DCM Documentation

Requirements
- The latest version of Python
- Pillow
  - Install with `pip install pillow`

Instructions for launching DCM
1. Clone the repository
2. Open terminal and navigate to the DCM_group44 folder.
   `cd DCM_group44`
3. Launch the DCM by running main.py through the terminal.
   `python3 main.py`

Explanation of each file and class organization system

`Main.py (window):` the start file or "welcome page" that can call the login window or registration window upon the respective button being clicked.

`Login.py (window):` launched from the main file. Checks if inputted credentials are valid and exist in the database, and launches modeSelection, passing on the username so that the modeSelection window knows what row in the database to import values from and save values to.

`Registration.py (window):` launched from the main file. Checks if inputted credentials are valid and saves them to the database. It launches modeSelection, passing on the username for the same reasons as Login.py above.

`Patient.py:` defines the Patient class whose instance stores the values and parameters for a patient, as well as methods to copy values from the database and save values to the database.

`data.py:` defines the createDB() function which is called by several window scrips to initialize a database file if it doesn't already exist.
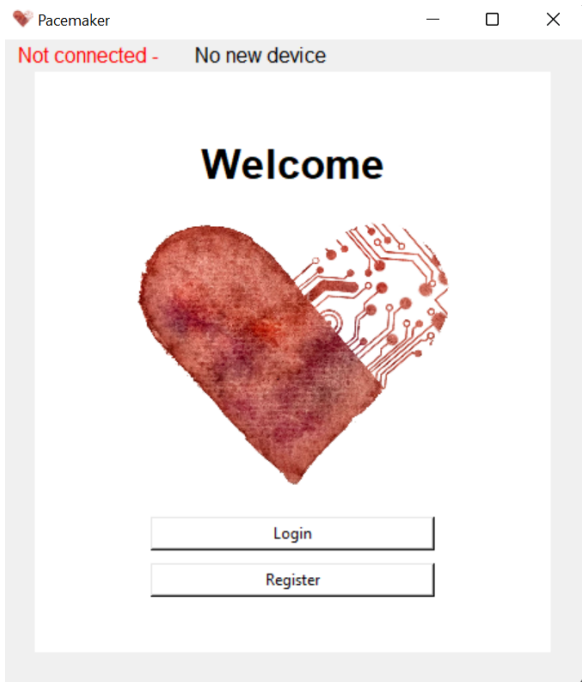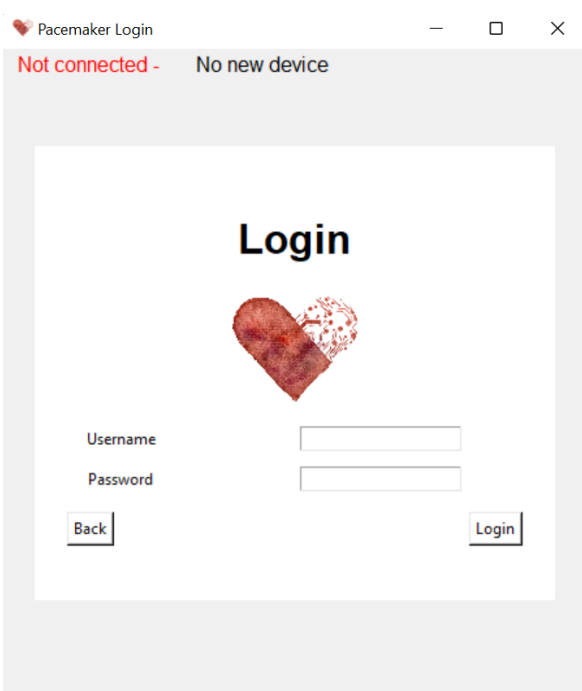
`modeSelection.py (window):` launched from either registration.py or login.py. Instantiates a Patient object with default parameter values and calls the method Patient.copyFromDB() which overwrites those default values with any custom values in the database that relate to the patient with that username. The window shows 4 modes to choose from: AOO, VOO, AAI, VVI. When one of the modes is chosen and "Next" button is clicked, it launches a specific frame from the 4 frames in pacingModes.py. Transitions between modeSelection.py and pacingModes.py are switching frames

instead of switching windows. When launching pacingModes, the Patient object stored in this class is transferred to the new pacing mode frame launched, giving pacingModes.py the info needed about the patient in order to copy from and to save to the database.

pacingModes.py (frames): launched from modeSelection.py from which it gets a Patient object with the values relating to a specific patient in the database. Four mode frames exist: AOO, VOO, AAI, VVI, which are all children of a parent class PacingMode. The parent class PacingMode defines methods to add each label and entry, and the children objects determine which of those methods to call depending on which parameter entries are relevant to that mode. Each frame displays the specific fields, labels, and checkboxes required for the mode it represents. Upon launching, it copies all the values from the Patient object received from the modeSelection window to the entries in that frame. In other words, when a user logs in, they would find their own values in the entries instead of the default values. When the "Confirm" button is clicked, all entry values are transferred to a Patient object, and Patient.saveToDB() method is called, transferring the patient information to the database.

Demo
Some of our favourite pages!

Welcome Page	
Login Screen	

Registration Page	**Pacemaker Register** — ☐ ✕ Not connected - No new device # Register Username [_____] Password [_____] Re-enter password [_____] Back Register
Pacing Mode Selection Page	**Pacemaker | Mode Selection** — ☐ ✕ Not connected - No new device ## Please choose a pacing mode ⦿ AOO ○ VOO ○ AAI ○ VVI Back to Welcome Page Next

VVI Pacing Mode Page: initially with nominal values specified in "PACEMAKER" document	
	This is just an example. All of the other pacing modes look similar, just with their respective parameters and nominal values initially inputted.

Pacemaker | VVI Pacing Mode   — □ ✕

Not connected -   No new device

VVI

Please enter the values for the following parameters.
These values will be checked to ensure that they are valid entries.
If you have not set any values yet, they will be set to the nominal values.

Lower Rate Limit (ppm):	69
Upper Rate Limit (ppm):	120
Ventrical Pulse Width (ms):	0.4
Ventrical Amplitude (V):	3.5
Ventricular Sensitivity (mV):	2.5
Ventricular Refractory Period (ms):	320
☐ Hysteresis (ppm):	
Rate Smoothing (%):	0

Back   Confirm changes