# Requirements

Key: POST/Power on = P, **Ease Of Use = E,** Interfacing Between Devices = I, **Menu = M,** Data Handling, **Database = DB,** Human Interface = H, **ECG = EL,** Screen = S, **Sphygmomanometer = B**

**Key:** S = Show Stopper, **C = Critical,** M = Major, **N= Normal**, T = Trivial

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| ID | SUMMARY OF REQUIREMENT  (I WANT TO) | | RATIONALE  (SO THAT I CAN) | PRIORITY | SOURCE | CREATED |
| POST/Power on | | | | | | |
| P1 | Be able to test the memory | Verify the board will work correctly | | S |  | 04/10/2018 |
| P2 | Be able to test the screen | Verify the screen will display correctly | | S |  | 04/10/2018 |
| P3 | Be able to test the CPU (Jump instructions) | Verify the board will work correctly | | S |  | 04/10/2018 |
| P4 | Be able to test the power | Verify the board will work correctly | | S |  | 04/10/2018 |
| P5 | Be able to test ROM | Verify the board will work correctly | | S |  | 04/10/2018 |
| P6 | Be able to perform POST/Power on the device | So the board can actually be used and boot up | | S |  | 04/10/2018 |
| P7 | Be able to check buttons | So that the buttons can be used | | S |  | 04/10/2018 |
| P8 | Check network interface | So that we can wired devices | | N |  | 04/10/2018 |
| P9 | Check blue tooth module | So that we can connect devices | | N |  | 04/10/2018 |
| P10 | All tests run automatically on system start | Perform the tests automatically every time it is started | | C |  | 12/11/2018 |

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| Ease Of Use | | | | | |
| EU1 | Be able to use the device within 2 minutes | So that the user can get a reading as soon as possible | C |  | 04/10/2018 |
| EU2 | Not charge it very often | Not have to worry too often | B |  | 04/10/2018 |
| EU3 | Power it via USB | A special cable is not needed | S |  | 04/10/2018 |
| EU4 | Be able to take it with me | Take a reading whenever | T |  | 04/10/2018 |
| EU5 | Be able to view results on a screen | Give the readings meaning in the moment | S |  | 04/10/2018 |
| EU6 | Be able to adjust screen brightness | Have a more comfortable viewing experience | N |  | 04/10/2018 |
| EU7 | Be able to adjust the text size | I can read the words incase they’re too small | N |  | 04/10/2018 |
| EU8 | Be able to improve accessibility for visually impaired | More people have access to the device | T |  | 04/10/2018 |
| EU9 | Be able to charge device when its ON | Not depend on the limited charge capacity of the device |  |  |  |
| EU10 | Be able to charge device when its OFF | Make sure its ready to use when I need it |  |  |  |

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| Interfacing Between Devices | | | | | |
| I1 | Be able to interface with a computer via USB | I can download past results | S |  | 04/10/2018 |
| I2 | Be able to interface with a computer via blue tooth | I can download past results if I don’t have a cable | N |  | 04/10/2018 |
| I3 | Be able to interface with the board via wifi | I can gather results without a cable | N |  | 04/10/2018 |
| I4 | Be able to interface with the board via ethernet | I can gather results remotely | N |  | 04/10/2018 |
| I5 | Be able to receive results via text | I can immediately alert a Dr. or family member | N |  | 04/10/2018 |
| I6 | Be able to interface with a remote database | I can save results to something else | M |  | 04/10/2018 |
| I7 | Be able to interface a local database | I can save results from previous tests | N |  | 04/10/2018 |
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| Menu | | | | | |
| M1 | Navigate a menu | Select different options | S |  | 04/10/2018 |
| M2 | Select a menu option | My navigation has meaning | M |  | 04/10/2018 |
| M3 | Return to Menu | I can select something else | M |  | 04/10/2018 |
| M4 | Select the ECG from the menu | I can take a reading | S |  | 04/10/2018 |
| M5 | Select User options from the menu | I can configure user profiles | N |  | 04/10/2018 |
| M6 | Select Historical ECG readings | I can view old readings | T |  | 04/10/2018 |
| M7 | Reboot the board | I can perform more controlled maintenance and fixing | S |  | 04/10/2018 |
| M8 | Have an Options option | I can edit options | N |  | 04/10/2018 |
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| Data Handling | | | | | |
| D1 | Record readings to a file | I can export the file | N |  | 04/10/2018 |
| D2 | Record readings to a human readable format | I can view the readings | C |  | 04/10/2018 |
| D3 | Be able to store data | I can store data for later | N |  | 04/10/2018 |

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| Database | | | | | |
| DB1 | Load data from a database | Store a data for querying | N |  | 04/10/2018 |
| DB2 | Commit data to a database | Data can later be queried | N |  | 04/10/2018 |
| DB3 | Store user data in database | Multiple users can be stored | N |  | 04/10/2018 |
| DB4 | Load user data from the database | Different user data can be loaded | N |  | 04/10/2018 |
| DB5 | Keep track of previous readings | Keep a record of previous readings | N |  | 04/10/2018 |

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| Human Interface | | | | | |
| H1 | Perform a button press | I can interact with the device | S |  | 04/10/2018 |
| H2 | Perform a button double click | I can interact with the device | C |  | 04/10/2018 |
| H3 | Perform a long button press | I can interact with the device | C |  | 04/10/2018 |
| H4 | Perform a multi-button press | I can interact with the device | C |  | 04/10/2018 |
| H5 | Use the slider | I can interact with the device | C |  | 04/10/2018 |
| H6 | View feedback on the screen | I can interact with the device | C |  | 04/10/2018 |
| H7 | Enter user information | I can have multiple profiles | N |  | 04/10/2018 |
| H8 | Change scale of ECG using slider | I can view more precise readings | C |  | 17/10/2018 |
| H9 | Change the scale of the UI using the slider | I can enlarge the words on screen | N |  | 17/10/2018 |

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| Screen | | | | | |
| S1 | Display heart rate | See the heart rate immediately | S |  | 04/10/2018 |
| S2 | Show all available data on the screen | The screen real estate is used effectively | N |  | 04/10/2018 |
| S3 | Display heart rate in real time | See readings are relevant | S |  | 04/10/2018 |
| S4 | Display multiple ECG readings | Compare previous readings | N |  | 04/10/2018 |
| S5 | Display a menu | Select different menu options | S |  | 04/10/2018 |
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| ECG | | | | | |
| EL1 | Measure a user’s heart rate | Measure a user’s heart rate | S |  | 04/10/2018 |
| EL2 | Send ECG readings to screen | View a user’s heart rate | S |  | 04/10/2018 |
| EL3 | Read data from all the electrodes | So that readings can be gathered | S |  | 04/10/2018 |
| EL4 | Adjust sensitivity based on age | Readings can be more precise based on the type of user | N |  | 04/10/2018 |
| EL5 | Filter out interference | The readings aren’t skewed | S |  | 04/10/2018 |
| EL6 | Measure heart rate in real time | Viewable readings are relevant | S |  | 04/10/2018 |

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| Sphygmomanometer | | | | | |
| B1 | Measure a user’s blood pressure | Take readings and make medical judgements | S |  | 15/10/2018 |
| B2 | Send BP readings to screen | View a user’s blood pressure | S |  | 15/10/2018 |
| B3 | Read data from the reader | So that readings can be gathered | S |  | 17/10/2018 |
| B4 | Take average blood pressure | Have better results | C |  | 17/10/2018 |
| B5 | Filter out erroneous readings and data | Have more accurate results | S |  | 17/10/2018 |
| B6 | Measure blood pressure in real time | Read more relevant ratings | S |  | 17/10/2018 |