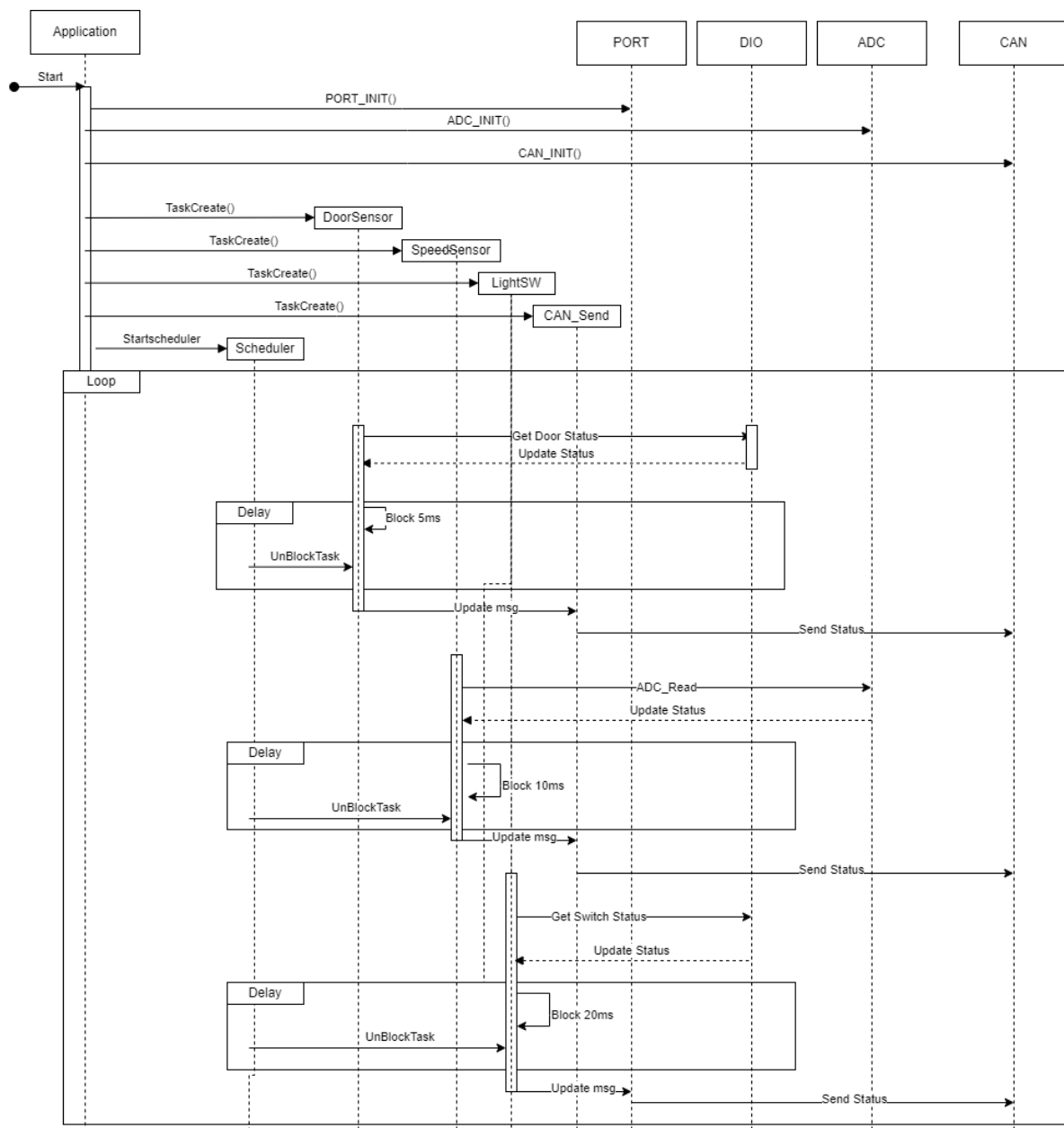**Dynamic Design**

Automotive Door Control System Design
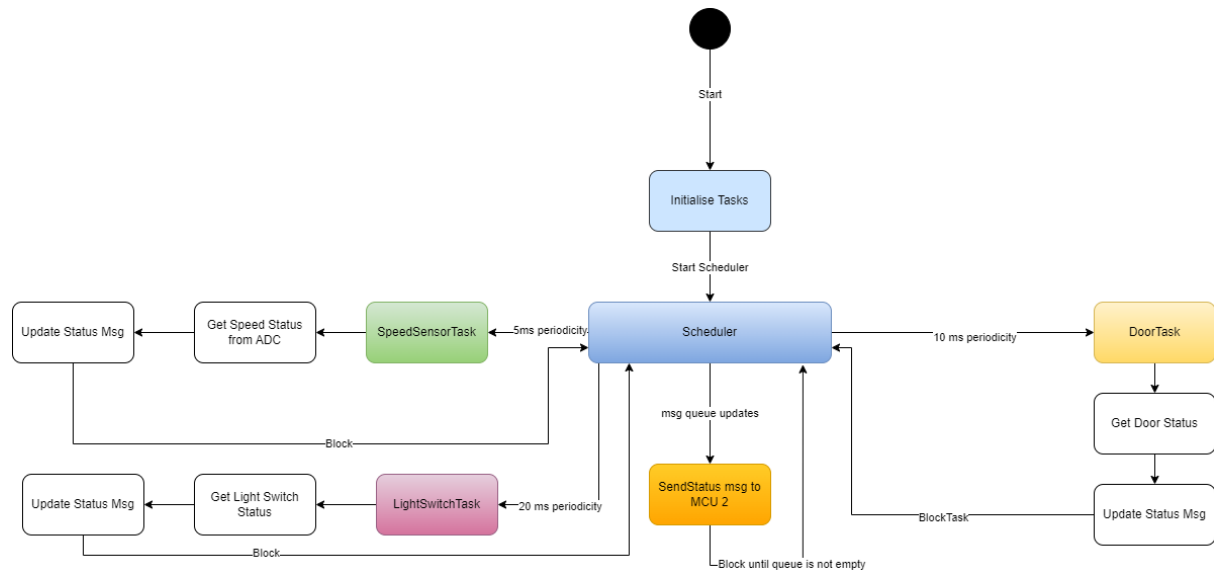
Contents

MCU 1 Sequence Diagram

MCU 1 State Machine

MCU 1 CPU Load (Assuming missing data)

Task Name	Execution Time	Period
Door_Sensor	15 us	10 ms
Speed_Sensor	30 us	5 ms
Light_SW	15 us	20 ms
Send_Status	20 us	5 ms

CPU Load = ((0.015 x 2 + 0.030 x 4 + 0.015 + 0.020 x 4) / 20) x 100% = 0.925%

MCU 2 Sequence Diagram
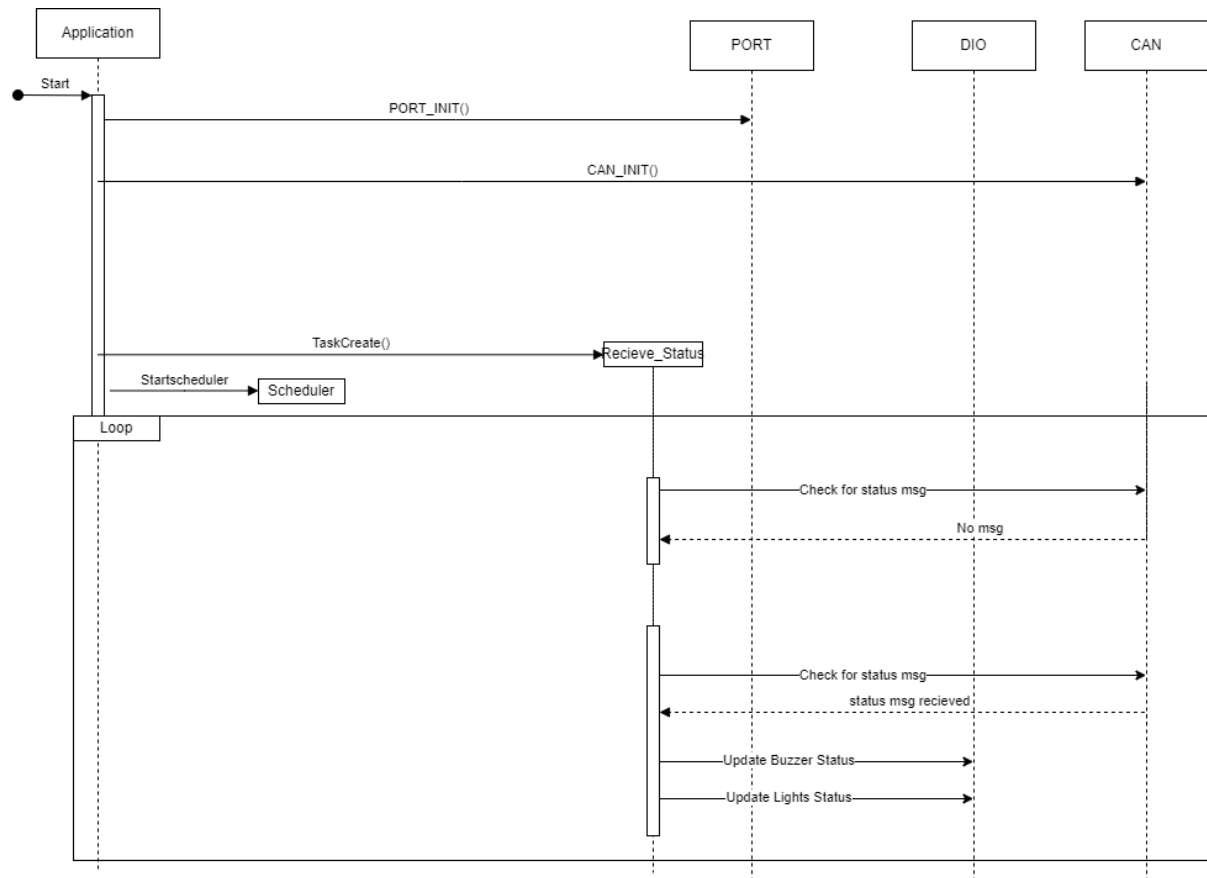
MCU 2 State Machine
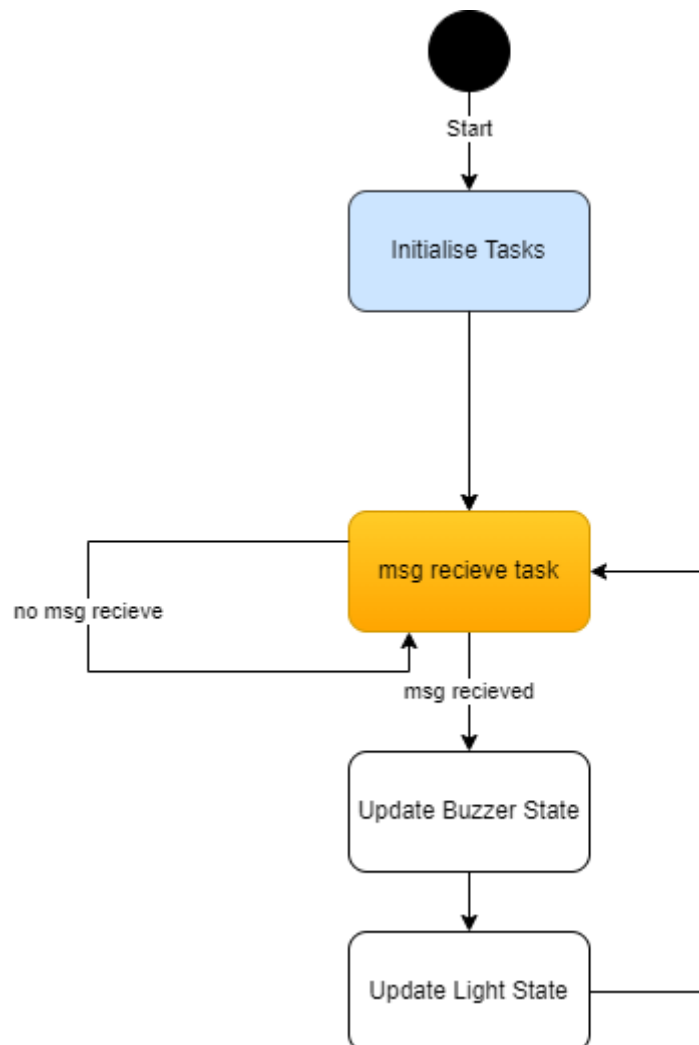
MCU 2 CPU Load (Assuming missing data)

Task Name	Execution Time	Period
Update LL state	15 us	10 ms
Update RL state	15 us	10 ms
Update Buzzer State	15 us	10 ms

CPU Load = ((0.015 + 0.015 + 0.015) / 10) x 100% = 0.45%