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| Required ID | REQ\_SRS\_001 |
| Requirement | Sending f over USART -> means forward |
| Covers | REQ\_CRS\_010 |

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| Required ID | REQ\_SRS\_002 |
| Requirement | Sending b over USART -> means backward |
| Covers | REQ\_CRS\_010 |

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| Required ID | REQ\_SRS\_003 |
| Requirement | Sending r over USART -> means turn right |
| Covers | REQ\_CRS\_010 |

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| Required ID | REQ\_SRS\_004 |
| Requirement | Sending l over USART -> means turn left |
| Covers | REQ\_CRS\_010 |

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| Required ID | REQ\_SRS\_005 |
| Requirement | Sending s over USART -> means Stop |
| Covers | REQ\_CRS\_010 |

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| Required ID | REQ\_SRS\_006 |
| Requirement | ultrasonic sensor at the front If distance is less than 20 cm, motors stop immediately (invoke stop function) |
| Covers | REQ\_CRS\_011 |

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| Required ID | REQ\_SRS\_007 |
| Requirement | ultrasonic sensor at the end If distance is less than 20 cm, motors stop immediately (invoke stop function) |
| Covers | REQ\_CRS\_011 |

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| Required ID | REQ\_SRS\_008 |
| Requirement | in each function we should invoke stop function to make sure the driver doesn't get two ones at the same time |
| Covers |  |

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| Required ID | REQ\_SRS\_009 |
| Requirement | As long as the forward button is pushed the car keeps going forward |
| Covers |  |

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| Required ID | REQ\_SRS\_010 |
| Requirement | when no button is pushed, the car stops |
| Covers |  |

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| Required ID | REQ\_SRS\_011 |
| Requirement | Timers in PWM mode to control the speed of the motors |
| Covers | REQ\_CRS\_008 |

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| Required ID | REQ\_SRS\_012 |
| Requirement | when turn right buttons are pushed, the right motor speed becomes 50/255 |
| Covers | REQ\_CRS\_008 |

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| Required ID | REQ\_SRS\_013 |
| Requirement | when turn left buttons are pushed, the right motor speed becomes 50/255 |
| Covers | REQ\_CRS\_008 |

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| Required ID | REQ\_SRS\_014 |
| Requirement | USART configuration:  - USART boadrate should be 9600  - USART stop bit (one stop bit) |
| Covers | REQ\_CRS\_009 |

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| Required ID | REQ\_SRS\_015 |
| Requirement | If distance between car and an object is less than 20 cm , the leds turn on |
| Covers | REQ\_CRS\_009 |

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| Required ID | REQ\_SRS\_016 |
| Requirement | Car speed 0.5 m/sec |
| Covers | REQ\_CRS\_012 |

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| Required ID | REQ\_SRS\_017 |
| Requirement | Frequency of sending data over 1/100 msec |
| Covers | REQ\_CRS\_013 |