

Introduction to the Internet of Things

Session 11

Ulrich Norbistrath

Outline

- ESP8266 Power Management
- Various IoT Projects

During Project Presentations

- Judge for each project if this is a true IoT project, why is it, why is it not?
- Highlight two ideas, relevant for potential project scenario.
- Sketch scenario idea.
- Two realization questions about not presented projects (how could I realize...).

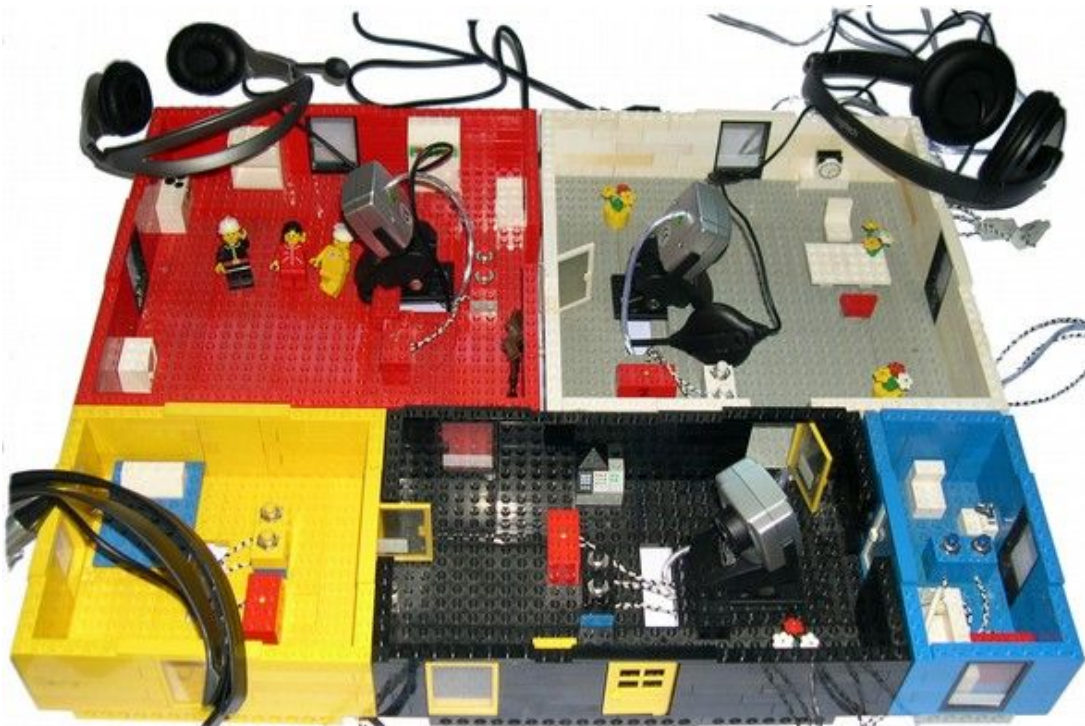
Various IoT Projects and Solutions

- eHomeDemonstrator v3
- DIY remotes
- Rainwater Management by Smart Communities
- Virtual libraries
- IoT in VR Simulation (Houston)
- IoT in Arts
 - Magic Owl (touchless interaction with artifacts)
 - Performance Support
 - Fringe Festival in DC
 - The Plasma Show
 - Ninho
 - Museo Nacional (Hammock and Hairpiece)
 - Bees
 - Leds and animations
 - Digital identity
 - Artificial Window
 - AEC projects
 - Atomic bits → music bottles
 - Moving screens

PhD: Configuring eHome Systems

Aachen → Tartu, Estonia

- At that time:
 - Ubiquitous computing
 - Actor/Sensor Networks
- (Now: IoT)



eHomeDemonstrator v3

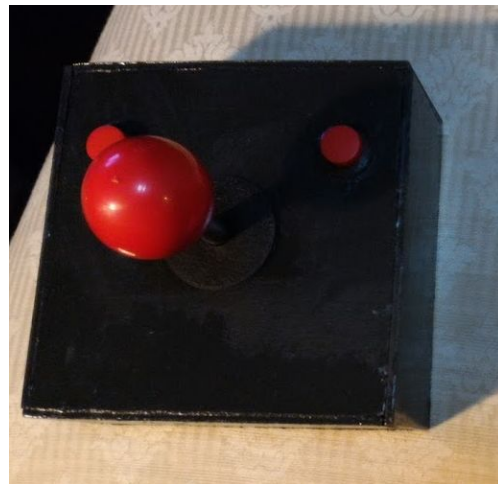
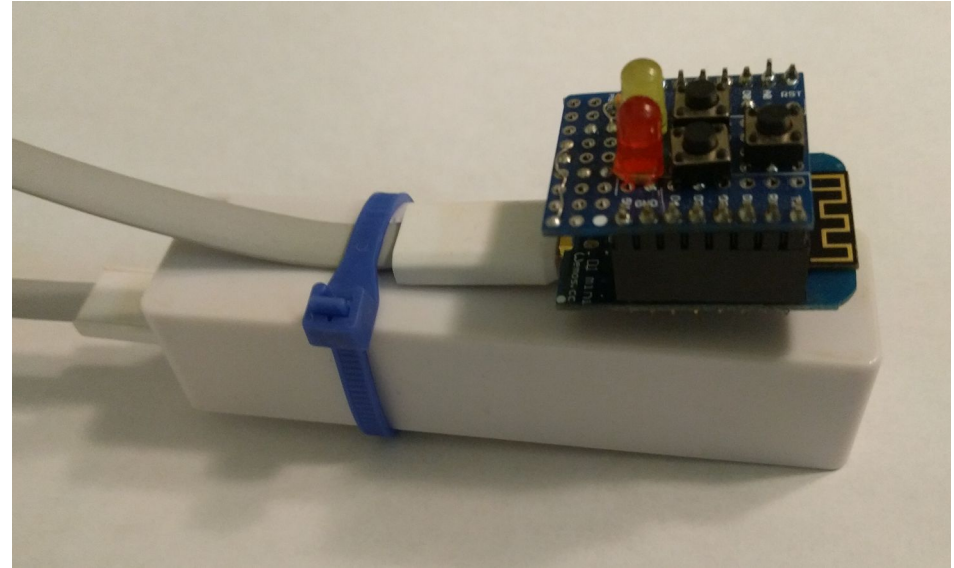
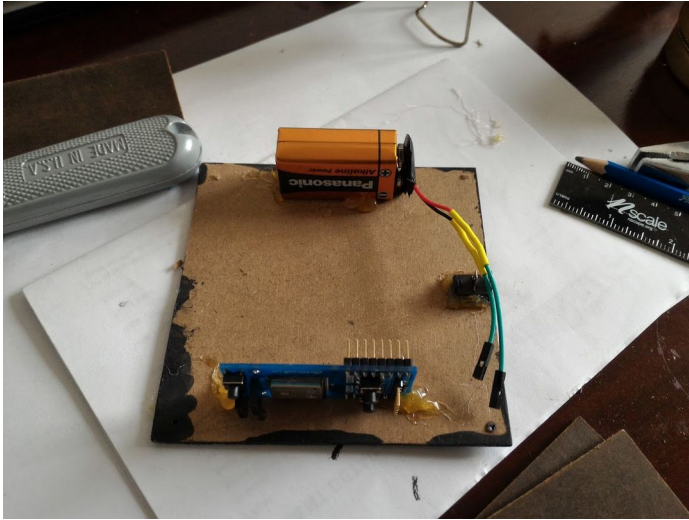
GMU Mix, Arlington, VA



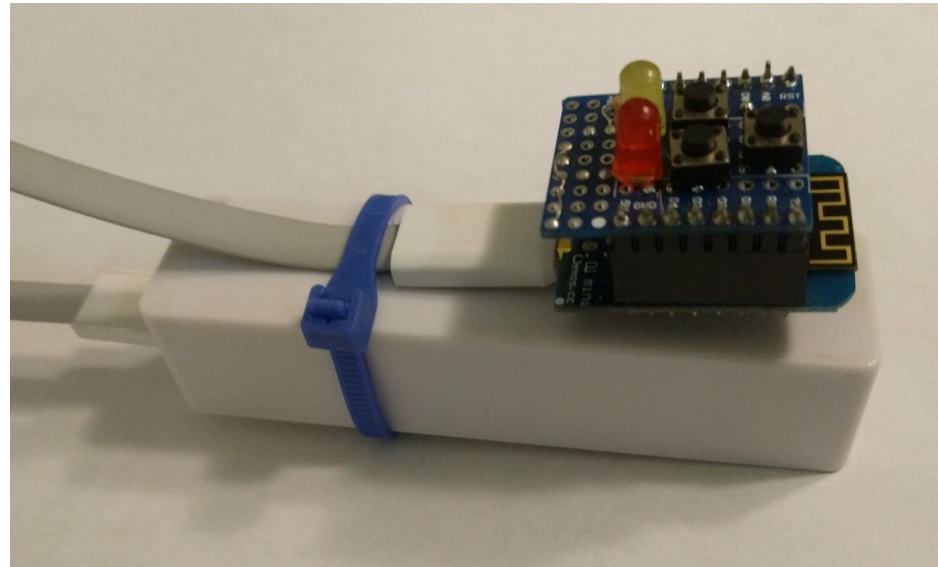
Videos

- smart-switch video
- extra-tour video

DIY Remote

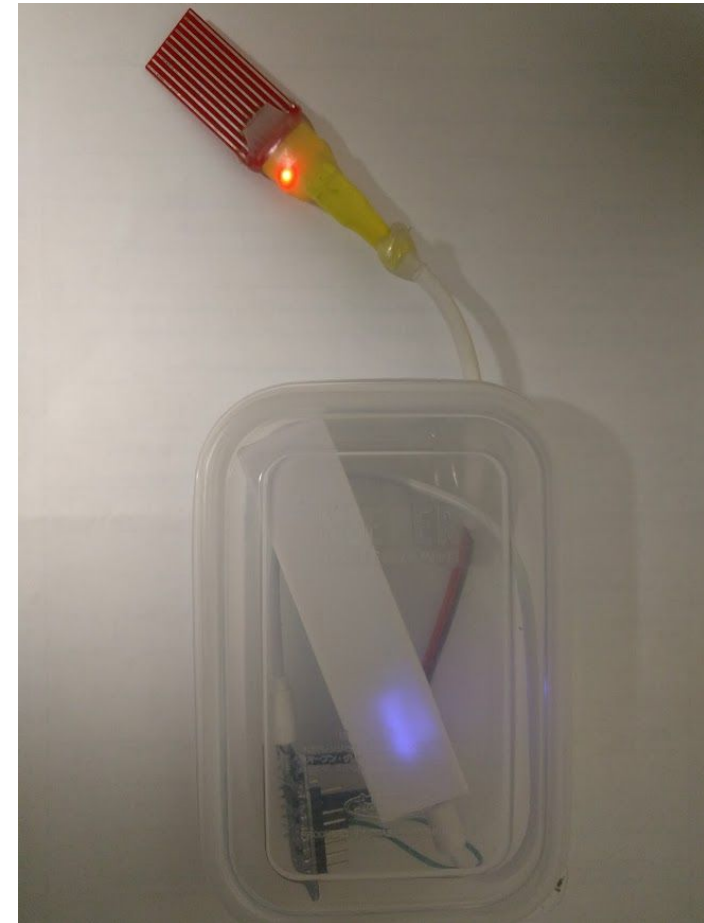


Demonstration



Rainwater Management by Smart Communities

- Support disrupted communities
- Build locally relevant products
- Teach tech and craft skills for making them
- Show affordable way to source parts
- Inspire communities
- Help the community
- Support urban development

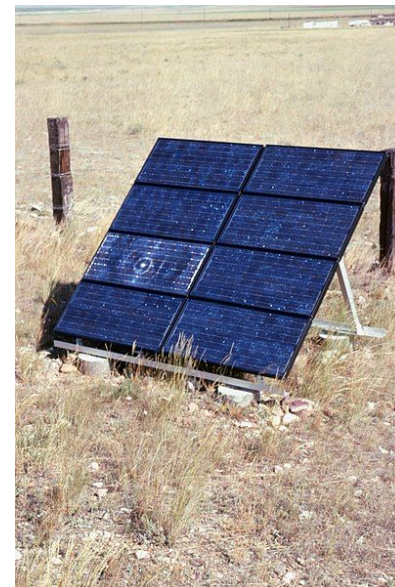


Demonstration



Virtual Library

- Library in a pocket (content and chat over wifi)
- For places with little infrastructure and no internet → still everybody has phones with wifi
- So far based on <https://piratebox.cc/>
- Potential switch to IoTempower pi image



Images:
- raspberrypi.org
- wikimedia

IoT in VR Simulations

- Huoston's PhD

Going Artsy: IoT Owl



Owl Video

Owl Demonstration



On the Fringe (-Festival)

- Performance support through IoT



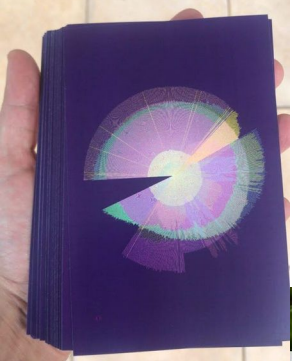
Performance support

- We tried Windows 10 and powerpoint → update crash during performance
- Raspberry pi with ulnoiot
- Pre-rendered powerpoint into video
- Remote: cellphone and button-remote
- Video with timestamps
- Remote jumps between timestamps
- No admin in light box necessary

Plasma Performance (Ana Cecilia Mac Dowel)



Ninho – Artsy Smart Home



ninho

COLETIVO DE PESQUISA EM ARTE,
INTERATIVIDADE E AGROECOLOGIA

CONVIDA PARA
ENCERRAMENTO DA EXPOSIÇÃO
SÁBADO, 1 DE SETEMBRO DE 2018,
NA CASA-ATELIÊ (CONDOMÍNIO RK,
CENTAUROS QD B LOTE 33, SOBRADINHO - DF)

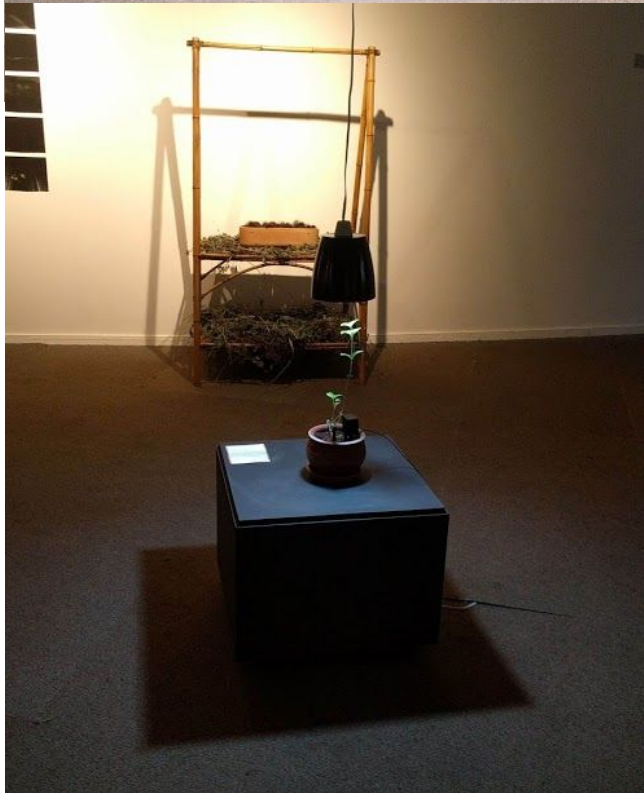
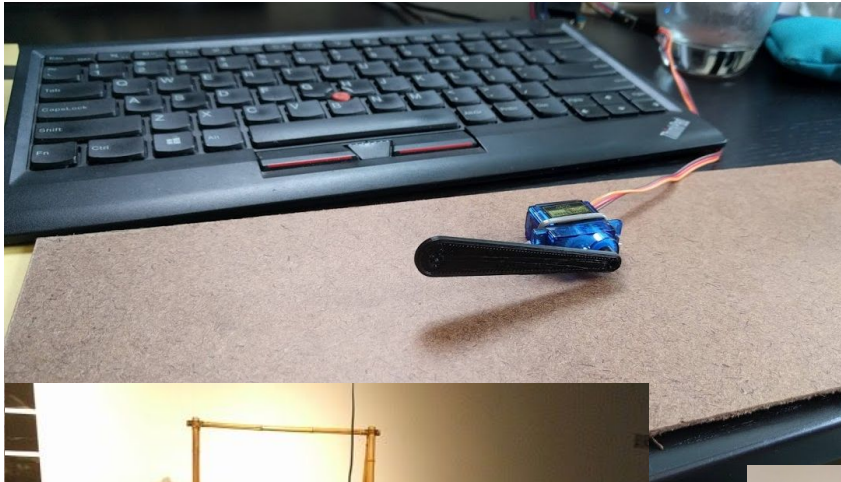
CURADORIA Malu Fragoso

EXPOSITORES André Freitas // Karen Schmidt // Maurício Chades //
Márcio Mota // Renato Perotto // Sofia Carvalho // Yasmin Adorno
E ALUNOS DO CED 3 DE SOBRADINHO, PARTICIPANTES DAS OFICINAS NINHO

15H ÀS 22H - VISITAÇÃO
16H - TRILHA PELO JARDIM FLORESTAL COM SOFIA CARVALHO
18H - CONVERSA COM OS ARTISTAS E A CURADORA MALU FRAGOSO

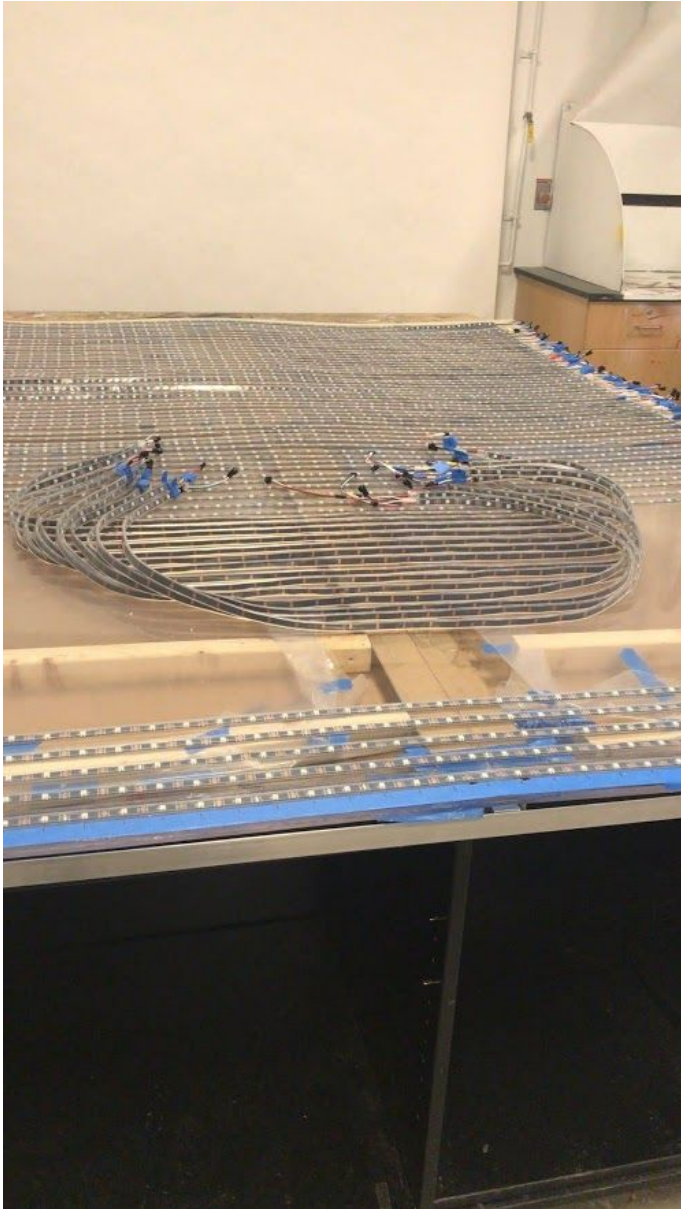


Museo Nacional Hammock and Hairpiece (with Renato Perotto and Malu Fraguoso)



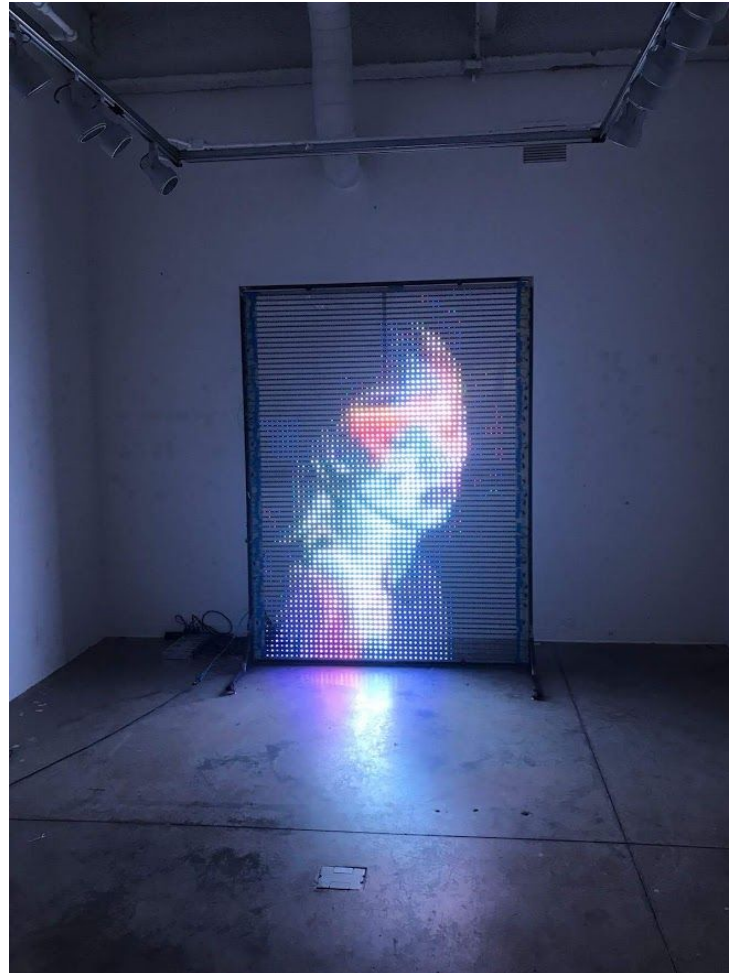
Bees

Digital Identity/Interactive Mural

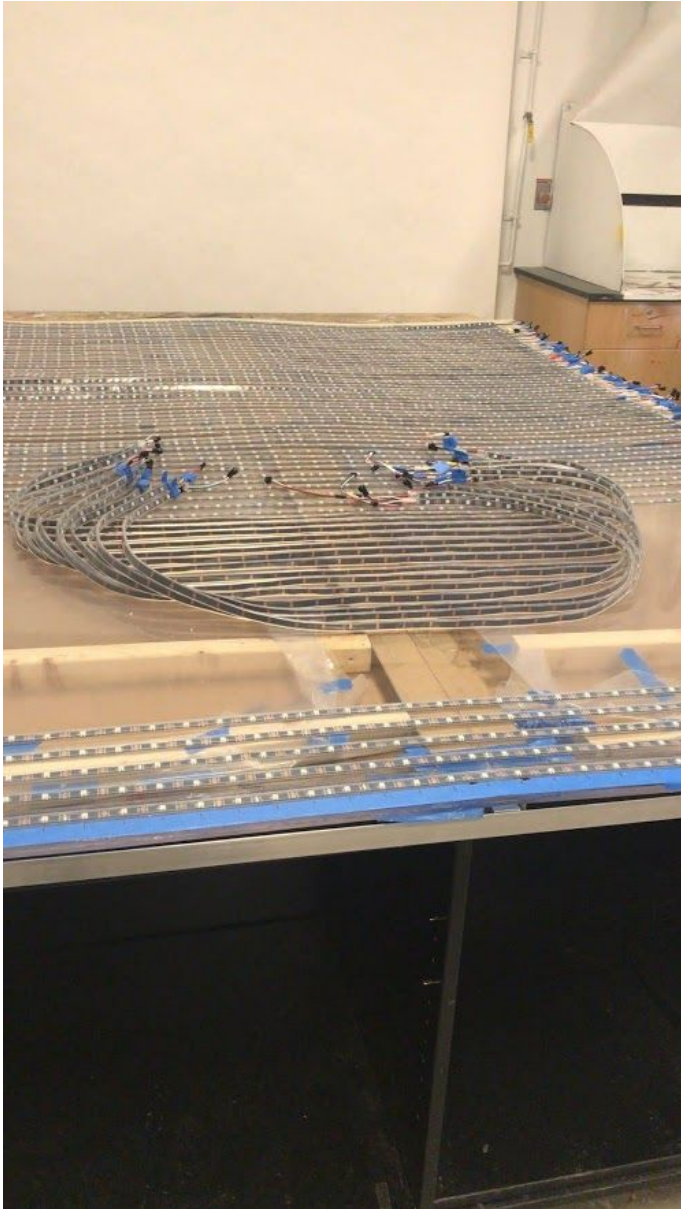


Digital Identity Video

- <https://vimeo.com/288832742>



Digital Identity/Interactive Mural



Artificial Window (soon on Youtube)



One Example from AEC Atomic Bits/Music Bottles



Lab 10

- Continue project 2
 - try to finish scenario(s)/story(s)
- Finish new sensors/actors tasks from last lab