**GetHomeHSM State Pseudo Code**

**Key:**

Capital Case used for variables and function names (Ed’s Convention)

/\* comments \*/

// place holder for code

Only code needed for lowest level state (During func)

Write Durings for everything, but comment out the function call if not needed

**Start GetHomeHSMS (CurrentEvent)**

// Handle history or irregular entry here

If not history entry

CurrentState = Decelerating;

End

/\* Call ENTRY function for GetHomeHSMS \*/

Run GetHomeHSMS(CurrentEvent)

End Start

**GetHomeHSMS\_t Run GetHomeHSMS (CurrentEvent)**

Init MakeTransition, NextState, EntryEventKind, ReturnEvent

/\* React differently based on the state you’re in \*/

Switch (CurrentState)

Case Decelerating:

/\* Execute During to respond to event \*/

CurrentEvent = During Decelerating (CurrentEvent)

/\* Handle all events relevant to Decelerating \*/

If ES\_NO\_EVENT does not == CurrentEvent

Switch (CurrentEvent)

Case Decel Timeout

// Any transition action here

If (CrawlSpeed >= GetSpeed())

NextState = Crawling;

Else

NextState = Decelerating;

End if

MakeTransition = True;

EntryEventKind = EV\_ENTRY;

ReturnEvent = CurrentEvent;

Break;

End switch

End if

Break

Case Crawling:

/\* Execute During to respond to event \*/

CurrentEvent = DuringCrawling (CurrentEvent);

// Final state – no transitions

Break;

End switch

/\* Handle transitions between states \*/

If (MakeTransition)

/\* Exit this state \*/

CurrentEvent.EventType = EV\_EXIT;

Run GetHomeHSMS(CurrentEvent)

/\* Enter next state \*/

CurrentState = NextState; // Change to next state

CurrentEvent.EventType = EventEntryKind;

Run GetHomeHSMS(CurrentEvent)

End if

Return ReturnEvent

End Run

**GetHomeHSMS\_t Query GetHomeHSMS (CurrentEvent)**

Return CurrentState;

End Query

**GetHomeHSMS\_t DuringDecelerating(CurrentEvent)**

Init ReturnEvent

If (EV\_ENTRY == CurrentEvent)

// Execute Entry actions here

Start Decel Timer

/\* No lower level SM(s) \*/

Else if (EV\_ExIt == CurrentEvent)

/\* No lower level SM(s) \*/

// Execute Exit actions here

Decrease Speed

Else

/\* No lower level SM(s) \*/

// Execute any internal event response here

End if

return ReturnEvent

End During

**GetHomeHSMS\_t DuringCrawling(CurrentEvent)**

Init ReturnEvent

If (EV\_ENTRY == CurrentEvent)

// Execute Entry actions here

/\* No lower level SM(s) \*/

Else if (EV\_ExIt == CurrentEvent)

/\* No lower level SM(s) \*/

// Execute Exit actions here

Stop Motors

Else

/\* No lower level SM(s) \*/

// Execute any internal event response here

End if

return ReturnEvent

End During