

## Deliverables

### 1. What is this game?

This game is Whack-A-Mole.

### 2. How to play?

- a. User presses the reset button(black button on discovery board)
- b. User is met with a preliminary pattern that cycles. User presses button
- c. User is met with another short delay before the game starts
- d. User is met with only one LED turning on this represents the Mole
- e. Press the corresponding button to LED for success, Each level needs 8 successful whacks to move on to the next levels. There are 8 levels thus a total of 64 whacks are needed to win.

### 3. When coding this there were problems where the code became too long in which some functions were not reachable from where they were called and where they were implemented, thus branching caused errors which was solved by using “.W” appended to branching functions(BEQ,B,BL)

Another error occurred where the length on this code also caused trouble. “A1284E:

Literal pool too distant, use LTORG to assemble it within 4KB” this occurred thus

solution to this problem was implementing LTORG before ENDPs

“For ARM code, a literal pool must be within 4KB of an LDR instruction that is trying to access it.”

[http://www.keil.com/support/man/docs/armerr/armerr\\_dom1365071831285.htm](http://www.keil.com/support/man/docs/armerr/armerr_dom1365071831285.htm)

Some features I failed to implement is the user is brought back to UC2 because my losing signals are a looping function, though this can be solved by implementing the User input checker in UC2 to branch back to UC2 after losing.

### 4. How the user can adjust the game parameters, including..

- a. This can be adjusted by changing the variable PRELIM WAIT that is set to 1600000.
- b. ReactTime can be changed by changing the literal value.
- c. The num Cycles can be changed by changing the reps and sets which are R6 and R12.
- d. Changing the winningSignalTime can be changed by changing the bit pattern of masking different desired bits. This also applies to the LosingSignalTime though LosingSignalTime has by default 8 of these that correspond to each level lost at. Thus changing in part C will have to change in part d to correspond to the levels.