Group name: Tech Gnosis

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**AetherWing: IoT-based Smart Bird House**

**Alpha Test Plan**

**Aetherwing – Executive Summary**

|  |  |
| --- | --- |
| Project Name | AetherWing: IoT-based Smart Bird House |
| Project Description | The smart bird house is a high-tech avian habitat that incorporates numerous sensors, communication components, and automation systems to offer birds a more enhanced and interactive environment while allowing bird owners to monitor and manage their pets from a distance. |
| Test Codename | Julian |
| Test Objective | To verify the functionality, connectivity, and user experience of the Smart Birdhouse, ensuring that it successfully provides real-time monitoring, automation, and interaction features to enhance the well-being of pet birds and facilitate remote management for bird owners. |

**Test Phases**

|  |  |
| --- | --- |
| **Prep** | A week of preparation for the test including hardware configuration, software setup, and materials |
| **Test** | Test plan execution and agile delivery of test results. |
| **Closure** | Final report of the findings of the alpha stage of testing. |

**Schedule**

|  |  |  |
| --- | --- | --- |
| **Week** | **Period** | **Topics/Activity** |
| **1** | Prep | Finalize test plan, team review, and test case setup |
| **2** | Prep | Phone configuration, UI (User Interface) finalization |
| **3** | Test | Software, Sensors |
| **4** | Test | Camera, Feeding |
| **5** | Test | Temperature, Lights |
| **6** | Test | Analytics, Database, Notifications |
| **7** | Closure | Reporting, analysis, and presentation |

**Results Measurement**

|  |  |
| --- | --- |
| **Feedback Type** | **Objectives** |
| Bug Reports | Test quality, interoperability, and real-world performance |
| Suggestions | Measure acceptance, prioritize backlog, and generate new ideas |

**Test Notes**

|  |
| --- |
| **Notes** |
| Testing in week 3 denotes the birdhouse product to be built completely with sensors integrated |
| Testing in week 4 – 6 denotes the features in mobile application testing |

**Test Budget**

|  |  |  |
| --- | --- | --- |
| **Cost** | **Note** | **Estimated Price** |
| Software phone application subscription (Blynk 2.0) | Android | PHP 1,422.00 (25 USD) |

**Test Change Log**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Change Description** | **Author** | **Version** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Test Overview**

**Product Details**

|  |  |
| --- | --- |
| **Product Name** | AetherWing |
| **Product Description** | Test quality, interoperability, and real-world performance |
| **Est. Product Release Date** | TBD |

**Test Details**

|  |  |  |
| --- | --- | --- |
| **Test Codename** | Julian | This term will be used internally for discussing this phase of the project |
| **Total Test Period** | 4 Weeks | The period where quality will be testing the product and providing feedback |

**Test Stages and Phases**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Stage/Phase** | **Start Date** | **Duration** | **Test Cases** | **Hardware Testing** | **Total** |
| **Prep Period** | TBD | 2 Weeks | n/a | n/a | n/a |
| **Alpha 1 Test Period** | TBD | 4 Weeks | 11 | 2 |  |
| **Closure Period** | TBD | 1 Week | n/a | n/a | n/a |

**Test Overview**

**Customer Validation Team**  
The following team will be assigned to this project and is responsible for the successful execution of this test.

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Responsibilities** |
| Jan Michelangelo Lituañas | Test Manager | Test plan and case design, test management, schedule maintenance, team participation, and test operations |
| Christine Abalos | Tester Lead | Test case operation, test performance, bug tracking, bug submission, and suggestion submission |

**Product Team**

Team members will be invited to the platform and receive reports and status updates.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Project Role** | **Email Adress** | **Time Zone** |
| Robemar Aviles | Project Manager | Avilesrr@students.nu-fairview.edu.ph | UTC+8 |
| Christine Abalos | Technical writer/ Visual Designer | Abalosca@students.nu-fairview.edu.ph | UTC+8 |
| Jan Michelangelo Lituañas | Programmer | Lituanasjc@students.nu-fairview.edu.ph | UTC+8 |

**Test Objectives**

**Test Requirements**

|  |  |
| --- | --- |
| **Requirement (All of these)** | **Phase** |
| Evaluate the presentation of sensor data on the user interface for clarity and correctness. | 1 |
| Verify that real-time data updates are displayed accurately. | 1 |
| Measure the reliability of each sensor (temperature, humidity, camera, etc.) to ensure accurate data collection. | 1 |
| Evaluate the performance across unique features, such as live camera feed, temperature monitoring, and remote control. | 1 |
|  | 1 |
| Add, modify, and remove test records within the birdhouse's local database. | 1 |
| Verify that database operations, such as adding new birdhouse records and deleting outdated records, do not result in data corruption. | 1 |
| Verify that user data is stored securely and follows data privacy regulations. | 1 |
| Test the account setup procedures to ensure they are user-friendly and error-free. | 1 |

OS Segmentations

Testing will be grouped into the following operating systems.

|  |  |  |
| --- | --- | --- |
| **Segment** | **Requirements** | **Builds** |
| Android | Version 9.x or later | ALL |

**Test Cases and Activities**

Test Cases and Activities utilizes an approach to gather insights on prioritized features of the product. This approach lays topics out as a map of the product. Cases are created on key features of the product. Issues encountered during testing are filed. Through analysis, actionable and insightful recommendations are provided in reports and weekly meetings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Topic** | **Description** | **Activity** | **Size** | **Weight** | **OS** |
| **Week 1** | | | | | |
| Software | Check if the platform application can run on any phone android phone models | * Download the phone application * Test run the software platform | M | 1.5 | ALL |
| Sensors | Check if sensors are synchronized with the software application | * Test run the sensors | L | 2.0 | ALL |
| **Week 2** | | | | | |
| Camera | Check if camera works as intended | * Show live feed camera in bird house | L | 2.0 | ALL |
| Feeding | Check if using the input feeding works as intended | * Create, edit, update, and delete a feeding scenario * Check if created feeding time is working as intended | L | 2.0 | ALL |
| **Week 3** | | | | | |
| Temperature | Check if temperature sensors and data work as intended | * Use temperature sensor to display current temperature data | M | 1.5 | ALL |
| Lights | Check if temperature sensors and data work as intended | * Use the feature to remotely control the lights | M | 1.5 | ALL |
| **Week 4** | | | | | |
| Analytics | Check if data transmitted and processed are shown in the analytics feature | * Review data sent, processed, and displayed in the application | L | 2.0 | ALL |
| Database | Check if database is working perfectly as intended | * Review data sent, processed, and stored in the database | M | 1.5 | ALL |
| Notifications | Check if real time notifications work in the application and events triggered | * Verify if notifications work as intended | M | 1.5 | ALL |

**Additional Product Topics**

These are not specifically covered in Test Activities but are used for categorization of reports and establishing common terms between stakeholder groups.

|  |  |  |
| --- | --- | --- |
| **Topics** | **Details** | **Weight** |
| Database | Issues related to database performance or accuracy | 1.75 |
| User Interface | The design elements of the application and their related usability | 2.0 |
| Performance | Speed and responsiveness related to application functionality | 1.5 |
| Links | Identify connections in the application reach associated links | 1.5 |
| Text | Grammar, spelling, and other text elements in the application | 1.0 |
| Commerce | All materials related to the commerce aspects of the application | 2.0 |
| Privacy | Systems regarding front-end access to security, personal identifying information, etc. | 2.0 |
| Legal | Items regarding legal, legal statements, and Philippine law compliance | 2.0 |
| Other | Other areas of the product not covered by the above topics | 1.0 |

Weight: A value of 1.0 will not impact the Feedback Score. Higher values signify more importance while lower values signify less. This results in identifying higher priority issues and ensures we gather sufficient feedback on key topics.

**Bug Reports**

Testers will be expected to report detailed accounts of any negative issues they experience as Bug Reports. Once filtered by the Customer Validation team, existing Bug Reports are available to other testers to collaborate and collect additional details.

**Bug Report Fields**

|  |  |
| --- | --- |
| **Name** | **Description** |
| Summary | A single line summary of the issue |
| Steps to Reproduce | Detailed steps to reproduce the issue |
| Test Platform | A profile of the device the problem was experienced on |
| File Attachments | Any associated files (such as screenshots or logs) |
| Topic | The impacted area of the product (see Topic list) |
| Severity | See Bug Report Severities |
| Status | Choices: New, Need More Info, Sent to Client, Closed |
| Closure Reason | Choices: Incorrect Feedback Type, Support Request, Invalid or Inappropriate |
| Client Resolution | Choices: Not Started, Tester Reproduced, Reproduced, Cannot Test, Cannot Reproduce |
| Reproduction | Defines current issue reproduction status (see Bug Reproduction) |
| Blocking Issue | Issues preventing the tester from further testing |
| Comments | A collection of comments including additional file attachments |

**Bug Report Field: Severity**

|  |  |  |
| --- | --- | --- |
| **Label** | **Description** | **Weight** |
| Critical | Defect causes failure of essential operation of the system. A problem with a major Topic that exhibits itself frequently. A workaround may exist, but its use is not feasible for normal use. Item is affecting other items or systems not related to the test. | 2.5 |
| Major | Defect causes failure of noncritical aspects of the system, within a primary Topic. A problem with non-primary Topic that exhibits itself frequently | 1.2 |
| Minor | Nonessential operations are disrupted. A satisfactory or easy workaround exists to an otherwise Major severity. Problems are noncritical and not easily duplicated or do not reoccur often. | 1.0 |
| Trivial | No significant impact on operations. Defects do not impact performance. | 0.5 |

**Suggestions**

Suggestions collect ideas or requests based on the live product experience. Suggestions are collaborative in nature, allowing the tester team to drive discussion toward popular Suggestions.

**Suggestion Fields**

|  |  |
| --- | --- |
| **Name** | **Description** |
| Summary | A single-line summary of the issue |
| Description | A detailed overview of the idea |
| File Attachments | Any associated files (such as screenshots or mock-ups) |
| Topic | The impacted area of the product (see Topic list) |
| Status | Choices: New, Need More Info, Sent to Client, Closed |
| Closure Reason | Choices: Incorrect Feedback Type, Support Request, Invalid or Inappropriate |
| Client Resolution | Choices: Need More Info, Outside Scope, Existing Suggestion, Considering, Planned |
| Comments | Discussion surrounding the requested suggestion, including additional file attachments |