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1 //*****
2 // File name: TextUI.h
3 // Author: Chadd Williams
4 // Date: 3/39/2017
5 // Class: CS485
6 // Assignment: TextUI
7 // Purpose: Provide event based TextUI
8 //*****
9 #pragma once
10
11 #include <string>
12 #include <iostream>
13 #include <map>
14 #include "ITextUIWidget.h"
15 #include <functional>
16
17 class TextUI
18 {
19 public:
20 TextUI (std::ostream& rcOut, std::istream& rcIn);
21 ~TextUI ();
22
23 void addWidget (int x, int y, ITextUIWidget *pcWidget);
24
25 void drawScreen ();
26 void clearScreen () const;
27 void displayEventMenu () const;
28 void UIEventLoop ();
29 void registerEvent (std::string name,
30 std::function<void (std::string)> func);
31 private:
32
33
34 struct compare {
35 size_t operator()(const std::pair<int,int> &rcLeft,
36 const std::pair<int, int> &rcRight) const
37 {
38 if (rcLeft.first == rcRight.first)
39 {
40 return rcLeft.second < rcRight.second;
41 }
42 return rcLeft.first < rcRight.first;
43 }
44 };
45
46 std::map<std::pair<int,int>, ITextUIWidget*, struct compare> mWidgets;
47 std::ostream& mrcOut;
48 std::istream& mrcIn;
49 std::map<std::string,
50 std::function<void ( std::string)>> mEventMap;
51
52
```

```
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8 //*****
9 #pragma once
10 #include <string>
11
12 class ITextUIWidget
13 {
14 public:
15
16     virtual ~ITextUIWidget () = default;
17     virtual void setData(std::string data) {mData = data; };
18     virtual std::string getData() const {return mData; };
19
20     virtual void setLabel(std::string label) {mLabel = label;};
21     virtual std::string getLabel() const { return mLabel; };
22     virtual void draw(std::ostream&) const = 0;
23
24     virtual int getLength () const = 0;
25     virtual bool isVisible () const { return mbVisible; };
26
27     virtual void setVisible (bool bVis) { mbVisible = bVis; };
28
29 private:
30     std::string mData;
31     std::string mLabel;
32     bool mbVisible = true;
33 };
34
```

```
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6 // Assignment: TextUI
7 // Purpose: Provide event based TextUI
8 //*****
9
10 #pragma once
11
12 #include "ITextUIWidget.h"
13
14 class TextUITextWidget : public ITextUIWidget
15 {
16
17 public:
18
19 TextUITextWidget (std::string label, std::string data);
20 virtual ~TextUITextWidget () = default;
21
22 void draw (std::ostream &rcOut) const;
23
24 int getLength () const;
25
26 };
```