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| **PROJECT TITLE** | VEHICLE TELEMATICS SYSTEMS, THE KEY TO SMART CARS |
| **DATE** | 15-10-2022 |

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| **ID** | **TITLE** | **Assigned to** |
| 1 | **Searching for hardware components** | Youssef Habib, Ahmed Samir, Mina Nadi, Moustafa Wahdan, Mohamed Nabil |
| 1.1 | Looking for a DSRC Module that uses a commonly known interface(UART, SPI, I2C,...). | \* Abbas   * Moustafa Wahdan * Mina |
| 1.2 | Looking for a GNSS module, if possible GNSS with a cellular modem for (internet connectivity + localization) in one unit. also with commonly known  interface. | \* Ahmed Samir  -Mina Nadi |
| 1.3 | Looking for a 4G Modem with commonly known interface. | \* Emad   * Ali * Abbas |
| 1.5 | Looking for a microcomputer to be used as our application processor, it will be doing the missions of the TCU. | \* Abbas   * Moustafa Wahdan * Ahmed Samir * Nada Ibrahim |
| 1.6 | Looking for an electrical vehicle to be used for the project demonstration. size around 120 \* 60 cm2. | \* Ahmed Tarek   * Toqa Hossni * Moahmed Nabil |
| 1.7 | SPI to Ethernet module | \* Mina  - Abbas |
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| 2 | **Searching for the best cloud server provider & prices** |  |
| 2.1 | research on Digital ocean pricing | - Moustafa Wahdan |
| 2.2 | research on Linode pricing | - Moustafa Wahdan |
| 2.3 | research on Amazon aws pricing | - Moustafa Wahdan |
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| 2.1 | **Resources** |  |
| 2.1.1 | Research for the best domain name in terms of the name and the price | - Nada Ibrahim |
| 2.1.2 | Check e-sync aliance https://esyncalliance.org/ | - Whole team |
| 2.1.3 | Check ISO standards https://forallsecure.com/blog/unece-unr155-unr156 | - Whole team |
| 2.1.4 | broadr-reach ethernet  https://www.electronicdesign. com/markets/automotive/article/21806576/whats- the-difference-between-broadrreach-and- |  |

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| 2.1.5 | Light weight ip stack | - Whole team |
| 2.1.6 | AVNU  https://avnu.org/ |  |
| 2.1.7 | Auto CDS 1.4 / 1.6 IEEE 802.1as | - Whole team |
| 2.1.8 | PTP [https://www.youtube.com/watch?v=kJcmPg-](http://www.youtube.com/watch?v=kJcmPg-) qIFA |  |
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| 3 | **Hardware Design** |  |
| 3.1 | Draw system diagram <HW> | - Whole team |
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| 4 | **Mobile App** |  |
| 4.1 | UI design for mobile app | \* Toqa |
| 4.2 | Implement Log in page | \*Nada  - Wahdan  -Toqa |
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| 5 | **Network Access Device (NAD)** |  |
| 5.1 | Implemenet SOME/IP service and client that reads data from GPS module. | \* Abbas  - Mina |
| 5.2 | Implement service that accumulate data from multiple SOME/IP services and send it to back end server. | \* Abbas   * Wahdan * Samir |
| 5.3 | Implement SOME/IP service that receives data from speed sensor through ethernet. | - TBD |
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| 6 | **Bare metal work** |  |

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| 6.1 | Implement library to ease data sending using SPI to ethernet module | \* Mina   * Nabil * Emad * Ali |
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| 7 | **DSRC module implementation for (V2V)** |  |
| 7.1 | Using two nodes of ESP32 test data exchange using ESPnow protocol | \* Samir  - Mina |
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| **START DATE** | **DESCRIPTION** | **ESTIMATED HOURS** |
| 16-10-2022 |  |  |
| 18-10-2022 | getting this module shipped is pretty difficult |  |
| 18-10-2022 | Ublox NEO-6mV2 GPS Module  https://www.amazon. |  |
| 18-10-2022 | [1] - BG96 LTE Dongle 4G Modem with UART  Interface [2]- |  |
| 18-10-2022 | Rasppery PI 4-B |  |
| 18-10-2022 |  |  |
| 30-11-2022 | SPI to Ethernet Hardware TCP/IP W5500  https://free-electronic. com/product/spi-to- ethernet-hardware- tcp-ip-w5500-ethernet- |  |
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| 19-10-2022 | Digital ocean starts from 4$/month and gives 200$ free credits for 1st 2 months and  does not provide GPU |  |
| 19-10-2022 | Less expensive than Digital ocean but gives only 100$ free credits but has some problems with ports  https://www.linode. |  |
| 19-10-2022 | Gives 1 year free server but with weak capabilities  https://aws.amazon. com/pricing/?aws- products-pricing.sort- by=item. additionalFields. productNameLowerc ase&aws-products- |  |
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| 20-10-2022 |  |  |
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| 30-11-2022 | Test using a simple python script listens at certain port number |  |
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| 30-11-2022 | Test data exchange and connection  process |  |
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| **COMPLETE** | **WEEK 3** | **WEEK 4** | **WEEK 5** | **WEEK 6** |
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| **UNDER TESTING** |  |  |  |  |
| **YES** |  |  |  |  |
| **YES** |  |  |  |  |
| **YES** |  |  |  | Brought up raspberry pi 4B |
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| **WEEK 7** | **WEEK 8** | **WEEK 9** | **WEEK 10** | **WEEK 11** |
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|  |  | Testing ESP32s | Testing ESP32s |  |
|  |  |  | Brought up UBLOX NEO- 7 |  |
|  |  |  | Brought up a a 4G modem to  ethernet |  |
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|  |  |  | Brought up SPI to Ethernet Hardware TCP/IP |  |
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| **WEEK 12** | **WEEK 13** | **WEEK 14** | **WEEK 15** | **WEEK 16** |
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