**Department Of Electrical and Computer Engineering**

**College of Engineering, Trine University, Angola, Indiana**

**Embedded Project 2048**

**Code Documentation**

Developed by:

Matthew Childs

Cory Thatcher

Evan Dickerson

Dr. Sean Carrol

**Rules:**

Our compiler is set to detect MISRA warnings, we receive 0 errors and 0 warnings.

**CRC:**

Located at the top of each file describing the functionality of each file (Class)

**UML communication Diagram:**

Diagram

Description automatically generated

**List of threads:**

UpdateKnobs();

* The Update Knobs thread contains two knobs used for the input of direction.
* Contains a state machine to detect the activating edge of the knobs
* GPIO which is used to initialize the Knobs.

These objects belong together because they are on the same time scale.

UpdateArray();

* Virtual Tile Array which uses combinational logic allowing movement.
* Win lose object. If the player wins then a win screen is displayed to the board. If a player has no more movements a lose screen is displayed to the board.

These objects belong together as they are logically intertwined and communicate via functions.

UpdateDisplay();

* SPI to send data to the dogs display.