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| **Class Name: Graph** | |
| **Description:** Create various graphs for consumption visualization | |
| **Contracts:**  1. Draw graph  - Request data with specified parameters  - Return image of a graph displaying requested  information  **Private Responsibilities:**  - Draw Graph | **Collaborations:**  Graph Graphic (#)  Graphic  Interface |
| **Comments:**  Known attributes: Start time of content, end time of content, type(s) of content displayed (electricity, gas, water, etc.) | |

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| **Class Name: Graphic** | |
| **Description:** Encapsulate data in various formats as requested for all major graphic content | |
| **Contracts:**  **Private Responsibilities:**  **-** Retrieve and package data for use within another object | **Collaborations:**  Consumption (#)  Graph Graphic  Malfunction (#)  Map Graphic |
| **Comments:**  PHP allows for associative arrays, which can hold various types of data concurrently | |

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| **Class Name: Interface** | |
| **Description:** Abstract class of the user view interfaces | |
| **Contracts:**  **Private Responsibilities:**  - Access Database  - Initialize web page  - Initialize graphics | **Collaborations:**  Graph(2)  Map (1)  User(#) |
| **Comments:**  None at the time | |

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| **Class Name: Malfunction** | |
| **Description:** Class used to identify and manage a malfunction | |
| **Contracts:**  #. List current malfunctions based on parameters given  - prepare a list for Graphics class  - provide locations and status information  #.Provide Malfunction status updates  - return current condition of a specific malfunction  **Private Responsibilities:**  **-** Manage malfunction status  - Instantiate Alert | **Collaborations:**  Alert  Graphic  Reading  Task |
| **Comments:**  Known attributes: Time, Type, Technician Assigned | |

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| **Class Name: Sensor** | |
| **Description:** Retrieves specific sensor’s history or metadata | |
| **Contracts:**  #. Store reading to sensor object  - periodically update database about new values  #. Provide reading information  - assist relative buildings in calculating total  consumption values  **Private Responsibilities:**  - Retrieve Sensor Data | **Collaborations:**  Building  Reading |
| **Comments:**  Known attributes: Time, Expected Value, Sensor Data Type, Current data being read | |

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| **Class Name: Task** | |
| **Description:** Handles extra information about a malfunction | |
| **Contracts:**  #. Manage task information  - Tech users modify/update information as needed  **Private Responsibilities:**  - Manage Tasks | **Collaborations:**  Malfunction (#)  Tech Interface |
| **Comments:**  Known routines: Add, Edit, and Delete | |

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| **Class Name: Tech Interface** | |
| **Description:** Handles the dynamic data requests between Techs and the system | |
| **Contracts:**  **Private Responsibilities:**  - Display Tech Interface  - Update Tech Availability | **Collaborations:**  Interface  Mobile Interface  Task (#) |
| **Comments:**  Requires successful login by user with technician credentials | |

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| **Class Name: User** | |
| **Description:** Helps validate users and set up contents of interface | |
| **Contracts:**  #. Validate user credentials  - Accept credentials as parameters  - Return denial of access or redirect/load into  personal workflow  **Private Responsibilities:**  - Validate user credentials  - Generate personal workspace and connect to user interface | **Collaborations:**  Interface |
| **Comments:**  None at this time | |