POA Internship

**Technical specifications internship assignment Health Concept Lab**

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| **Technical specifications** | | |
| **#** | **MoSCoW** | **Description** |
| **T1** | **M** | **A Raspberry Pi will be used as the computer and controller** |
| **T2** | **M** | **The Raspberry Pi will connect to a PCB hat (PI-HAT)** |
| **T3** | **M** | **The device will use a camera connected directly to the pi via a flat cable to take pictures and videos** |
| **T.3.1.0** | **M** | **The camera will be stationary, the lens itself will move** |
| **T3.1.1** | **M** | **The device will be able to focus and reposition the lens via motors or moving magnets** |
| **T3.1.2** | **S** | **When using magnets, the drv8838 should be utilized** |
| **T4** | **M** | **The device will have a LED to create light for the microscope** |
| **T4.1** | **S** | **The led driver that should be utilized is the cn5711** |
| **T5** | **M** | **There will be stepper motors used** |
| **T5.1** | **S** | **The motors should be chosen according to the required strength** |
| **T5.2** | **S** | **The motor resolution should be below x degrees** |
| **T6** | **C** | **Some motors and sensors could be attachable via connectors** |
| **T6.1** | **S** | **All connectors should be standard (nonproprietary)** |
| **T7** | **M** | **The device will cool the examination chamber with a Peltier module** |
| **T7.1** | **M** | **The Peltier module must be actively cooled to function and prevent damage** |
| **T7.2** | **M** | **The device will heat the examination chamber via resistive heating** |
| **T8** | **S** | **A flat cable should connect the sensors and motors data to the PI-HAT** |
| **T8.1** | **C** | **The PI-Hat should distribute power to all devices including the Raspberry Pi** |
| **T8.2** | **W** | **The PI-HAT will not have any LEDs or status indicators** |
| **T8.3** | **C** | **The PI-HAT may provide a fan connector to cool the Raspberry Pi** |