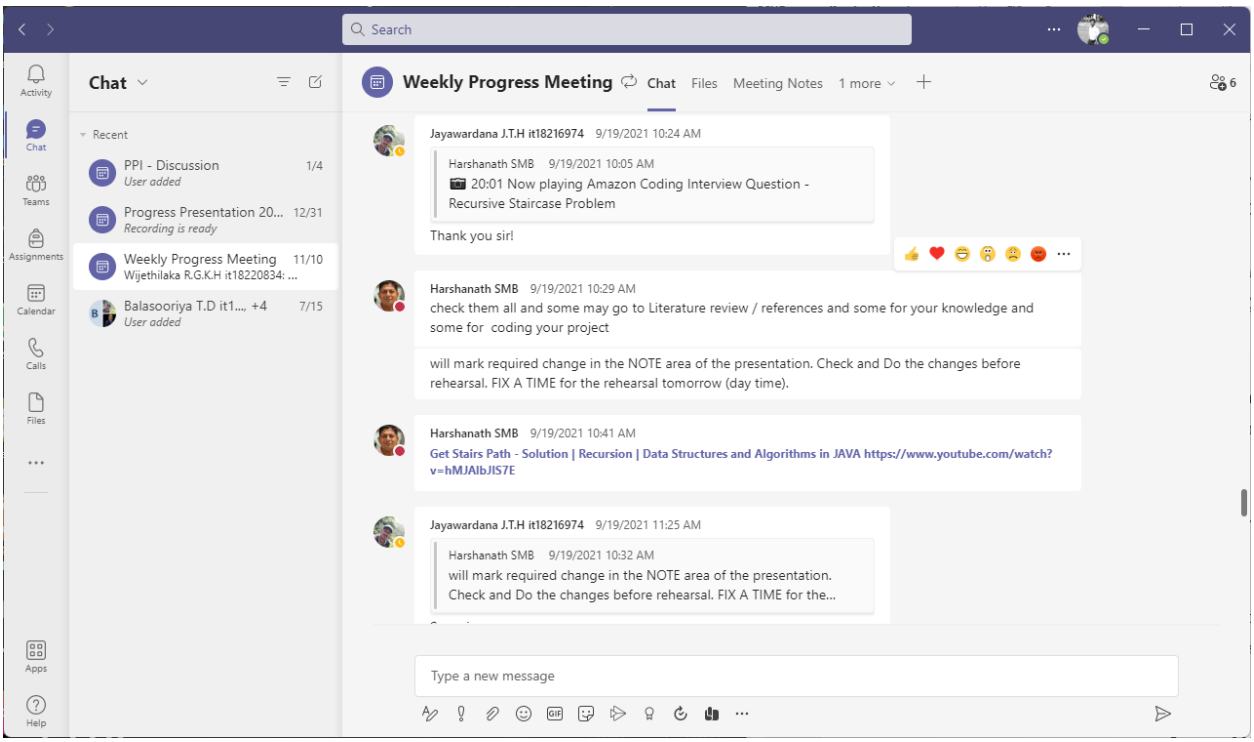
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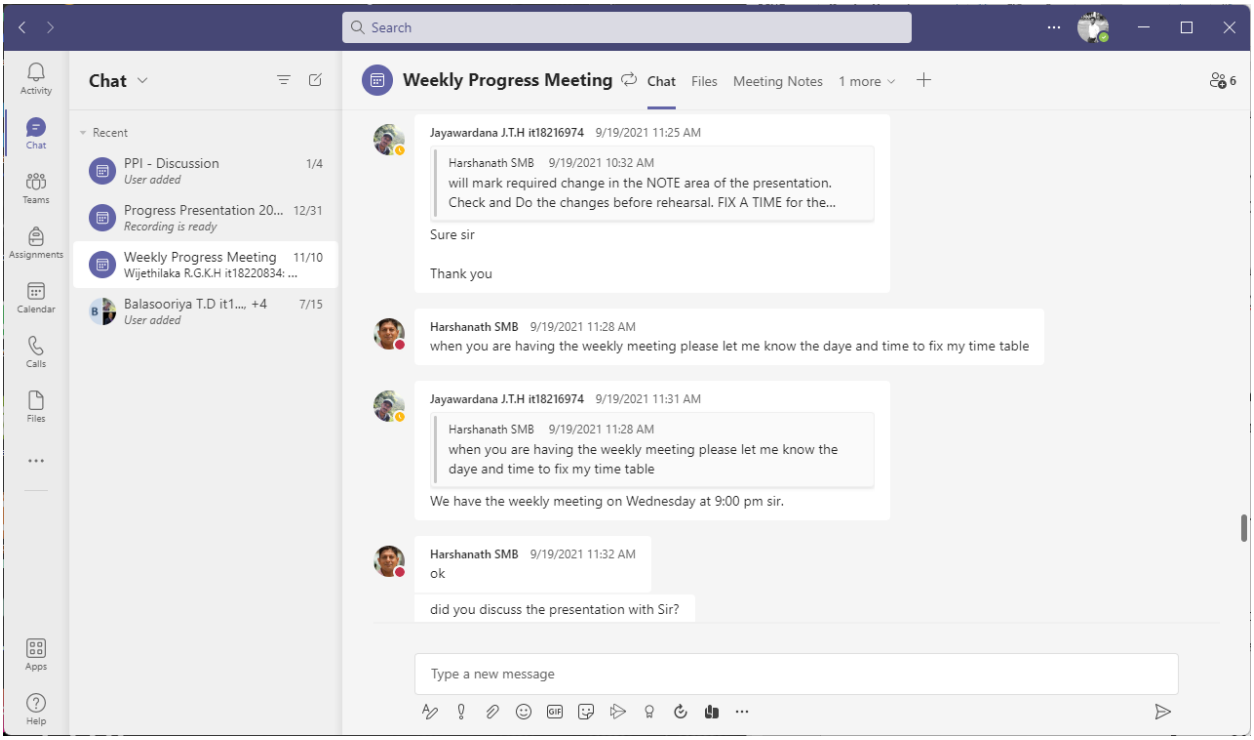
Wijethilaka R.G.K.H it18220834: ...
Balasooriya T.D it1..., +4 7/15
User added
Jayawardana J.T.H it18216974 9/19/2021 10:24 AM
Harshanath SMB 9/19/2021 10:05 AM
20:01 Now playing Amazon Coding Interview Question - Recursive Staircase Problem
Thank you sir!
Harshanath SMB 9/19/2021 10:29 AM
check them all and some may go to Literature review / references and some for your knowledge and some for coding your project
will mark required change in the NOTE area of the presentation. Check and Do the changes before rehearsal. FIX A TIME for the rehearsal tomorrow (day time).
Harshanath SMB 9/19/2021 10:41 AM
Get Stairs Path - Solution | Recursion | Data Structures and Algorithms in JAVA https://www.youtube.com/watch?v=hMJAlbJIS7E
Jayawardana J.T.H it18216974 9/19/2021 11:25 AM
Harshanath SMB 9/19/2021 10:32 AM
will mark required change in the NOTE area of the presentation. Check and Do the changes before rehearsal. FIX A TIME for the...
Type a new message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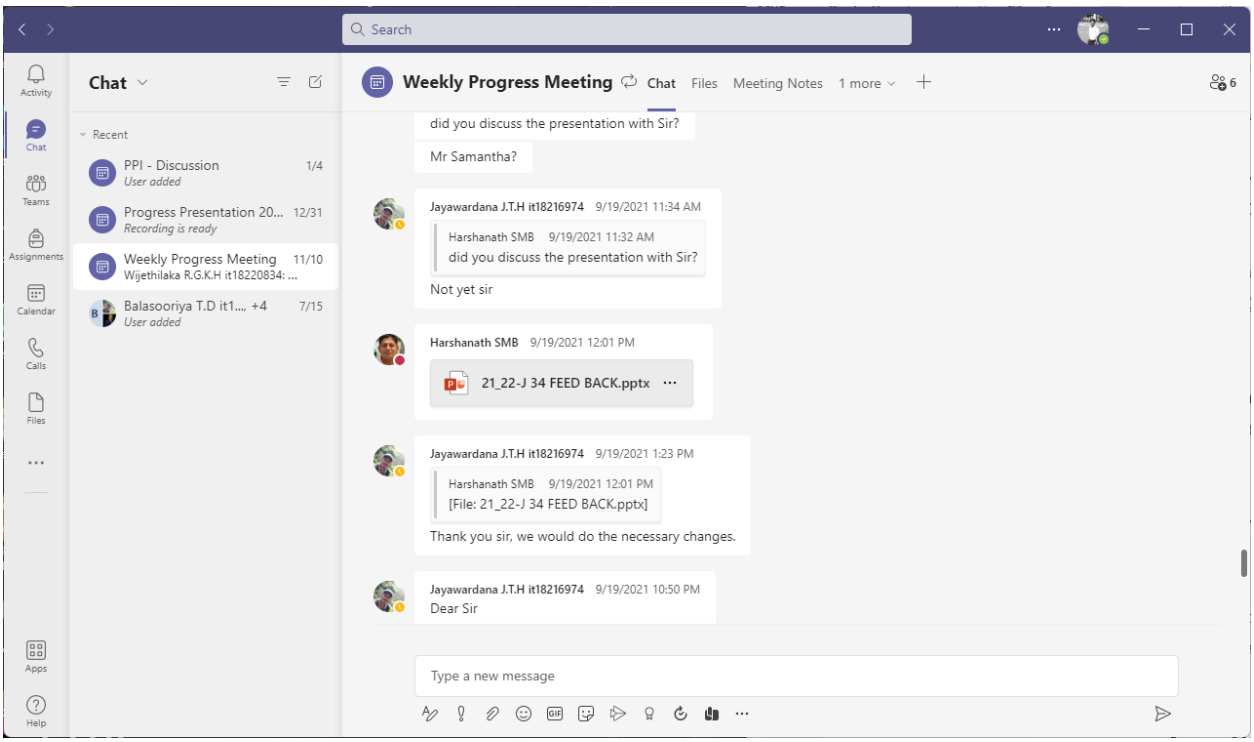
Jayawardana J.T.H it18216974 9/19/2021 11:25 AM
Harshanath SMB 9/19/2021 10:32 AM
will mark required change in the NOTE area of the presentation. Check and Do the changes before rehearsal. FIX A TIME for the...
Sure sir
Thank you
Harshanath SMB 9/19/2021 11:28 AM
when you are having the weekly meeting please let me know the daye and time to fix my time table
Jayawardana J.T.H it18216974 9/19/2021 11:31 AM
Harshanath SMB 9/19/2021 11:28 AM
when you are having the weekly meeting please let me know the daye and time to fix my time table
We have the weekly meeting on Wednesday at 9:00 pm sir.
Harshanath SMB 9/19/2021 11:32 AM
ok
did you discuss the presentation with Sir?
Type a new message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did you discuss the presentation with Sir?
Mr Samantha?
Jayawardana J.T.H it18216974 9/19/2021 11:34 AM
Harshanath SMB 9/19/2021 11:32 AM
did you discuss the presentation with Sir?
Not yet sir
Harshanath SMB 9/19/2021 12:01 PM
21_22-J 34 FEED BACK.pptx
Jayawardana J.T.H it18216974 9/19/2021 1:23 PM
Harshanath SMB 9/19/2021 12:01 PM
[File: 21_22-J 34 FEED BACK.pptx]
Thank you sir, we would do the necessary changes.
Jayawardana J.T.H it18216974 9/19/2021 10:50 PM
Dear Sir
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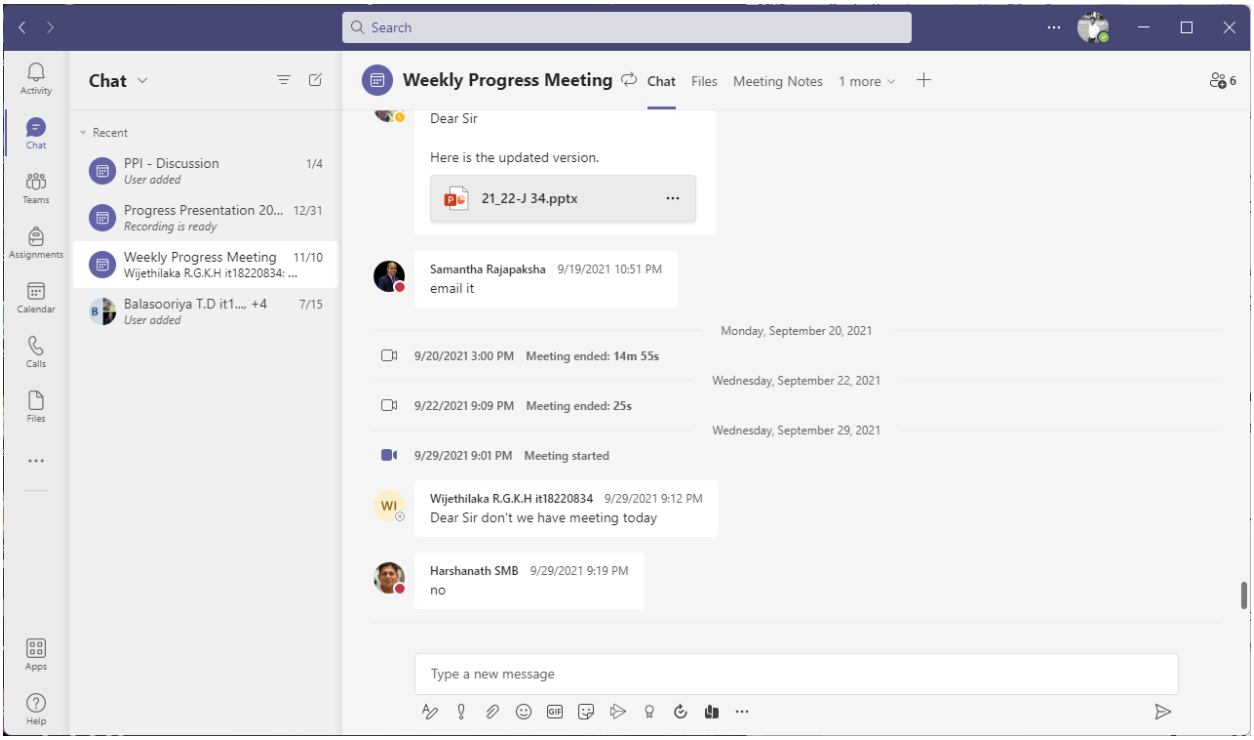
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11/10
Balasooriya T.D it1..., +4
User added
7/15
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Dear Sir
Here is the updated version.
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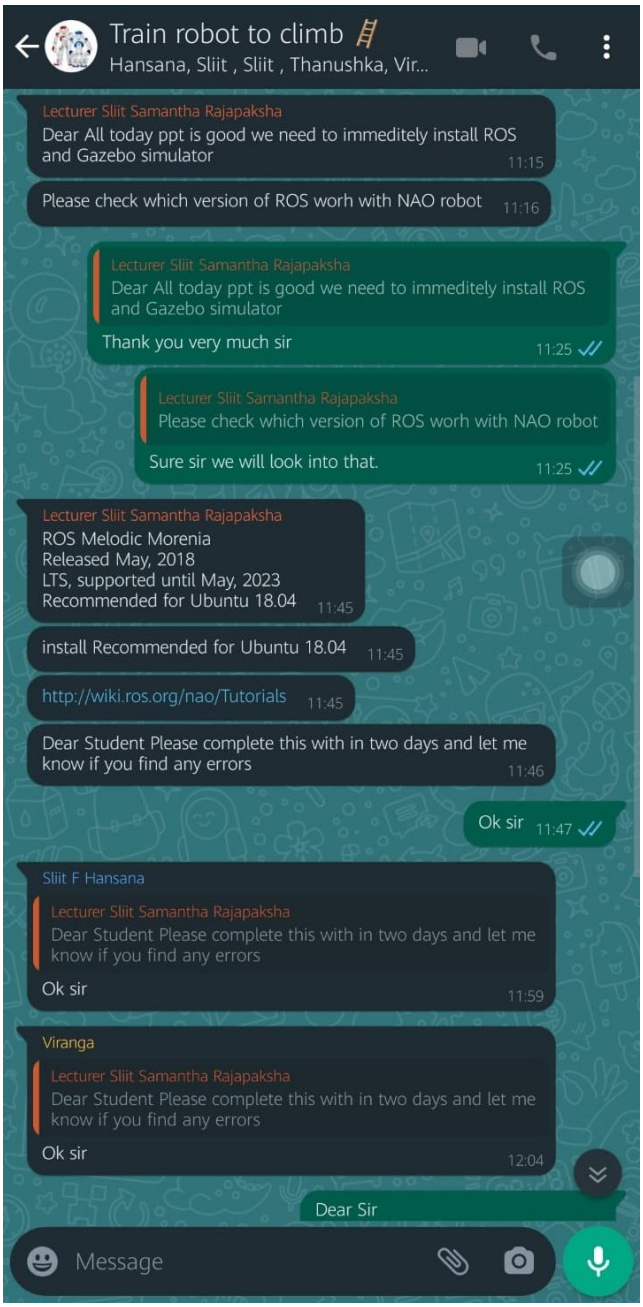
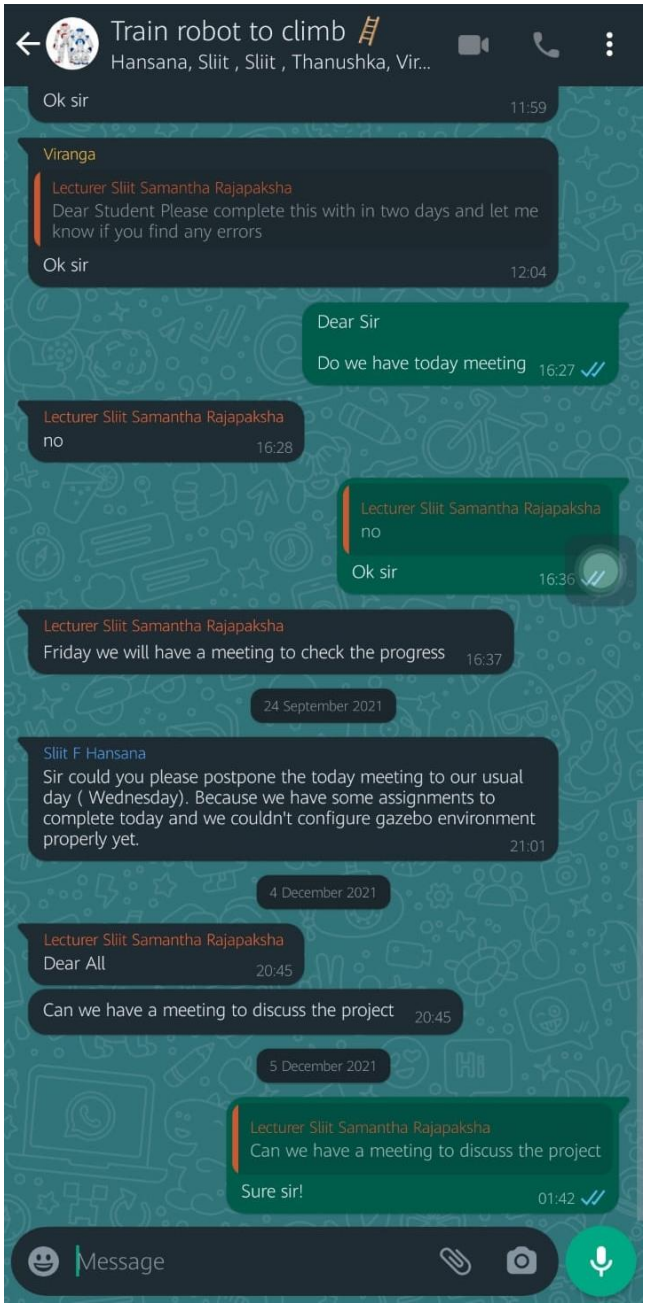
Samantha Rajapaksha 9/19/2021 10:51 PM
email it
Monday, September 20, 2021
9/20/2021 3:00 PM Meeting ended: 14m 55s
Wednesday, September 22, 2021
9/22/2021 9:09 PM Meeting ended: 25s
Wednesday, September 29, 2021
9/29/2021 9:01 PM Meeting started
WI
Wijethilaka R.G.K.H it18220834 9/29/2021 9:12 PM
Dear Sir don't we have meeting today
Harshanath SMB 9/29/2021 9:19 PM
no
Type a new message

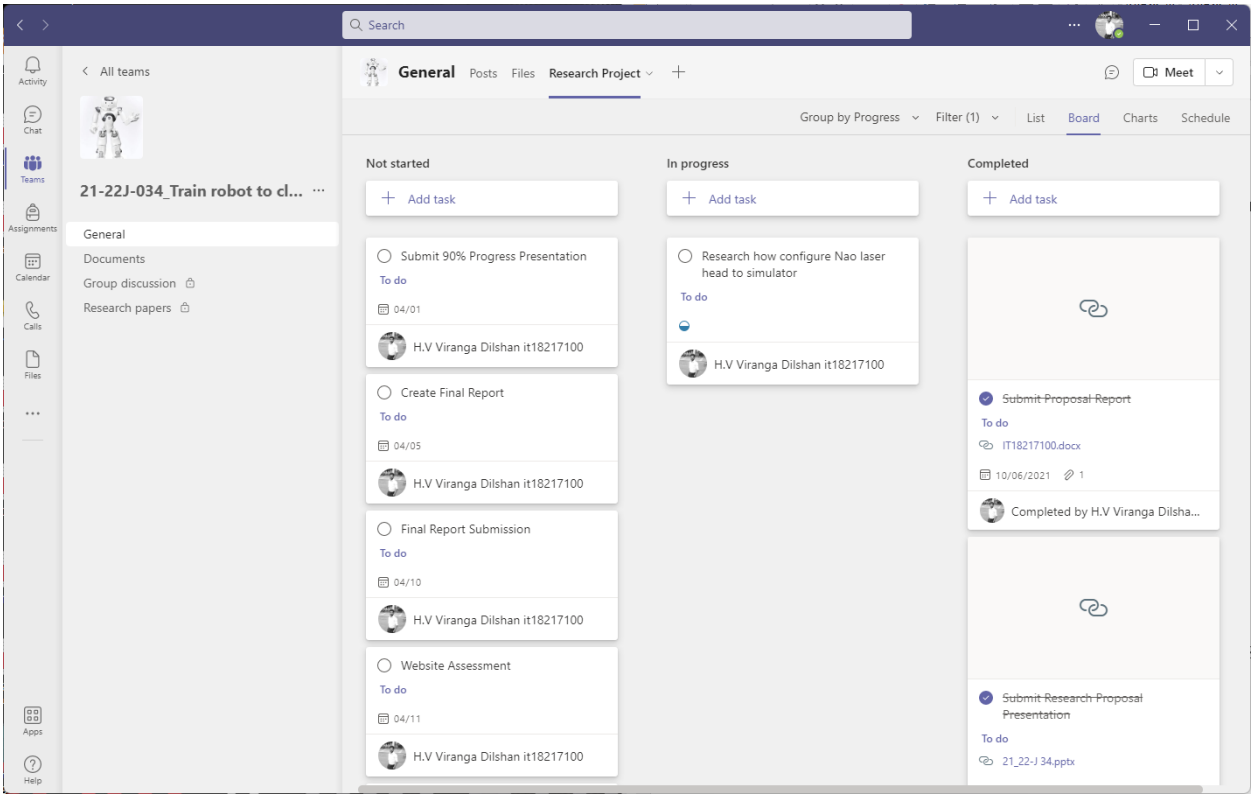
1.2 WhatsApp

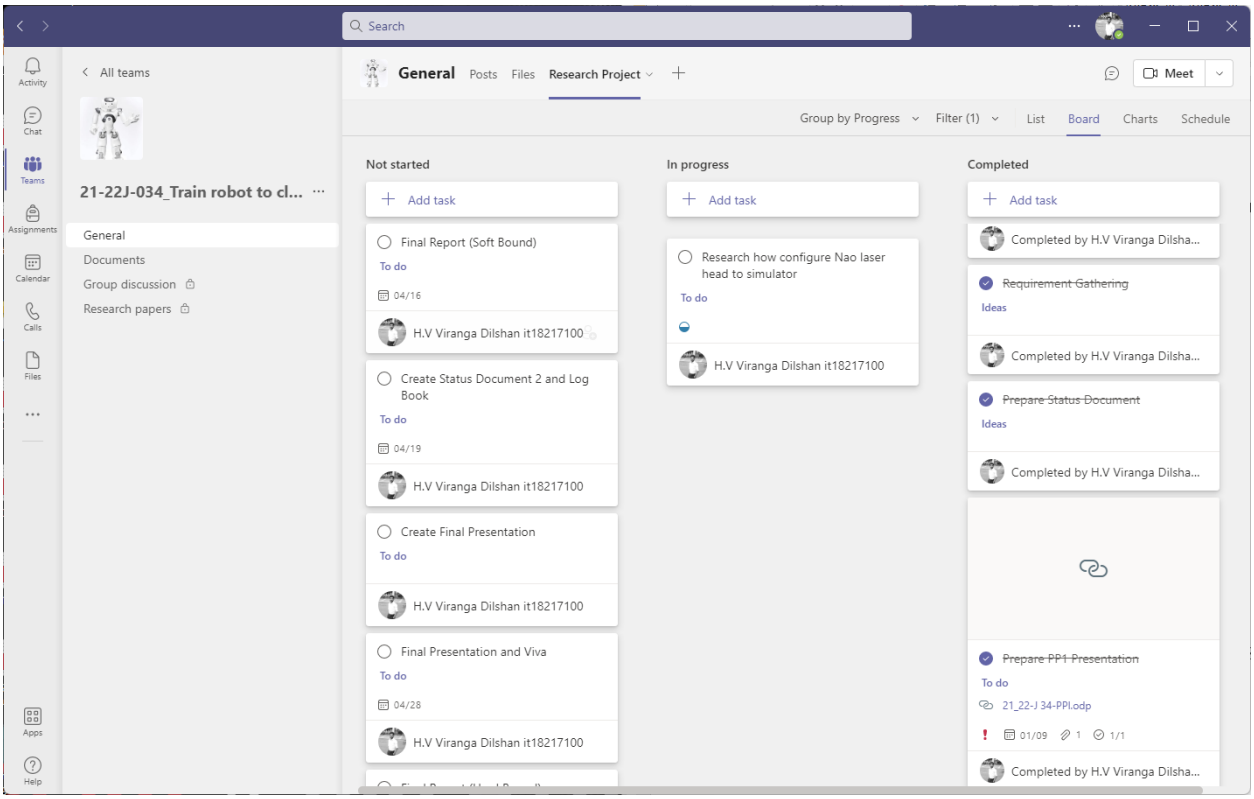

Train robot to climb
Hansana, Sliit , Sliit , Thanushka, Vir...
Lecturer Sliit Samantha Rajapaksha
Dear All today ppt is good we need to immeditely install ROS and Gazebo simulator 11:15
Please check which version of ROS worh with NAO robot 11:16
Lecturer Sliit Samantha Rajapaksha
Dear All today ppt is good we need to immeditely install ROS and Gazebo simulator
Thank you very much sir 11:25
Lecturer Sliit Samantha Rajapaksha
Please check which version of ROS worh with NAO robot
Sure sir we will look into that. 11:25
Lecturer Sliit Samantha Rajapaksha
ROS Melodic Morenia
Released May, 2018
LTS, supported until May, 2023
Recommended for Ubuntu 18.04 11:45
install Recommended for Ubuntu 18.04 11:45
http://wiki.ros.org/nao/Tutorials 11:45
Dear Student Please complete this with in two days and let me know if you find any errors 11:46
Ok sir 11:47
Sliit F Hansana
Lecturer Sliit Samantha Rajapaksha
Dear Student Please complete this with in two days and let me know if you find any errors
Ok sir 11:59
Viranga
Lecturer Sliit Samantha Rajapaksha
Dear Student Please complete this with in two days and let me know if you find any errors
Ok sir 12:04
Dear Sir
Message

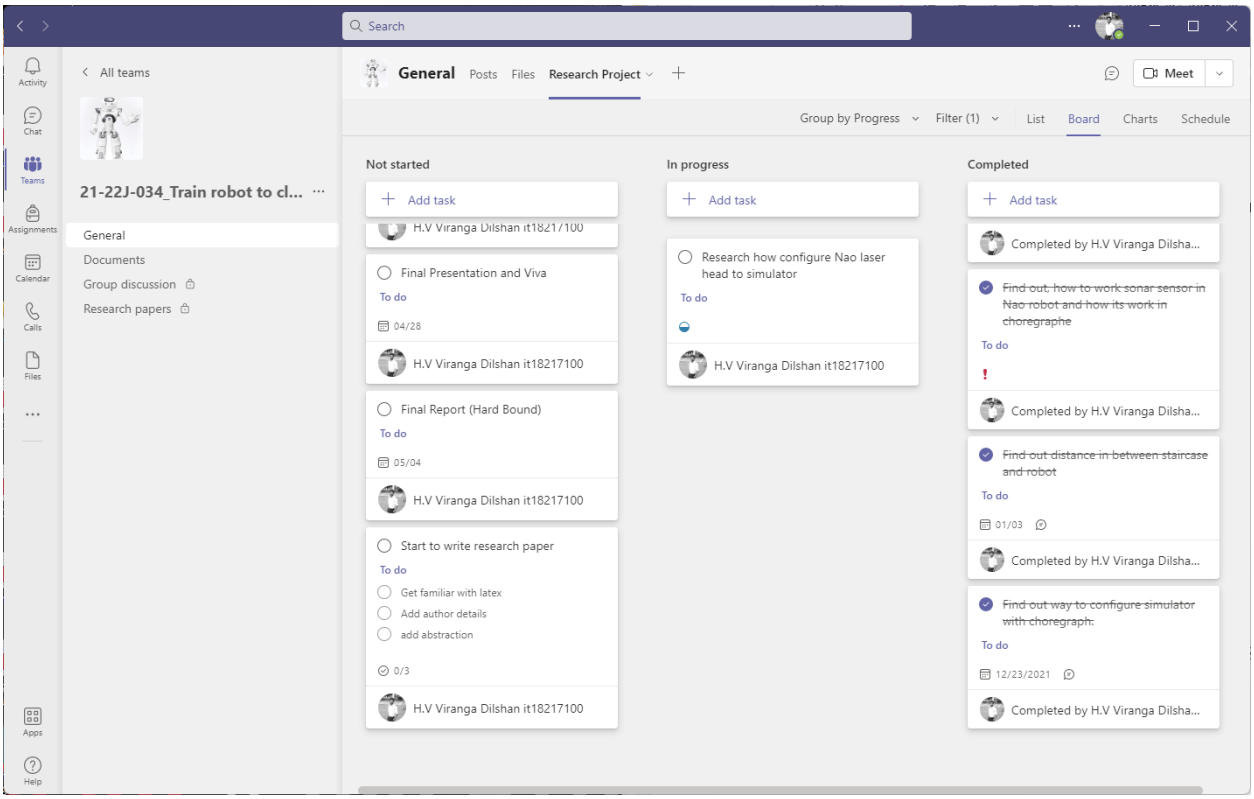

Train robot to climb
Hansana, Sliit , Sliit , Thanushka, Vir...
Ok sir 11:59
Viranga
Lecturer Sliit Samantha Rajapaksha
Dear Student Please complete this with in two days and let me know if you find any errors
Ok sir 12:04
Dear Sir
Do we have today meeting 16:27
Lecturer Sliit Samantha Rajapaksha
no 16:28
Lecturer Sliit Samantha Rajapaksha
no
Ok sir 16:36
Lecturer Sliit Samantha Rajapaksha
Friday we will have a meeting to check the progress 16:37
24 September 2021
Sliit F Hansana
Sir could you please postpone the today meeting to our usual day (Wednesday). Because we have some assignments to complete today and we couldn't configure gazebo environment properly yet. 21:01
4 December 2021
Lecturer Sliit Samantha Rajapaksha
Dear All 20:45
Can we have a meeting to discuss the project 20:45
5 December 2021
Lecturer Sliit Samantha Rajapaksha
Can we have a meeting to discuss the project
Sure sir! 01:42
Message

2 Project View/Gantt Chart

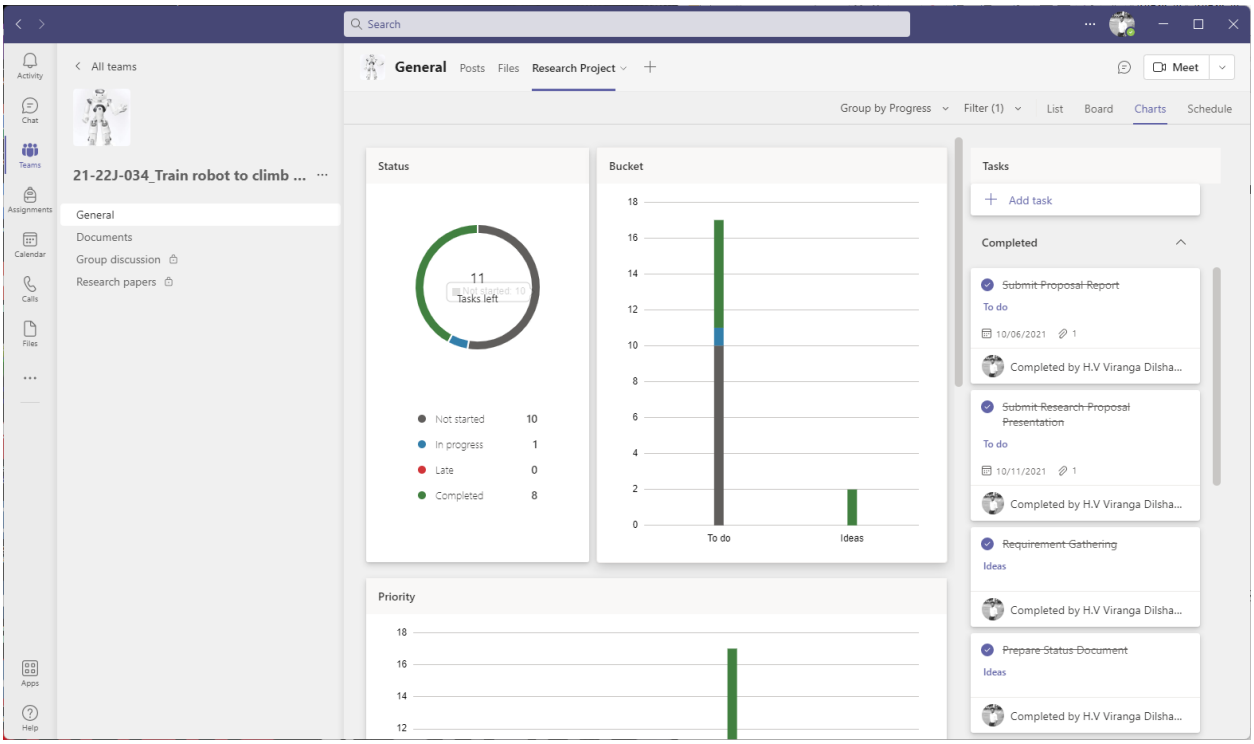
2.1 Work Breakdown Structure

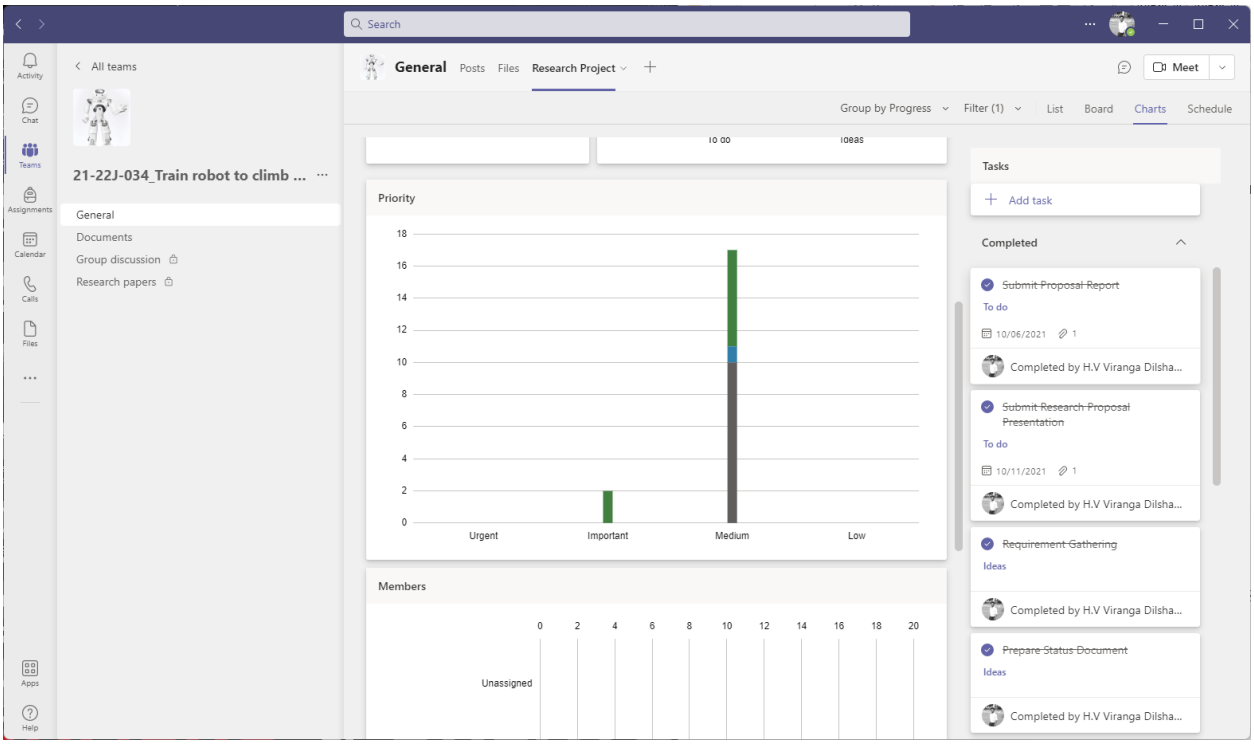


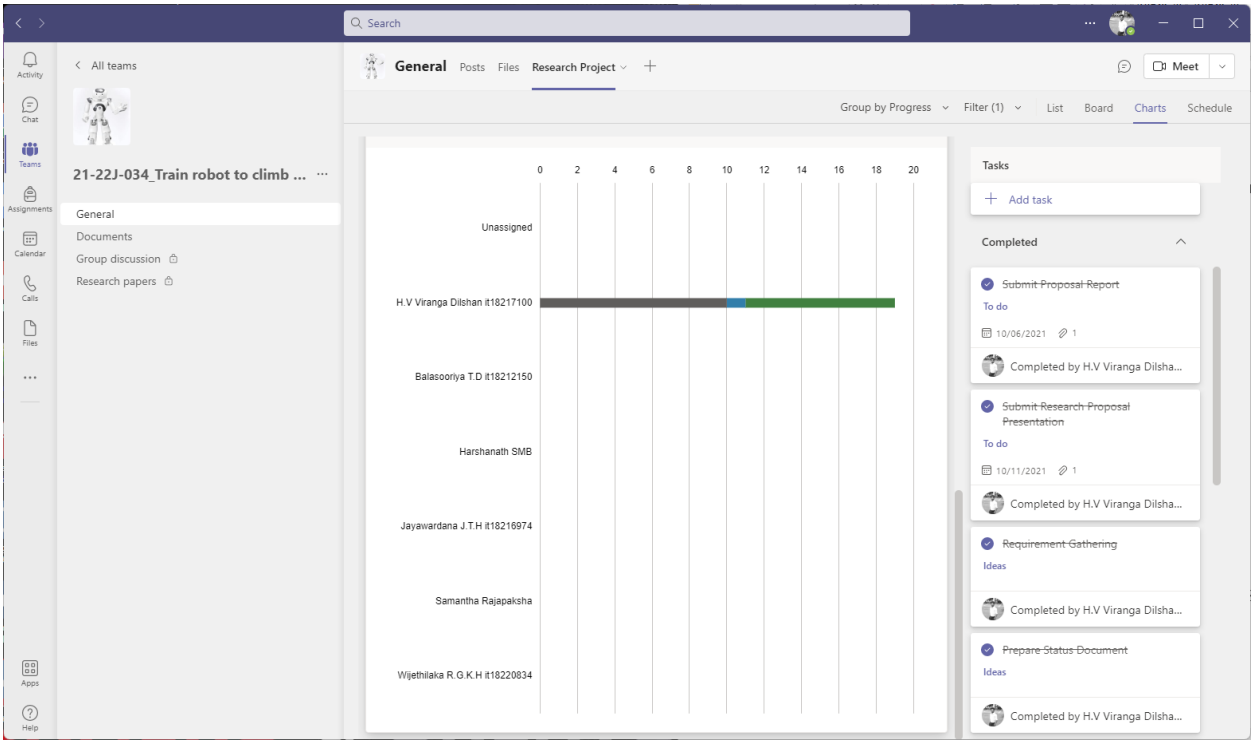
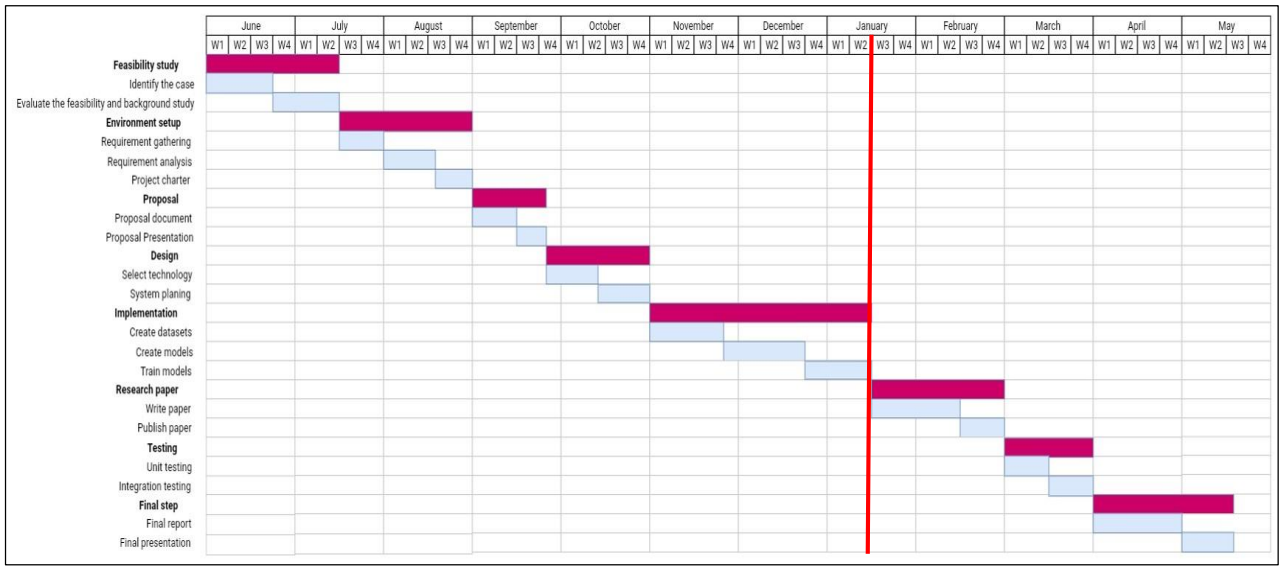

Search
All teams
21-22J-034_Train robot to cl...
General
Documents
Group discussion
Research papers
General Posts Files Research Project
Meet
Group by Progress
Filter (1)
List Board Charts Schedule
Not started
Add task
Final Report (Soft Bound)
To do
04/16
H.V Viranga Dilshan it18217100
Create Status Document 2 and Log Book
To do
04/19
H.V Viranga Dilshan it18217100
Create Final Presentation
To do
H.V Viranga Dilshan it18217100
Final Presentation and Viva
To do
04/28
H.V Viranga Dilshan it18217100
In progress
Add task
Research how configure Nao laser head to simulator
To do
H.V Viranga Dilshan it18217100
Completed
Add task
Completed by H.V Viranga Dilsha...
Requirement Gathering
Ideas
Completed by H.V Viranga Dilsha...
Prepare Status Document
Ideas
Completed by H.V Viranga Dilsha...
Prepare PP1 Presentation
To do
21_22-J 34-PPI.odp
01/09
1
1/1
Completed by H.V Viranga Dilsha...


Search
All teams
21-22J-034_Train robot to cl...
General
Documents
Group discussion
Research papers
General Posts Files Research Project
Meet
Group by Progress
Filter (1)
List Board Charts Schedule
Not started
Add task
Final Presentation and Viva
To do
04/28
H.V Viranga Dilshan it18217100
Final Report (Hard Bound)
To do
05/04
H.V Viranga Dilshan it18217100
Start to write research paper
To do
Get familiar with latex
Add author details
add abstraction
0/3
H.V Viranga Dilshan it18217100
In progress
Add task
Research how configure Nao laser head to simulator
To do
H.V Viranga Dilshan it18217100
Completed
Add task
Completed by H.V Viranga Dilsha...
Find out, how to work sonar sensor in Nao robot and how its work in choregraphe
To do
Completed by H.V Viranga Dilsha...
Find out distance in between staircase and robot
To do
01/03
Completed by H.V Viranga Dilsha...
Find out way to configure simulator with choregraph.
To do
12/23/2021
Completed by H.V Viranga Dilsha...

2.2 MS Teams Generate Report






Search
All teams
21-22J-034_Train robot to climb ...
General
Documents
Group discussion
Research papers
General
Posts
Files
Research Project
Meet
Group by Progress
Filter (1)
List
Board
Charts
Schedule
0
2
4
6
8
10
12
14
16
18
20
Unassigned
H.V Viranga Dilshan it18217100
Balasooriya T.D it18212150
Harshanath SMB
Jayawardana J.T.H it18216974
Samantha Rajapaksha
Wijethilaka R.G.K.H it18220834
Tasks
Add task
Completed
Submit Proposal Report
To do
10/06/2021
1
Completed by H.V Viranga Dilsha...
Submit Research Proposal Presentation
To do
10/11/2021
1
Completed by H.V Viranga Dilsha...
Requirement Gathering
Ideas
Completed by H.V Viranga Dilsha...
Prepare Status Document
Ideas
Completed by H.V Viranga Dilsha...

2.3 Gantt Chart