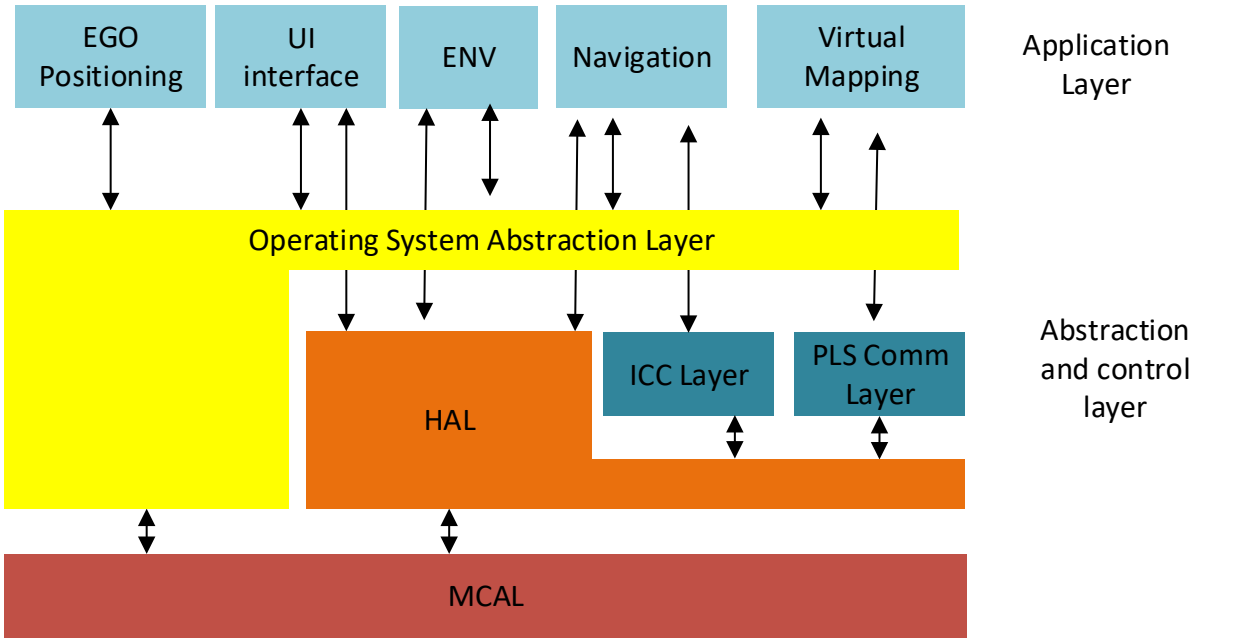
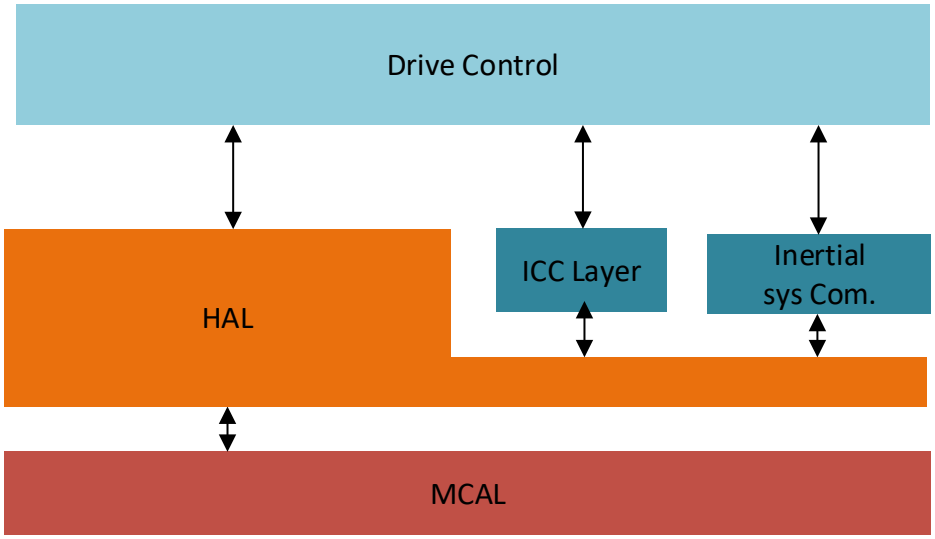
Firmware Architecture
NavigationUnit



- HAL – Hardware Abstraction Layer
- MCAL-Microcontroller Abstraction Layer
- ICC – Inter Controller Communication

Firmware Architecture Motor Control Unit



- HAL – Hardware Abstraction Layer
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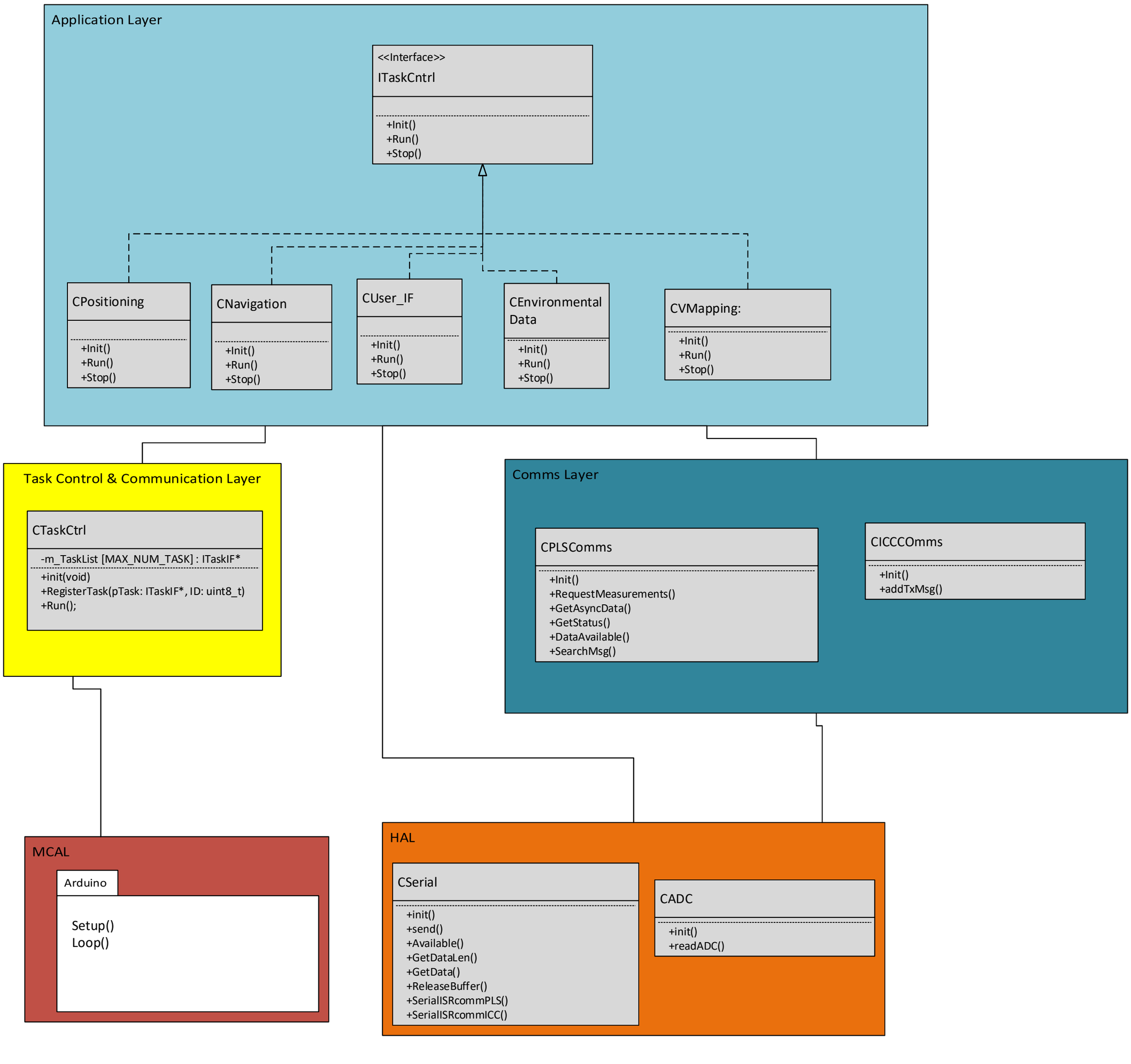
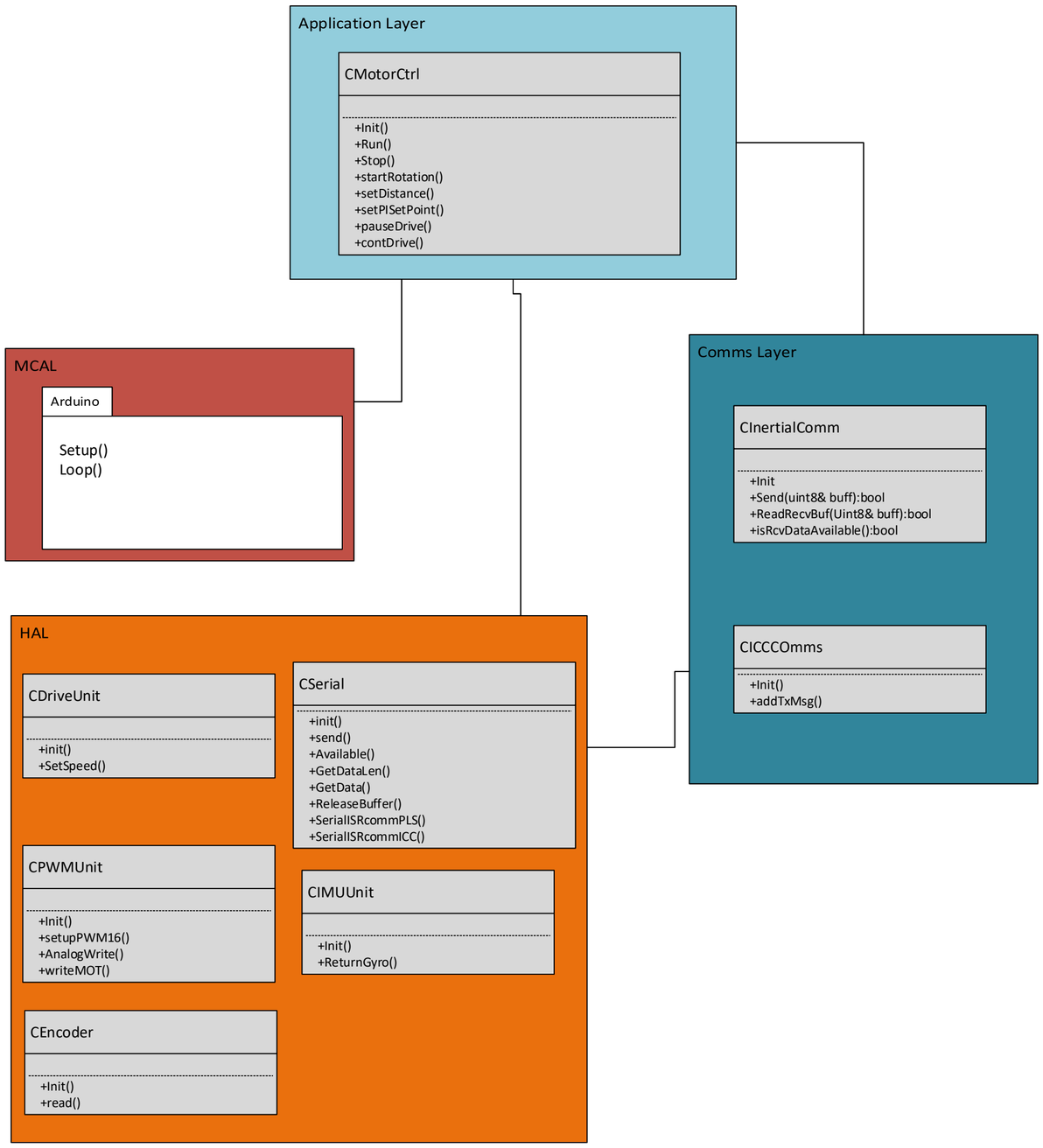
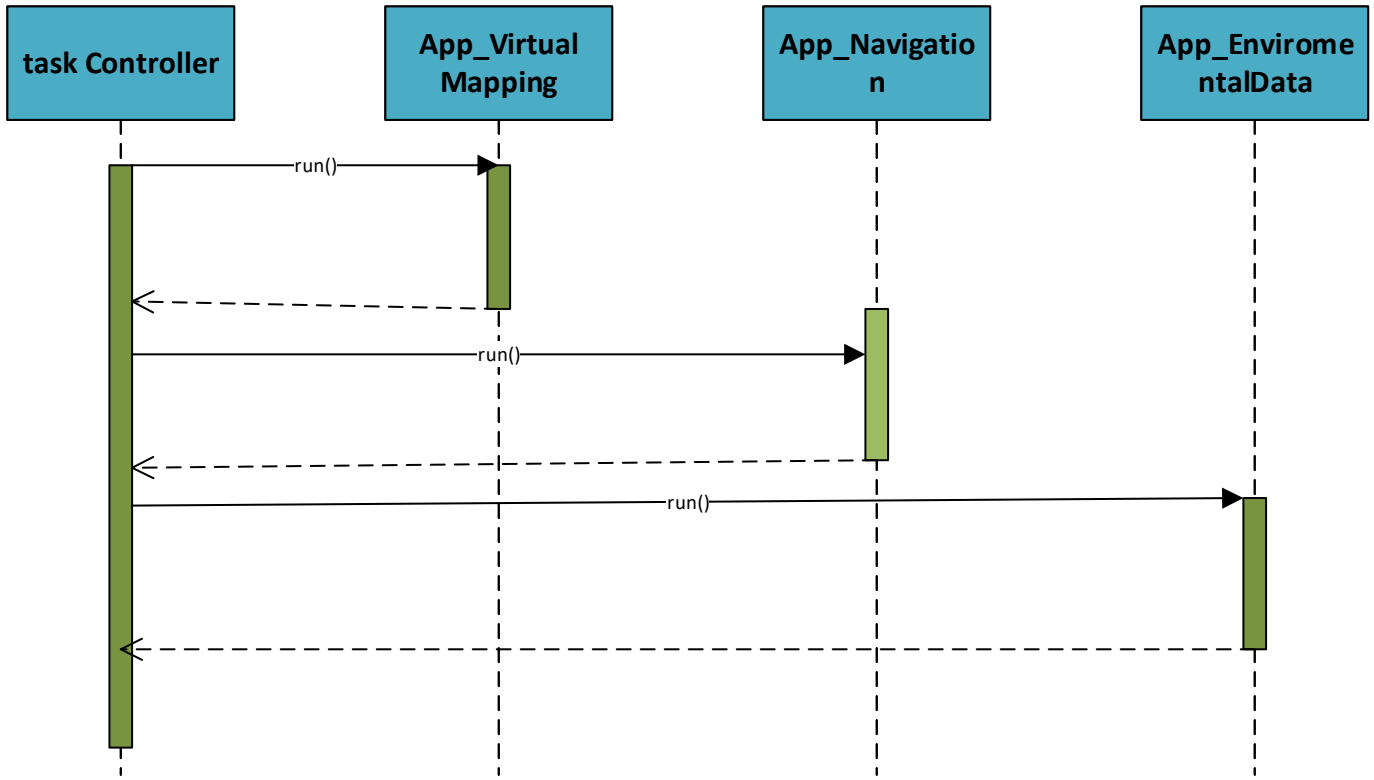
Component Diagram Navigation Unit

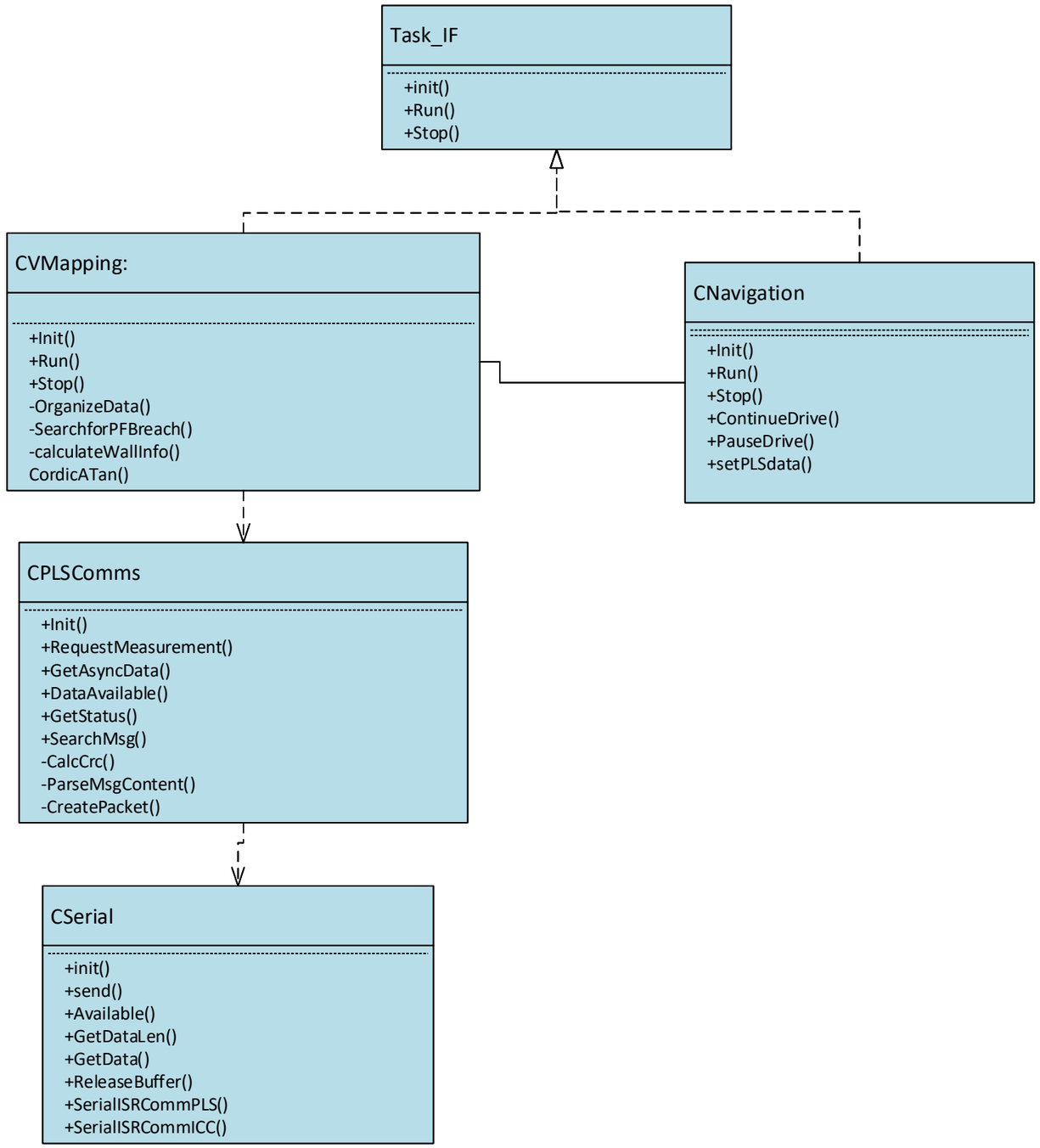


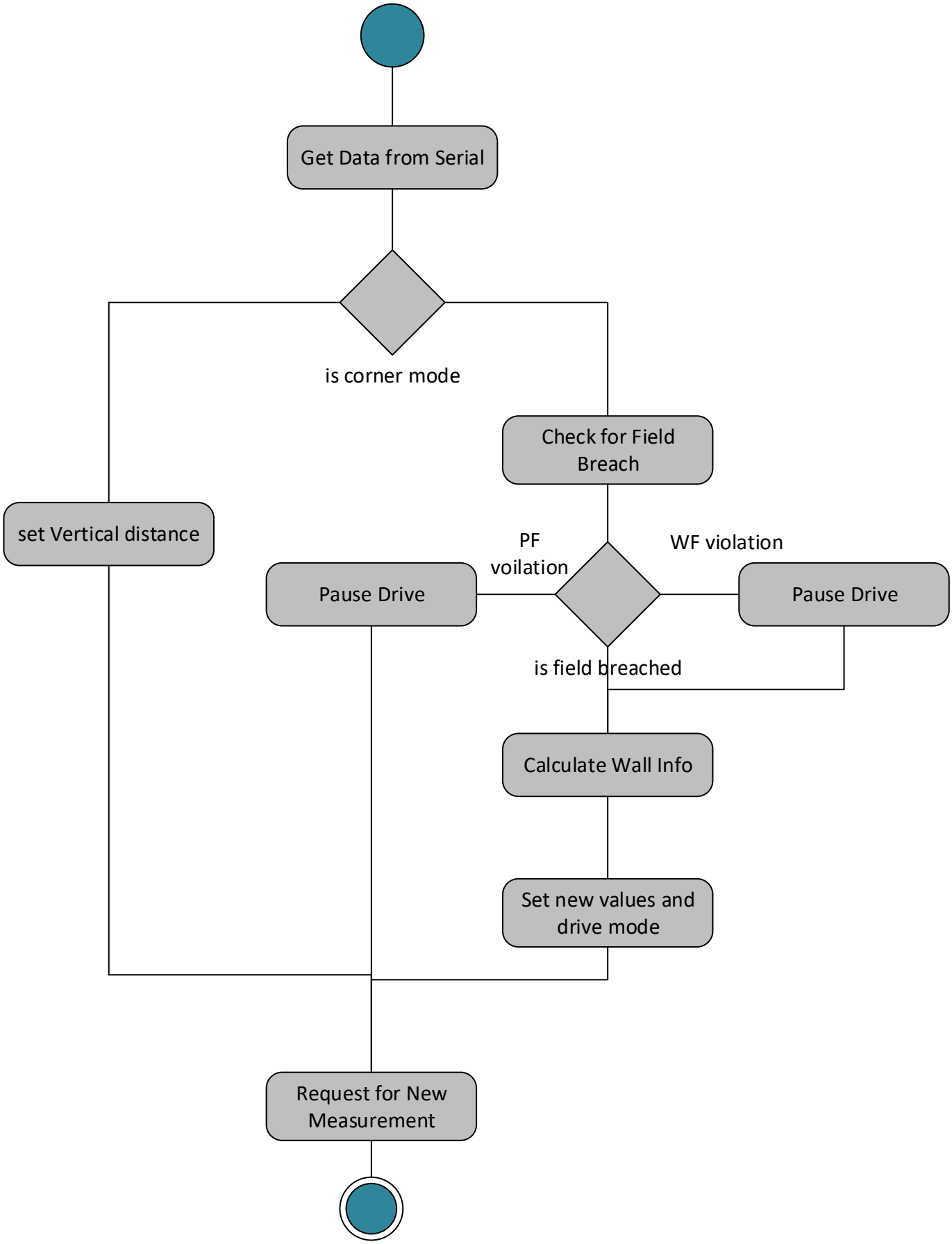
Component Diagram MCU

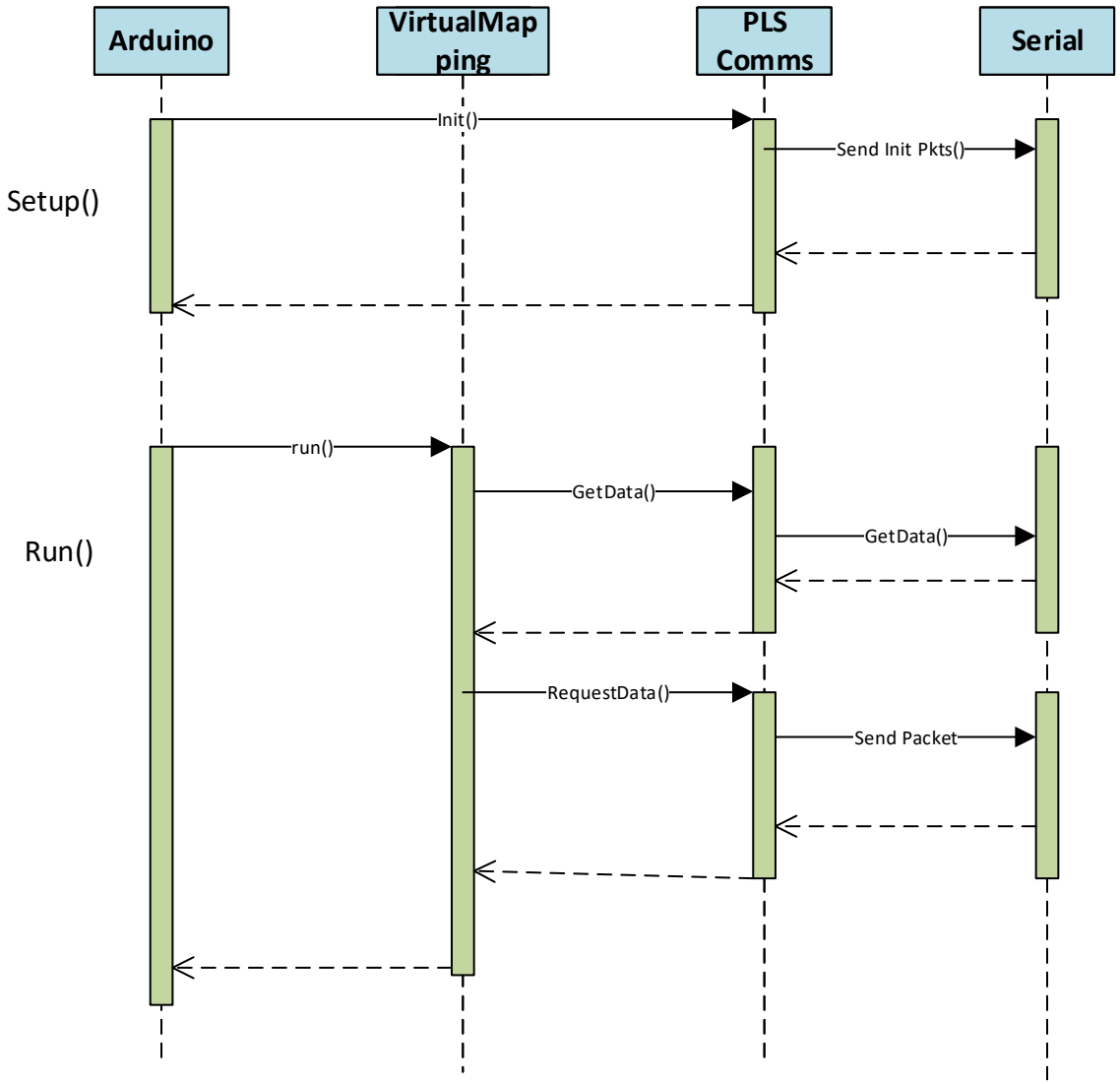



task Controller
App_Virtual Mapping
App_Navigation
App_EnviromentalData
run()
run()
run()

PLS Comms Class Diagram




Get Data from Serial
is corner mode
set Vertical distance
Check for Field Breach
PF voilation
WF violation
Pause Drive
Pause Drive
is field breached
Calculate Wall Info
Set new values and drive mode
Request for New Measurement


Arduino
VirtualMapping
PLS Comms
Serial
Setup()
Init()
Send Init Pkts()
Run()
run()
GetData()
GetData()
RequestData()
Send Packet