**SE 3K04 Assignment 1**

**Bonus**

**Group 9**

Kevin Cheung

Forrest Herman

Atiqul Islam

Jingming Liu

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## Description

The bonus for Assignment 1. This bonus detailed adding a button to inhibit a pulse (acting as a natural heartbeat).

If a press of the FRDM-L64F’s SW3 button is detected, the pacing Stateflow will enter a “waiting” state called **SENSING\_...\_TRUE**. It will wait in this state until either the lower rate limit has been reached (at which point it will pace again), the button is pressed again (resetting the cycle), or a beat is sensed from Heartview.

## Parameters

### Variables:

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Value** |
| btn3 | boolean | Controled by FRDM-L64F SW3 |
| atr\_detect/vent\_detect | boolean | Controled by FRDM-L64F, D0 and D1 |
| sensingCTRL | boolean | Controlled by DCM, true for sensing modes, false otherwise |
| ARP/VRP | int | Controlled by DCM, a value in msec. |

### 

### Conditions to inhibit a pulse:

|  |  |  |  |
| --- | --- | --- | --- |
|  | | | **inhibit pace** |
| btn3 = false | | | no |
| btn3 = true | sensingCTRL = false | ARP time has not elapsed | no |
| ARP time has elapsed | no |
| sensingCTRL = true | ARP time has not elapsed | no |
| ARP time has elapsed | yes |

Description:

In order for button SW3 to inhibit a pace, a sensing mode such as VVI, AAI must be active and the ARP time must have elapsed.