# 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 | |
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| **Ease Of Use** | | | | | |
| **E1** | 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 |
| **E2** | Not charge it very often | Not have to worry too often | B |  | 04/10/2018 |
| **E3** | Power it via USB | A special cable is not needed | S |  | 04/10/2018 |
| **E4** | Be able to take it with me | Take a reading whenever | T |  | 04/10/2018 |
| **E5** | Be able to view results on a screen | Give the readings meaning in the moment | S |  | 04/10/2018 |
| **E6** | Be able to adjust screen brightness | Have a more comfortable viewing experience | N |  | 04/10/2018 |
| **E7** | Be able to adjust the text size | I can read the words incase they’re too small | N |  | 04/10/2018 |
| **E8** | Be able to improve accessibility for visually impaired | More people have access to the device | T |  | 04/10/2018 |
| **E9** |  |  |  |  |  |
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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 heartrate | 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 heartrate in realtime | 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 heartrate | 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 heartrate 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 |