

Programming II Lab

Term 2 (2014-15)

SESSION 3

Working with inheritance and composition

The focus of this lab session is to learn how to work with inheritance and composition in a given application.

Phone

Data Members

1. phoneNumber
2. phoneState (IN_USE, IDLE) - Use enum, default it IDLE

Methods

1. Constructor: Initialize the phone with the given number
2. call(number): This method calls the given number. Just display "Calling XXXXXX "

Camera

Data Members

1. phoneMake
2. zoomLevel (expressed as a percentage – default is zero)
3. photoMode (AUTO,NIGHT,SUNNY) - Use enum, default is AUTO

Methods

1. Constructor: Initialize the camera with the given make information
2. click(): Takes the picture as per the current camera settings. Just display "Click!"

Tasks to be performed

1. Implement the functionality of a smart phone using two approaches:
 - a. Use Inheritance: Rename Camera class into CameraPhone class and make it into a subclass of Phone class
 - b. Use composition: Implement CompositePhone where Camera is-part-of of the Phone.

What to submit

Create a zip file containing the following files upload the following files:

1. Camera.h / Camera.cc
2. Phone.h / Phone.cc
3. CameraPhone.h / CameraPhone.cc
4. CompositePhone.h / CompositePhone.cc

Name the zipfile as **session3-rollno.zip**