

Cleaning, Mapping, and Disinfecting Robot Design Proposal

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Outline

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- CAD Modeling
- Electrical and Software Design

Introduction

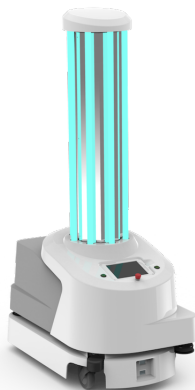


Figure: UVD Robot, source: <http://www.uvd-robots.com/>

Introduction



Figure: Xenex LightStrike Germ-Zapping Robot, source:
<https://www.xenex.com/our-solution/lightstrike/>

Introduction

- The proposed robot will offer a modular design and open source architecture
- Dissamebly will be one of the key features allowing parts to be added or changed
- Software and hardware will be completely open source

Introduction

- Robot will include a disinfectant sprayer in case a room is unsafe to be cleansed with UV light
- Vacuuming feature will be added to further set the robot apart from its commercial counter parts

Current Design

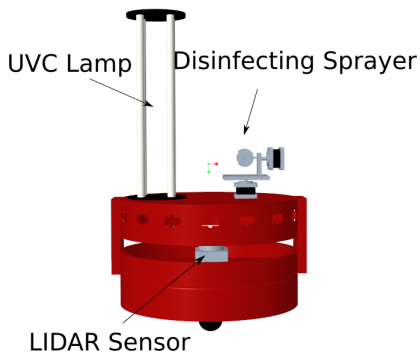
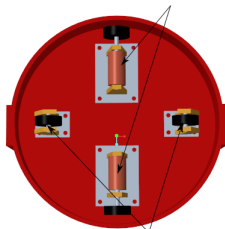


Figure: Side view of the current robot design

Differential Drive Wheels



Caster Wheels

Figure: Bottom view of the current robot design

Development Plan

CAD Modeling

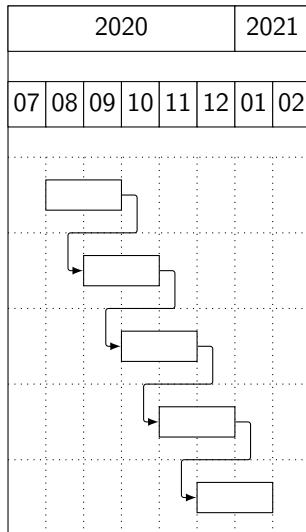
Redesign outer shell of the robot

Design vacuuming system

Create mount points for sensors

Design disinfectant sprayer mechanism

Design caster and drive wheel mounts



Electrical and Software Design

- Develop power delivery system
- Create connections with the onboard SBC
- Develop software and firmware

Any Questions?