## Pre-Quarantine:

### 22/02/2020:

Tried to create and perform simulations on Simulink without any prior experience and models, and thus failed. Realized that we need to learn maths and physics - the dynamics and structure of the bot first.

### 07/03/2020:

Met at B-Dome stairs and discussed what resources we already have and if we can procure anything from our seniors. Thus we acquired from Jaideep bhaiya the prototypical body of the hexapod and its associated simulink files.

### 11/03/2020:

Met at the LT-¾ junction. Tried to simulate the simulink files of the hexapod. Also analysed the body parts to make sense of the simulations. We decided to start learning simulink on the side through Simulink Onramp.

## Quarantine:

### 28/05/2020:

Discussed what materials we require when building the spiderbot, and made an equipment list for the same. Also did BOM entries regarding it. We discussed the current requirements but since all of us are at home, we cannot do anything physical on the project. Thus we decided to work on the other aspects of the project, like dynamics, design and simulations. Work was also distributed accordingly.

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### 08/06/2020:

All the members discussed their progress on their respective sides. A discussion on simulations was also brought up.

### 16/06/2020:

Mohit bhaiya suggested that all of us work on the dynamics of the robot together so as to learn more efficiently.

### 23/06/2020: (Rec)

Discussed various features pertaining to the dynamics of legged robots.

### 30/06/2020:

Further discussed more avenues to study and learn about the dynamics of robotics. Basic model of a quadruped made in simscape. Further study on dynamics required to fully understand and plan the motions of the bot. Some mass matrices were made using Robotics System toolbox.

### 07/07/2020: (Rec)

DIscussed changes and additions to our documentation. Tracking of knowledge and progress of every member, and detailed progress report proposed. Also, a starting course for the ERC handbook.

Ideas folder to be made/progress sheet

Springer book discussed by Ashutosh, which described our required dynamics sufficiently.

### 14/07/2020: (Rec)

Discussed the progress everyone had made in reading and understanding the book. Chapters 4,5,7 are the main areas of interest. Discussed about the UDU matrix and implementing it into our hexapod.

### 21/07/2020 (Rec):

Discussed about the previous hexapod model provided by Jaideep bhaiya and our own current quadruped model. Tried to draw similarities between our model and the ones in the book. Discussed upon the complexities of our models and finding out the different parameters and matrices of hexapod.

### 28/07/2020:

DIscussed progress of project members and the complexity of the book.

### 13/08/2020:

Gave tasks to each member. Ashutosh and Pranav are solving the dynamics. Abdul and Paurush are deciphering the og Matlab files.

### 27/09/2020:

Everyone to work on the matrices of the bot.

### 08/10/2020:

Drawing up of CAD Model for website and for reference. Discussion of the materials for the different parts of the bot.

### 04/02/2021:

Abdul/Tanmay - Work on FreeGait. Start trying to understand it. ([GitHub - leggedrobotics/free\_gait: An Architecture for the Versatile Control of Legged Robots](https://github.com/leggedrobotics/free_gait))  
Ashutosh/Pranav/Paurush - Work on the Simulink/Matlab quadruped model  
Avi - urdf model

### 11/02/2021:

**Pranav**: Working on trajectory and gait models. Bahut saare abbreviations discussed with ProfesSir Asston (ZMP, CoM trajectory etc etc). Trying to finish quadruped as fast as possible. MATLAB and Mech ka work session on Monday night

**Abdul/Tanmay**: still working on Free Gait. Trying to understand how it integrates with RoS

**Avi**: Working on urdf. Abhi he’s out of town so not able to work properly.

**Paurush**: study up on free gait onli

**Ishan** ko give reading on materials about legged robotics and all. Lets see how he performs. Want him to get the hang of what we are trying to do here.  
How to collaborate on mech vertical.