Dustin Chang – V00713939

Nov 16, 2015

**Assignment 2**

**GitHub**

GitHub Link: <https://github.com/dustinchang/Seng330_Assign2>

**Install**

INSTALL.txt File that is included in project:

#Tools needed to build project

* Git
* Google protobuf library

#Instructions to build project

* Download or clone repository files from GitHub <https://github.com/dustinchang/Seng330_Assign2>
* Navigate to the src directory
* Run 'make'
* Then you can run ./main\_cpp which is where all the execution of prototype class design takes place and the addition of protocol buffer data is
* Then run ./list\_portfolio\_cpp to list all the stored data in the protocol buffers

**Prototype Design Pattern**

//Factory to assist prototype instances and create their clones

class ObjFactory {

/\*!

\* Static prototype template classes

\*/

static Index\* child1;

static Index\* child2;

public:

/\*!

\* Initialization function of derived classes

\*/

static void init() {

child1 = new Stock("Stock");

child2 = new MutualFund("MutualFund");

}

/\*!

\* Function to clone derived class 1

\*/

static Index\* getNameVal1() {

return child1->clone();

}

/\*!

\* Function to clone derived class 2

\*/

static Index\* getNameVal2() {

return child2->clone();

}

};

**Google Protocol Buffers**

This is a small sample of part of the Google Protocol Buffers code where it adds what the user wants as an investment id and name, more of the code can be found at the GitHub link.

/\*!

\* Prompts user for interaction and adds the name and id of the investment they want to add

\*/

void PromptForInvestment(invest::Investment\* investment) {

cout << "Enter investment ID number: ";

int id;

cin >> id;

investment->set\_id(id);

cin.ignore(256, '\n');

cout << "Enter type of investment: ";

getline(cin, \*investment->mutable\_iname());

}

Index\* ObjFactory::child1 = 0;

Index\* ObjFactory::child2 = 0;

**Doxygen**

Doxygen produces an html viewable page of the comments created throughout the project. A few screenshots can be show below. For the full view, you can clone the GitHub and view the index file.







