*Florida International University*

*School of Computing and Information Sciences*

Software Engineering Focus

Feature Document

User Story ID 120

**Name: Control Camera and Source**

**Team Member(s): Adrian Bureu, Tiana Ruiz**

**Project: Hemodynamic Imaging of Lower Extremity Ulcers**

**Product Owner(s)**: Anuardha Godavarty

**Mentor(s)**: Ruogu Fang

**Instructor**: Masoud Sadjadi

**User Story Name:**

* Description: **As a NIROS user, I want to be able to control the camera and source, so I can acquire NIR and white light wound images**.

Acceptance Criteria

* Cameras are recognized by program
* LED light on Arduino can be turned on through serial communication
* Camera can can be triggered for an image capture and image is saved

**Use Case**

* Name: Control Camera and LED light
* Actor: NIROS User
* Preconditions: Camera is on and connected through USB to a computer. Camera software is installed. Arduino is connected.
* Description. Program is run. Connection is verified by printing out the camera ID to console. The camera is initialized and an image is captured and showed on screen. LED light in arduino turns on.

**Use Case Diagram <**you can use draw.io**>**

NIROS_camera_usecase.png

**Sequence Diagram**

Camera_sequence.png

LED_sequence.png

**Unit Test**

* Test case ID: 1
* Description/Summary of Test: Test if camera connection is established, print out to console the Camera ID, verify with IDS Camera Imaging software if correct.
* Pre-condition: Camera is connected, camera software is installed
* Expected Results: Camera ID: 4
* Actual Result: Camera ID: 4
* Status (Fail/Pass): PASS

**Integration Test**

Image Capture: Integration case failed. The camera did not freeze a frame and output the image to a window.

LED light: Use case not started.

**Visual User Guide** <like one or two screenshots of the feature. For the hardware project, a photo of device is required>