Rocket-Switch-Interface
REQUIREMENTS SPECIFICATIONS

1. Introduction

The Rocket Switch Interface is intended to be a low-cost switch interface, alternative to commercial options. The device needs to perform the main functions offered by commercial devices.

2. Problem Definition

Who

Who will be using the product?

- The Switch Interface is intended to be used primarily by anyone wishing to use adaptive switches and switch control software, to interface with computers or smartphones.

What

What must the device do?

- The source Switch Interface must convert the assistive switch activations, to inputs readable by the host devices (computers or smartphones).
- The Switch Interface must be easy to use.

Where

Where will the device be used?

- The Switch Interface is primarily intended to be used in an assistive switch user's home, school or office environment.

When

- The Switch Interface is primarily intended to be used during computer or smartphone access/usage sessions.

Why

Why will the device be used?

- The Switch Interface is primarily intended to be used as a low cost, open source switch interface option, alternative to commercial options.

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3. Functional Properties

3.1 Goals

G01	Cost-effective
G02	Cost Effective (Low cost comparing to alternative options)
G03	Easy to use
G04	Easy to assemble
G05	Minimal size

3.2 Functional Requirements

ID	Description
F01	The device shall have one or more input channels.
F02	The device shall send output data via USB HID to the host device.
F03	The device shall be compatible with switch control software.
F04	The device switch shall incorporate minimal input protection.
F05	The device latency shall not exceed 50 milliseconds.
F06	The device shall support visual feedback for user interactions.
F07	The device shall not consume more than 20 mA of current from the USB port.
F08	The device shall be able to perform Mouse button, joystick button and keyboard emulation.
F09	The device shall weigh less than 25 grams.
F10	The device shall be smaller than 50mm x 40mm x 20mm.

3.3 Non-functional Requirement

ID	Description
NF01	Shall look professional with tight tolerance on case size.
NF02	Input ports should be legibly labelled for easy identification

3.4 Constraints

ID	Description
C01	Shall be able to be built as a single unit for ≤ $40 CAD
C02	*Shall be easily manufacturable by a moderately skilled maker*