# Software Design Details

* 1. UML Diagrams for Utility Classes

The following diagrams represent the classes and methods within those classes that when called, execute tasks that will allow the Pacemaker to function. The diagrams also give insight into the permissions needed to access particular methods and variable values.

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| --- |
| **class\_name** |
| \*\*variable: type |
| \*\*method: type |

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| --- |
| **main()** |
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| **Pacemaker()** |
| leadOnePin: enum  leadTwoPin: enum  maxVOut: uint16\_t  comPort: uint8\_t  txRegister: uint8\_int  rxRegister: uint8\_int |
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| **Sense() extends Pacemaker** |
|  |
| setChambersSensed(enum): protected void  getChambersSensed(): public enum  setActivityResponse(enum): protected void  getActivityResponse(): public enum |

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| **Communications() extends Pacemaker** |
| i\_CommIn: 16bytes  vraw: uint16\_t  f\_marker: uint16\_t  i\_magnet: int  i\_vs:??  o\_CommOut: uint8\_t  o\_vp:?? |
| sendEGM(): private int  initEGM(): public void |

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| **Pace() extends Sense** |
| pacingState: enum  pacingMode: enum  hysteresis: Boolean  hysteresisInterval: uint16\_t  lowrateInterval: uint16\_t  vPaceAmp: uint16\_t  vPaceWidth: uint16\_t  VRP: uint16\_t |
| setPaceMode(enum): protected void  getPaceMode(): public enum  setPaceState(enum): protected void  getPaceState(): public enum  setHysteresisInterval(uint16\_t): protected void  getHysteresisInterval(): public uint16\_t  setLowRateInterval(uint16\_t): protected void  getLowRateInterval(): public uint16\_t  setvPaceAmp(uint16\_t): protected void  getvPaceAmp(): public uint16\_t  setvPaceWidth(uint16\_t): protected void  getvPaceWidth(): public uint16\_t  setVRP(uint16\_t): protected void  getVRP(): public uint16\_t |

* 1. Fields and Data Types of User Interface Classes

The following tables show the graphic component names, types of data returned by each component used in each User Interface class. Each public UI class will extend the javax.swing.JFrame class in order to inherit the defined properties of the JFrame class.

Class 1: Login\_UI

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| --- | --- | --- | --- |
| **Component\_Name** | **Return Type** | **Description** | **Next Action (If action event triggered)** |
| username\_field | String | Get username |  |
| password\_field | ~~String~~ | Get hidden password |  |
| rememberme\_field | Boolean | Remember credentials checkbox |  |
| login\_button | Boolean — action event | Submit information for verification | Verify login credentials against serialized data |

Class 2: Main\_UI

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| --- | --- | --- |
| **Component Name** | **Return Type** | **Next Action (If action event triggered)** |
| add\_client\_button | Boolean — action event | Open new instance of Add\_Client\_UI |
| remove\_client\_button | Boolean — action event | Open new instance of Remove\_Client\_UI |
| search\_clients\_button | Boolean — action event | Open new instance of Search\_Client\_UI |
| add\_job\_button | Boolean — action event | Open new instance of Select\_Client\_UI |
| new\_invoice\_button | Boolean — action event | Open new instance of Select\_Client\_UI |
| add\_login | Boolean — action event | Open add\_login\_dialog |
| logout | Boolean — action event | Close Main\_UI and open new instance of Login\_UI |

Class 3: Add\_Client\_UI

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| --- | --- | --- | --- |
| **Component\_Name** | **Return Type** | **Description** | **Next Action (If action event triggered)** |
| first\_name\_field | String | Client first name |  |
| last\_name\_field | String | Client last name |  |
| telephone\_number\_field | String | Client phone number |  |
| email\_field | String | Client email address |  |
| address\_field | String | Client home address |  |
| city\_field | Object | Client’s resident city |  |
| province\_field | Object | Client’s resident province |  |