T11 - Suspicious Package Training Aid

# Product Design Specification – Revision 5

### 12/10/2014

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# Marketing Requirements

## Must:

1. Be able to detect when a two-way radio is transmitting at a frequency of 410-470 MHz within a 25 foot radius of the device.
2. Be able to detect if the device is moved or agitated.
3. Be able to notify the end user if either of the previous two events has occurred.
4. Be portable and easily concealed.
5. Last the duration of a training period.

## Should:

1. Notify the user of which event specifically caused a training fault.

## May:

1. Wireless activation of the device.
2. Allow users to modify sensitivity of RF detection.

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| Marketing requirements | Engineering Requirements | Justification |
| 1,2 | 1. The two way radios in use by the Oregon zoo have an operating rang of 403 – 512MHz. | The devise should detect radio frequencies between a specified range. |
| 2,3 | 1. The device should give an audible or visual indication in the event of a simulation failure. | An audible queue is an easy, cost effective, and low power way to notify users of a training fault. |
| 3 | 1. The device should be able to detect if it has been moved or agitated. | The device must issue a failure when it is moved from its activated position. |
| 4,5 | 1. The device should be run from an independent power source. | The device can be run from a single nine volt battery. The nine volt saves on packaging space. |
| 4,5 | 1. Based on average mAH of batteries, the worst case event shows a nine volt battery with an average of only 120 mAH. The training at the Oregon zoo is projected to be in 1 hour durations. A current draw of 86mA on a 120mAH battery is expected to last 1 hour | The device needs to be able to run for several concurrent training simulations. |
| 4 | 1. The device should be small enough to be fit into a backpack. | All components can fit in this package size. This also allows the user to carry the simulator in a satchel. |
| 6 | 1. The device should visually inform the user of what caused a simulation fault | Visual notifications are intuitive for users. This would allow them to quickly identify the cause. |

**Revision changes**

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| --- | --- | --- |
| **Date** | **Author** | **Changes** |
| 10/25/2014 | Devin Lorenzen | Created the initial document. |
| 10/26/2014 | Seth Ward | Added title page, table of contents, and revision table. Also consolidated marketing requirements and edited PDS table. |
| 10/26/2014 | Jeremiah Franke | Edited PDS Table. Corrected spelling from Auto correct |
| 11/24/2014 | Seth Ward /Jeremiah Franke | Revised and update marketing and engineering requirements |
| 12/10/2014 | Seth Ward | Added Contributing Members section to the cover page. Added date and time. |