Christopher Lum

lum@uw.edu

**LumCSDK Notes**

Version History

12/06/24: Created

12/07/24: Adding notes about Arduino usage

# General Notes

Table : Folder structure

|  |  |  |
| --- | --- | --- |
| **Folder** | **Contents** | **Comment** |
| src | Source code | * This code is compatible with Arduino. It is stored in a folder called ‘src’ because the Arduino environment will look for a folder called ‘src’ and then try to compile all code inside this folder. Code that is not compatible with Arduino should be in the srcOther folder to avoid compilation errors. |
| srcOther |  | * Other code that is not compatible with Arduino. |

# Updating Solution

## Add a New Project

1. Right click on solution > Add new project
2. Select 'Empty Project' > Static Library
3. Create .cpp and .h files in the 'src' folder
4. Right click on project > Add Existing Items > select files from the 'src' folder
5. Update project properties
   1. C/C++ > General > Additional Include Directories

## Add a new Test Project

1. Right click on solution > Add new project
2. Select ‘Native Unit Test Project’ > name and create project.
   1. After building project these tests should appear in the ‘Test Explorer’ (see Figure 1).
3. Add project reference (see Figure 2).

# Unit Testing

* Open Test Explorer

A screenshot of a computer

Description automatically generated

Figure : Test Explorer.

# Usage with Arduino

* Note that the 'library.properties' file was included to allow this SDK to be used/included within the Arduino IDE.
* Arduino specific/compatible code should be placed in the ‘src’ folder.
* The LumCSDK should be cloned into <ArduinoSketchbookLocation>/libraries location so that code in the ‘src’ folder can be used within Arduino sketches.

# Troubleshooting

## Cannot compile due to precompiled header

**Problem:**

* When building a project, you encounter an error similar to that shown below

A screenshot of a computer

Description automatically generated

**Solution:**

* Turn off precompiled headers. Properties > C/C++ > Precompiled Headers > Not Using Precompiled Headers.

A screenshot of a computer

Description automatically generated

## Cannot compile due to unresolved external symbol

**Problem:**

* When building a project, you encounter an error similar to that shown below

A screenshot of a computer

Description automatically generated

**Solution:**

* Add project references.

A screenshot of a computer

Description automatically generated

Figure : Adding a project reference.