Use this page to submit a proposal for your **Independent Study Project**. You have read the underlying philosophy of the activity (<http://darcy.rsgc.on.ca/ACES/ISPs/Hardware.html>), explored various topics of pursuit and have understood the assessment criteria (<http://darcy.rsgc.on.ca/ACES/ISPs/ISPEvaluation.docx>).

**1. Your Name:**

**2. Project Title:**

**3. Provide a brief description of the project:**

**4. Provide specific digikey SMD part descriptions**

 (<https://www.digikey.ca/>)

 My commitment to you is to provide you with the SMD components you require for your ISP. For this **I need the most accurate list of Digikey parts data possible**. Add, edit or remove the respective parts below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Part** | **Package** | **#** | **Digikey Part Number** | **Comments** |
| AVR uC? | eg. 8-SOIC | 1 | [ATTINY85-20SU-ND](https://www.digikey.ca/product-detail/en/microchip-technology/ATTINY85-20SU/ATTINY85-20SU-ND/735470) |  |
| Shift Register | 16-SOIC | 1 | [296-4618-5-ND](https://www.digikey.ca/product-detail/en/texas-instruments/SN74AHC595D/296-4618-5-ND/375884) |  |
| USB Micro B |  | 1 | [609-4613-1-ND](https://www.digikey.ca/product-detail/en/amphenol-icc-fci/10118192-0001LF/609-4613-1-ND/2785378) |  |
| Passive | 1206 | 1 |  |  |
| Passive | 1206 |  |  |  |
| Passive | 1206 |  |  |  |
| FFC  |  | 1 | [WM10537-ND](https://www.digikey.ca/product-detail/en/molex-llc/0152670205/WM10537-ND/4427086) |  |
| FFC Connector |  | 1 | [WM10939CT-ND](https://www.digikey.ca/product-detail/en/molex-llc/0522070660/WM10939CT-ND/5170941) |  |
| LED (RG) | 1206 |  | [160-2026-2-ND](https://www.digikey.ca/product-detail/en/lite-on-inc/LTST-C235KGKRKT/160-2026-2-ND/3198718) |  |
| SMD 7-SegDis |  |  | [516-3011-1-ND](https://www.digikey.ca/product-detail/en/broadcom-limited/HDSM-283C/516-3011-1-ND/4240292) |  |
| Momentary PB |  |  | [CKN9104CT-ND](https://www.digikey.ca/products/en?keywords=CKN9104CT-nd" \t "_blank) |  |
| 555? | 8-SOIC |  | [LM555CMXFSCT-ND](https://www.digikey.ca/product-detail/en/on-semiconductor/LM555CMX/LM555CMXFSCT-ND/3042804) |  |
| 4511? |  |  |  |  |
|  |  |  |  |  |

**5. Provide additional SLIM CAD case details (Staple sketch if necessary)**

**NOTE: Be sure to check ALL the applicable boxes on the reverse.**

Please check all boxes corresponding to the concepts and skills you intend to exploit in this project.

|  |  |  |  |
| --- | --- | --- | --- |
| **Hardware Components** | **Software Techniques** | **Power** | **Skills** |
| □ resistors□ capacitors□ potentiometers□ transistors□ diodes□ push buttons□ switches□ LDRs□ thermistor□ temperature sensor□ proximity sensor□ IR (infrared)□ Radio Frequency (RF)□ Bluetooth□ OpAmps□ voltage regulators□ MOSFETs□ surface mount parts□ Logic ICs (40xx)□ shift registers□ Specialty ICs (555,MSGEQ7, H-Bridge, LM3914, etc.)□ Real Time Clock (RTC)□ ATtiny85□ LEDs (single, Bi, RGB)□ 7-segment display□ Alphanumeric display□ Bargraph□ LED Matrix□ LCD Panel□ Graphics Panel□ DC motor□ servo motor□ stepper motor□ solenoid □ microphone□ audio line in□ speaker□ magnets□ point-to-point board□ perma-proto board□ custom PCB□ OTHER | □ High-Level□ Assembly□ Arrays□ Structs□ bitwise operators□ I2C (TWI)□ Libraries□ ADC□ PWM□ Serial Comm. (ISP)□ Debouncing□ LookUp Table□ Polling□ Persistence of Vision□ Interrupts□ Recursion□ ISP□ EEPROM□ Processing□ Charlieplexing□ Timing related□ UML Design□ OTHER | □ Batteries□ AC/DC Adapter□ Transformers□ coils/chokes□ 12V□ 24V□ solar□ manual□ Peltier tiles□ OTHER | □ reading a schematic□ through hole soldering□ surface mount soldering□ printed circuit board layout and manufacturing□ DMM Debugging☑ CAD□ 3D printing□ acrylic fabrication☑ Word□ Excel□ Time-management□ Fritzing□ Presentation Overview☑ video creation☑ technical writing□ OTHER |
| **Engineering Fields**  |
| □ electrical□ computer□ mechanical□ software□ OTHER |