

Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	26 October 2022
Team ID	PNT2022TMID05270
Project Name	Project – Smart solution for railways based onIoT
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Reference:

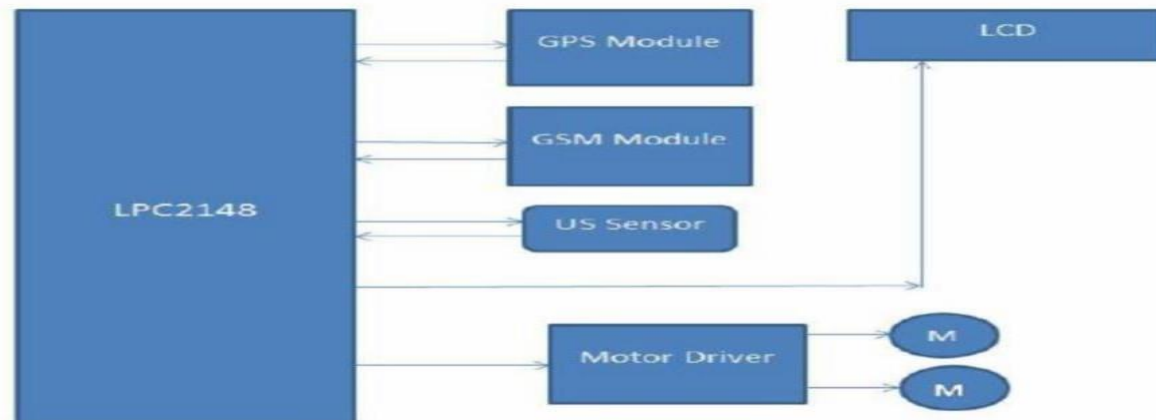


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Microcontroller	At mega 162 is a low power CMOS bit microcontroller based on AVR enhanced RISC architecture	RAM, ROM, Flash memory
2.	GPS	GPS used to receive the position data from vehicles and display on digital map	Network of satellite and receiving devices similar to radar
3.	GSM module	GSM net used by cell phones provides a low cost,low range ,wireless communication channel for application	Time division multiple,code division multiple
4.	PIR	Passive infrared sensors are electronic devices which measure infrared light radiating from objects	Have sensor with electrodes
5.	DC motor	It is to transverse a distance	Flux control,voltage regulation,armature resistance control

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Transportation	Enabler of economic progress,mobilise goods aswell as people adaption includes passengers	Automated metro system ,Autonomous freight trains
2.	High speed	It is 8 times more energy efficient their airplanes.	Automatic train control (HS-ATC)
3.	Cost effectiveness	Train operators can downscale their operationaland maintenance cost	Advanced communication
4.	Environment friendly	Based transport most environment friendly mass transport system due to inherent gains provide energy	Multiple units(EMU),3 phase technology
5.	Safety	For safety of passengers,RPF,GRP of different states	Self propelled ultrasonic rail testing (SPURT)

