

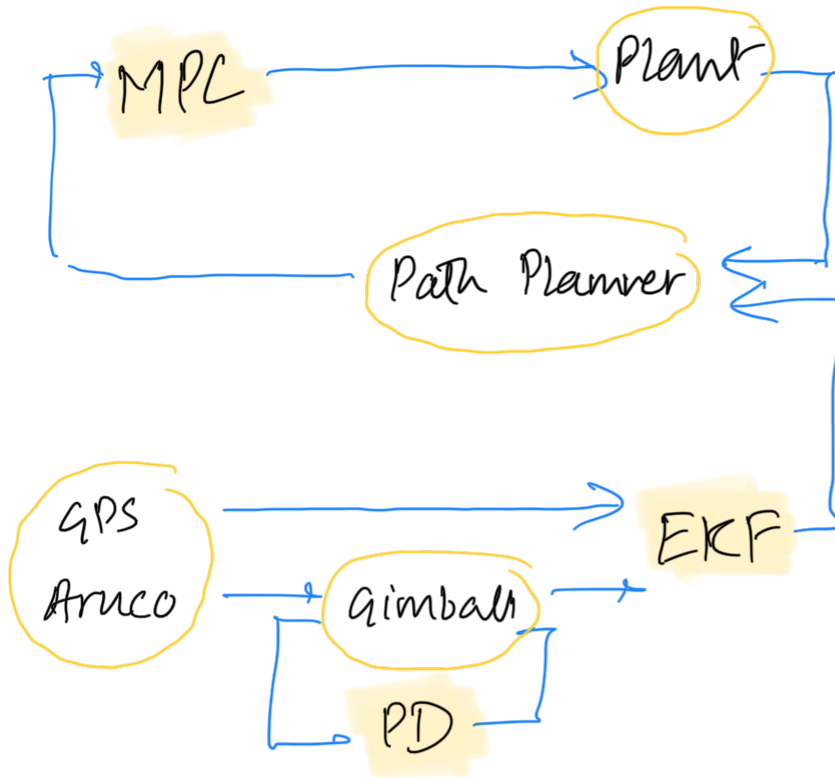
**C5637 project**

**On MPC based autonomous landing**

**On a moving platform**

# Block Diagram

assump<sup>n</sup> in  
dynamics :-  $\dot{z} = \ddot{z} = 0$   
so how landing?



Plant  $\rightarrow$  Quad Dynamics  $\begin{bmatrix} \theta \\ \phi \\ \psi \end{bmatrix} \mathcal{B}$

Path Planner

$\hookrightarrow$  Repo that provides  $\mathcal{R}$  waypoints.

$\Downarrow$  given init  $\begin{bmatrix} x \\ y \\ z \end{bmatrix}$

Gimball  $\rightarrow \begin{bmatrix} \phi \\ \psi \end{bmatrix}$  can be controlled } create  $\mathcal{S}$

GPS  $\rightarrow$  ground Truth  $\mathcal{B}$

Aruco  $\rightarrow$  Tag in world  $\mathcal{R}$

MPC  $\rightarrow$  3 files  $\rightarrow$  destructuring car simulation  
 $\rightarrow$  find a repo / generate code Simulink S

EKF  $\rightarrow$  find a reference to implement B  
~~basically matrices~~

PD  $\rightarrow$  a file R

DEADLINE  $\rightarrow$  27<sup>th</sup> Oct.

To create  $\rightarrow$  Documentation  
 $\rightarrow$  Slides (LAST WEEK)  
 $\rightarrow$  Repo.

each person needs to  $\leftarrow$   
document his work in  
a README personal to him.  
Compile at end.

$\rightarrow$  each person would keep  
his work on his own branch,  
where his README would be.  
 $\downarrow$

need to upload all files, and  
keep track of dependencies on README  
as a separate heading, or an entirely

new file.

