**Modules**

MapItem

Holds a word and its associated fontsize, location, and size. Has getters, setters, and a to/fromString.

*Only one state with all methods pointing from and to it except the constructor and deconstructor.  
Impossible to draw a 1 state diagram in Violet, impossibly complicated in StarUML.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| *getWord* | NA | *string* | Returns the value of *word*. |
| *getFontSize* | NA | *Int\** | Returns the value of *fontSize.* |
| *getLocation* | NA | *Point* | Returns the value of *location.* |
| *getSize* | NA | *Size* | Returns the value of *Size*. |
| *setWord* | *std::string* | NA | Sets the value of *word*. |
| *setFontSize* | *Int\** | NA | Sets the value of *fontSize.* |
| *setLocation* | *Point* | NA | Sets the value of *location.* |
| *setSize* | *Size* | NA | Sets the value of *Size*. |
| *MapItem* | NA | NA | Constructor creates an empty *MapItem.* |
| *~MapItem* | NA | NA | Deconstructor. |
| *toString* | NA | *string* | Returns *MapItem’s* values as a *string*. |
| *fromString* | *string* | NA | Sets MapItem’s values from inputted string. |

Point

Holds the X and Y coordinates for a MapItem.

*Only one state with all methods pointing from and to it except the constructor and deconstructor.  
Impossible to draw a 1 state diagram in Violet, impossibly complicated in StarUML.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| *getX* | NA | *Int* | Returns the value of *X*. |
| *getY* | NA | *Int* | Returns the value of *Y*. |
| *setX* | *Int* | NA | Sets the value of *X*. |
| *SetY* | *Int* | NA | Sets the value of *Y*. |
| *Point* | NA | NA | Constructor creates an empty *Point.* |
| *~Point* | NA | NA | Deconstructor. |

Size

Holds the Height and Width of a *MapItem*.

*Only one state with all methods pointing from and to it except the constructor and deconstructor.  
Impossible to draw a 1 state diagram in Violet, impossibly complicated in StarUML.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| *getHeight* | NA | *int* | Returns the value of *Height*. |
| *getWidth* | NA | *Int* | Returns the value of *Width*. |
| *setHeight* | *Int* | NA | Sets the value of *Height*. |
| *SetWidth* | *Int* | NA | Sets the value of *Width*. |
| *Size* | NA | NA | Constructor creates an empty *Size.* |
| *~Size* | NA | NA | Deconstructor. |

LinesLayout

Implements the method in ICloudLayout by setting with locations for each word. Words are chosen randomly, then laid out left to right, line by line. Words cannot overlap.

\*\*\*\*\*See Below For Function List\*\*\*\*\*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| ICloudLayout::setLocation | WordMap, Point | n/a | Sets locations |
| LinesLayout | n/a | n/a | constructor |
| ~ LinesLayout | n/a | n/a | destructor |

WordMapMaker

Converts a frequency list (DocList) to WordMap object.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| convertList | DocList | WordMap | Makes a WordMap object of the frequency list. Mapped to 10 font sizes. |
| WordMapMaker | N/A | N/A | Constructor |
| ~WordMapMaker | N/A | N/A | Destructor |



SquaresLayout

Implements ICloudLayout, randomly placing words. It organizes words in a square by rows and columns. The words don’t overlap

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| setLocation | wordmap, Point | n/a | Sets the location for each word in a word map. Organized in a square |
| SquaresLayout | N/A | N/A | Constructor |
| ~SquaresLayout | N/A | N/A | Destructor |



FishEyeLayout

Implements ICloudLayout, randomly placing words with respect to their location. It organizes words of higher frequency in the center and then lower frequency words at the periphery. The words don’t overlap.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameter]** | **Signature[Return]** | **Description** |
| setLocation | WordMap, Point | N/A | Sets the location for each word in a word map organized in fish layout. |
| FishEyeLayout | N/A | N/A | Constructor |
| ~FishEyeLayout | N/A | N/A | Destructor |



LatexCloudMakerThe latex cloud maker is the executable file for the Cloud Maker software that contains another three executable files. Each one of the files is responsible for executing certain functions of the software. reads() an ascii input file and produces a .tex file that will be processed by latex.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Signature[Parameters]** | **Signature[Return]** | **Description** |
| LatexCloudMaker | string (ascii file) | N/A | Reads words from input file. |
| Latex | N/A | N/A | constructor |
| ~Latex | N/A | N/A | destructor |

