**Software Validation Test Specification**

Dino\_Google

Functionality\_Name

Dino\_Google

|  |  |
| --- | --- |
| Maturity: | Draft |
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**Test Log**

|  |  |  |
| --- | --- | --- |
| Functionality | Baseline Reference | Target Software Release Version |
| LID $64 and $65 | Baseline #1 | 1.0 |
| Software Tester | Department | Date of Test Completion |
| Moreno Diego | SW | 14/04/2020 |

List of Changes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ver.  (X.Y) | Date  (YYYY-MM-DD) | Maturity  (**D**raft/  **V**alid**/ W**ithdrawn) | Author  (Name/Departm.) | Description |
| 1 | 2020-04-14 | Draft | Moreno Diego /SW | Version 1.0 del Sistema el cual da un rendimiento de 1.30 minutos funcionando |

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1. **Introduction**

Automatizar el juego del dinosaurio de Google a traves de LDR y un servomotor.

* 1. **Change Description**

Evaluar la luminosidad del juego y atraves de eso accionar un servomotor.

* 1. **Solution Approach**

1. Cada LDR tiene un umbral el cual se evalua cada 5 toks, si el Adc que se captura de los sensors es mayor a su umbral, se acciona un Servomotor a 45 grados.
2. **Abbreviations and Definitions**

MTS Module Test Specification

ITS Integration Test Specification

VTS Validation Test Specification

Project specific abbreviations and definitions:

SW Software

1. **References**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Document Name | Date/ Revision | Link (if applicable) |
|  | NA |  |  |
|  | NA |  |  |
|  | NA |  |  |
|  | NA |  |  |
|  | NA |  |  |

1. **Test case formalism**

A simple numeration system is used to identify the Test Cases.

* 1. **Test case number**

|  |  |
| --- | --- |
| Numbering system | Positive Integer numbers starting with 1 are used to identify the Test Cases |
| Inserted test cases | The steps of each Test Cases use also positive integer numbers.  ie, 1.2 indicates Test Case #1, step 2. |

* 1. **Variant Management**

Many tests do not apply to all variants of the product. Column V of the test form indicates applicable variants for each test.

|  |  |
| --- | --- |
| **Column V** | **Associated variant** |
| A | All variants |
| U | US variant |
| E | European variant |

1. **Functionality References & Traceability**
   1. **Functionality Overview**

|  |  |
| --- | --- |
| Description of functionality | Accionar un servomotor a traves de un LDR |
| Reference to SRS / Version |  |
| Rating [when risk analysis required] | NA |
| Test completeness criteria |  |

1. **Test Environment**

This chapter defines the test environment. In case of several specific configurations the description effort can be reduced this way.

* 1. **Hardware**

|  |  |
| --- | --- |
| No. | Description |
| 1 | KL25Z Freedom |
| 2 | LDR |
| 3 | Servomotor |

* 2. **Software**

|  |  |
| --- | --- |
| No. | Description |
| S1 | MCUXPRESSO |

* 1. **Test Environment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | HW Configuration | SW Configuration | EEPROM-Parameter | Description |
| Standard | Kl25z | S1 |  |  |

* 1. **Default Preconditions**

***Tener conectada la Kinetis con el codigo cargado y el HW conectado en los puertos que se indica en el codigo.***

* 1. **Relevant Input & Output Definitions**

Inputs and outputs are specified within the procedure of each test case.

**Test Case Specification (Systematic and Intuitive)**

* 1. **Test Procedures**
  2. **Test Procedures**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Backward-Traceability** | | | | |  | | | |
| **Test Environment** | | | | | Standard | | | |
| **Test Configuration** | | | | | **Tener cargado el Código en la kinetis, con el HW conectado como se indica en el Código.** | | | |
| **TC-Identifier** | **V** | **R** | **N** | **Description** | **Precondition** | **Test procedures** | **Expected results** | **Ok/ Nok**  **Comments /description** |
| **1.1** |  |  |  | Evaluar si el modulo de ADC y el sensor de LDR funcionan correctamente. | Tener un sensor LDR conectado a la tarjeta en el Puerto que indica el codigo, tener la tarjeta conectada con el codigo cargado, iluminar el sensor con el flash del cellular. |  | Que varie el valor del adc segun cambiamos la luminosidad en el LDR. | ok |
| **1.2** |  |  |  | Calibrar los sensores LDR para que me detecten el obstaculo | Fijar a la pantalla con cinta aislante los LDR, haber cumplido la precondicion 1.1 e iniciar el juego presionando la Tecla enter. |  | Que prenda el led cada que el sensor llegue a su umbral, osea que detecte el objeto que es blanco. | ok |
| **1.3** |  |  |  | Mover el servomotor variando el ciclo de trabajo del pwm | Tener un servomotor conectado a la tarjeta en el Puerto que indica el codigo, tener la tarjeta conectada con el codigo cargado, modificar las constantes de ciclo de trabajo del pwm en un rango de 1 a 10 |  | Que el servomotor se mueva segun la constante que indica en el codigo. | ok |
| **1.4** |  |  |  | Accionar el servomotor cada que el ldr a nivel de tierra detecte un objeto | Que se hayan realizado los pasos de la precondicion 1.3 |  | Que el servomotor se mueva a 45 grados al detector un obstaculo, y el dinosaurio salte. | ok |
| **1.5** |  |  |  | Accionar el servomotor cada que el ldr a nivel mediana altura. | Haber cumplido con los pasos que la precondicion 1.4 indica. |  | Que el dinosaurio salte al detectar un objeto a mediana altura . | ok |
|
|  |  |  |
|  |  |  |
| **2** |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| **3** |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. **Test Report**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SW VALIDATION TEST REPORT** | | | **Date**  (dd/mm/yyyy) | |
| **14/04/2020** | |
| **PRODUCT** | | | | |
| **Project name** | **Dino\_google** | | | |
| **Functionality** | **Automatizar juego del dinosaurio de google** | | | |
| **SW Tested Baseline** |  | | | |
| **Test specification name** | **Implementacion del sistema** | | | |
| **Work Package Reference** |  | | | |
| **TEST ENVIRONMENT** | | | | |
| **Test bench release report**  (link to file) | NA | | | |
| **Test environment deviations** | NA | | | |
| **GENERAL TEST RESULTS** | | | | |
| ***Estimated test time*** *(hours)****:*** | 75 hrs | ***Final test time*** *(hours)****:*** | | **42 hrs** |
| ***Existing number of tests:*** | **5** | ***Number of planned tests***  *Subset of existing test according to STS* | | **3** |
| ***Number of performed tests:*** | **5** | ***Number of tests not done:*** | | **0** |
| ***Number of deviations:*** | **0** | ***Number of failed tests:*** | | **0** |
|  | | | | |
| **Test performed by**  (first name, last name - department) | | **Test approved by**  (first name, last name - department) | | |
| **Moreno Arroyo Diego** | | Chavez Padilla Alejandro | | |

|  |
| --- |
| ***Test Status Abbreviations: OK - test result correct (passed)***  ***F - test failed***  ***C - test procedure/description complaint***  ***N/A - not applicable*** |

***Tests not done – Reasons***

|  |  |
| --- | --- |
| **Test No.** | **Reason** |
| 0 | NA |

***Failed Tests (default for all anomalies)***

|  |  |  |
| --- | --- | --- |
| **Test No.** | **Result Observed** | **CR number**/  After submission to CS |
| NA | NA | NA |

***Test deviations (proven incorrect/unclear test specification only)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Test No.** | **Wrong description** | **Corrected description** | **CR number**  Optional |
| 0 | NA | NA | NA |

**Other comments:**