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| ID | Requirement | Related Use Case(s) | Fulfilled By | Test | Description |
| 1 | Using the Semi-Automatic AED Plus | - Using Real CPR Help  - Using the Semi-Automatic AED Plus GUI | AED.h, AED.cpp | N/A | A collection of setters and getters that either set or are used to access the state of objects. A class that uses the facade design pattern to provide an interface |
| 2 | Using Real CPR Help | N/A | AED.h, AED.cpp | In case of PEA or prompted for post-shock resuscitation, repeatedly click on the cpr button for feedback on compression rhythm and depth | Real-time cpr feedback is provided to user to provide more accurate resuscitation |
| 3 | Using the LCD Display | N/A | Mainwindow.h, mainwindow.cpp | LCD display will respond to changes in the following: battery, heartbeats, heart rate, patient status, shocks provided, self tests | User can be guided through the LCD display and gain valuable information. |
| 4 | Applying CPR D-padz (adult or infant) | N/A | Mainwindow.h, mainwindow.cpp,  AED.h, AED.cpp | Only two states exist for the cpr d-padz: correctly placed, or incorrectly placed. User can interact to place the pads correctly | User can attach electrodes (part of the padz) to patient, selecting either the adult or child pads |
| 5 | Using the Self Test Feature | N/A | AED.h, AED.cc | AED self-test results indicated on startup of AED on the LCD display | User is informed that the AED is not functional due the failing the self tests |
| 6 | Identifying Battery Condition | N/A | Mainwindow.h, mainwindow.cpp,  AED.h, AED.cpp | Shocks result in depletion of battery, and low battery will result in message to LCD screen | AED is able to show battery level and shows gradual battery depletion on shocks |
| 7 | Advising and prompting user to administer shock | N/A | Mainwindow.h, mainwindow.cpp,  AED.h, AED.cpp | Shock will update ECG, heart rate, and battery on the LCD display | AED is able to provide controlled shocks to the patients through the electrodes in the D-padz |
| 8 | Pulse Generation | * Using real CPR help * Using the Semi- automatic AED Plus Graphical User interface | Heart.h, Heart.cpp | Pulse is generated in the Heart and heart rate is calculated through them. Heart rate is displayed on the LCD screen | Pulse generation is dynamic and simulates the cardiac arrest scenario and is closely related to the CPR process and the graphical interface of the AED, which monitors and displays heart rate and rhythm. |
| 9 | Pulse Analysis | * Using the Semi-automatic AED Plus * Using the LCD Display | Heart.h, Heart.cpp | Pulse analysis over 6 seconds determines heart rhythm and heartbeat. Shown on the LCD screen | Pulse analysis determines the state of the victim’s heart and displays data on the LCD. |
| 10 | Shock administration | * Using the Semi Automatic AED Plus | Heart.h, Heart.cpp | Status of shock administration shown on the LCD screen | Shock administration in case of certain cardiac conditions, mainly VTACH or VFIB |
| 11 | Heart State Update | * Using the Semi Automatic AED Plus Graphical User Interface * Using the LCD Display | Heart.h, Heart.cpp | Heart updates regularly to output change in patient’s status. Changes observed on screen after interacting with UI prove this | Updating the heart state helps AED monitor patient’s status and provide updated data on the ECG |
| 12 | Default age initialization | * Using Electrodes | Patient.h, Patient.cpp | Verify default age is 18 from the UI | Patient is initialized and heart conditions analyzed on pad connection |
| 13 | Age-based compression depth setting | * Applying CPR-D-padz | Patient.h, Patient.cpp, Heart.h, Heart.cpp | Verify compression depth range variance between adults and kids | Patient is resuscitated with different compression depth based on age range. Age range determined by which of the two pads (Adult or Child) receive a signal. Due to inconsistent compression depth, range is applied |
| 14 | Cardiac arrest detection | * Using the Semi Automatic AED Plus | Patient.h, Patient.cpp,  Heart.h, Heart.cpp | Check prompt to shock. Only cases for shock are VTACH or VFIB | If patient has a heart rate of over 120bpm, they are in a state cardiac arrest |
| 15 | Administering shock | * Using Electrodes (part of the cpr d-pads) | Patient.h, Patient.cpp  Heart.h, Heart.cpp | Test shock administration. | Simulates the administration of a shock |
| 16 | CPR suitability determination | * Using the Semi Automatic AED Plus * Applying CPR-D-padz | Patient.h, Patient.cpp,  Heart.h, Heart.cpp | If the heart requires resuscitation from either asystole or PEA state | Determines if CPR is applicable |
| 17 | CPR administration feedback | * Using real CPR help | Patient.h, Patient.cpp | Conditions for administering shock are only in cases of VTACH or VFIB | Provides feedback on CPR administration |