

# Physical Computing

## Guerilla Devices — Moments of Encounter



1st Semester HS25  
BA Interaction Design  
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# Guerilla Devices

reveal the invisible  
disrupt routines  
invite participation  
provoke reflection

# Topic – What are Guerilla Devices?

Small, autonomous, unexpected interventions in public space.

Characteristics:

- Temporary, leave-no-trace
- Technology as provocation or gift
- Create moments of encounter
- Operate without permission
- Challenge assumptions about public space

# Questions

- **What can a device reveal?** Hidden data, invisible forces, overlooked behaviors
- **What can a device disrupt?** Routines, expectations, passive consumption
- **What can a device invite?** Participation, curiosity, conversation, reflection
- **What does it mean for an object to act in the world?**



# Sentient City Survival Kit

Mark Shepard, 2009

A collection of artifacts for survival in the near-future "sentient city" – where urban systems monitor, remember, and anticipate our behavior.

Objects in the kit:

- **CCD-Me-Not Umbrella:** LEDs frustrate CCTV surveillance
- **AD-hoc Café:** Travel mug creates local mesh network
- **Serendipitor App:** Navigation that introduces chance encounters
- **RFID-sensing underwear:** Vibrates when personal data is read

Key insight: Critical design as survival tools. What futures are we designing for?

# Slow Messenger

Near Future Laboratory, 2007

A device that delivers messages exceptionally slowly – one letter at a time.

How it works:

- Message reveals faster the more you hold it
- Message reveals faster the more you walk with it
- Coupling digital communication to physical presence

Key insight: A "theory object" – not a product, but a provocation. What do we lose when everything is instant?



# Graffiti Research Lab

Evan Roth & James Powderly, 2005–

Open source technologies for urban communication.

Projects:

- **LED Throwies:** LED + battery + magnet. Throw at metal surfaces. Instant light graffiti.
- **L.A.S.E.R. Tag:** Projector + camera + laser pointer. Write on buildings from a distance.
- **EyeWriter:** Eye-tracking interface for paralyzed graffiti artist Tempt to continue tagging.

Key insight: Simple technology, maximum impact. Open source = anyone can replicate and adapt.

# More Inspiration

**Bodies in Urban Spaces** (Willi Dorner) Physical interventions – performers wedged into urban architecture

**Pixelator** (Jason Eppink) Styrofoam + diffusion gel transforms subway ad screens into pixel art

**21 Balançoires / Musical Swings** (Daily tous les jours) Interactive swings create music when used together – cooperation as interface

**PVI Collective – Panopticon** Black umbrellas as inadequate but poetic shields against surveillance

**Poetry Bombing** (Agustina Woodgate) Poems sewn into clothing labels in thrift stores



# Task

An interactive object that:

- Operates in public space in/near Toni-Areal
- Creates a moment of encounter with passersby
- Senses something about its environment or the people in it
- Responds in a way that provokes, delights, or reveals

Constraints:

- Must work autonomously (no laptop tethered to it)
- Must be portable / deployable
- Must leave no permanent trace
- Groups of 3/4

# Concept Framework – System Sketch

What to prepare:

A visual diagram showing:



Include:

- What the device senses (presence, distance, touch, sound, light, etc.)
- What logic/decisions the Arduino makes
- What the device does in response (light, sound, movement, display)
- Power source and enclosure concept



# Concept Framework – User Flow / States

What to prepare:

A state diagram or user flow showing:

1. **Idle state:** What does the device do when no one is around?
2. **Detection:** How does it know someone is there?
3. **Engagement:** What happens during interaction?
4. **Transition:** How does it return to idle?

**Think about:** Edge cases, multiple people, what happens if it fails?

# Concept Framework – Materials & Sensors

What to prepare:

A list of what you need:

- **Sensors**
- **Actuators**
- **Power**
- **Enclosure**
- **Mounting**

# 1st Mentoring Thursday

For Thursday mentoring, bring:

- System sketch (input → process → output)
- User flow / state diagram
- Materials list (what you have / what you need)
- Location ideas (where will you deploy?)

# Concept Presentation – Friday

5 minutes per group:

1. **Situation** (1 min) Where? Who is there? What happens normally?
2. **Intervention** (2 min) What does your device sense? What does it do? Show your system sketch and user flow.
3. **Why?** (1 min) What moment are you creating? What question are you asking?
4. **Open questions** (1 min) What are you unsure about? Where do you need input?



# Questions to Guide Your Concept

About the space:

- What's invisible here that could be made visible?
- What routines could be interrupted?
- Who passes through and when?

About the interaction:

- What's the minimum gesture that creates a moment?
- How does the device "know" someone is there?
- What's surprising but not threatening?

About the technology:

- What's the simplest sensor that could work?
- How long does it need to run on battery?
- What happens when it fails?

# Readings

- Sensing Place - Mediating the Urban Landscape - Christoph Merian Verlag
- Smooth City - Against Urban Perfection, Towards Collective Alternatives - Valiz Verlag

# Weapons of Mass Distractions

////////FUR////





# Weapons of Mass Distractions

////////FUR////







Button Trap

////////FUR////



tele-present wind

David Bowen, Nasa Jet Propulsion Laboratory







# Sounding Soil

Marcus Maeder



Graffiti Writer

Institute for Applied Autonomy





# SMS Guerilla Projector

Troika





# Access

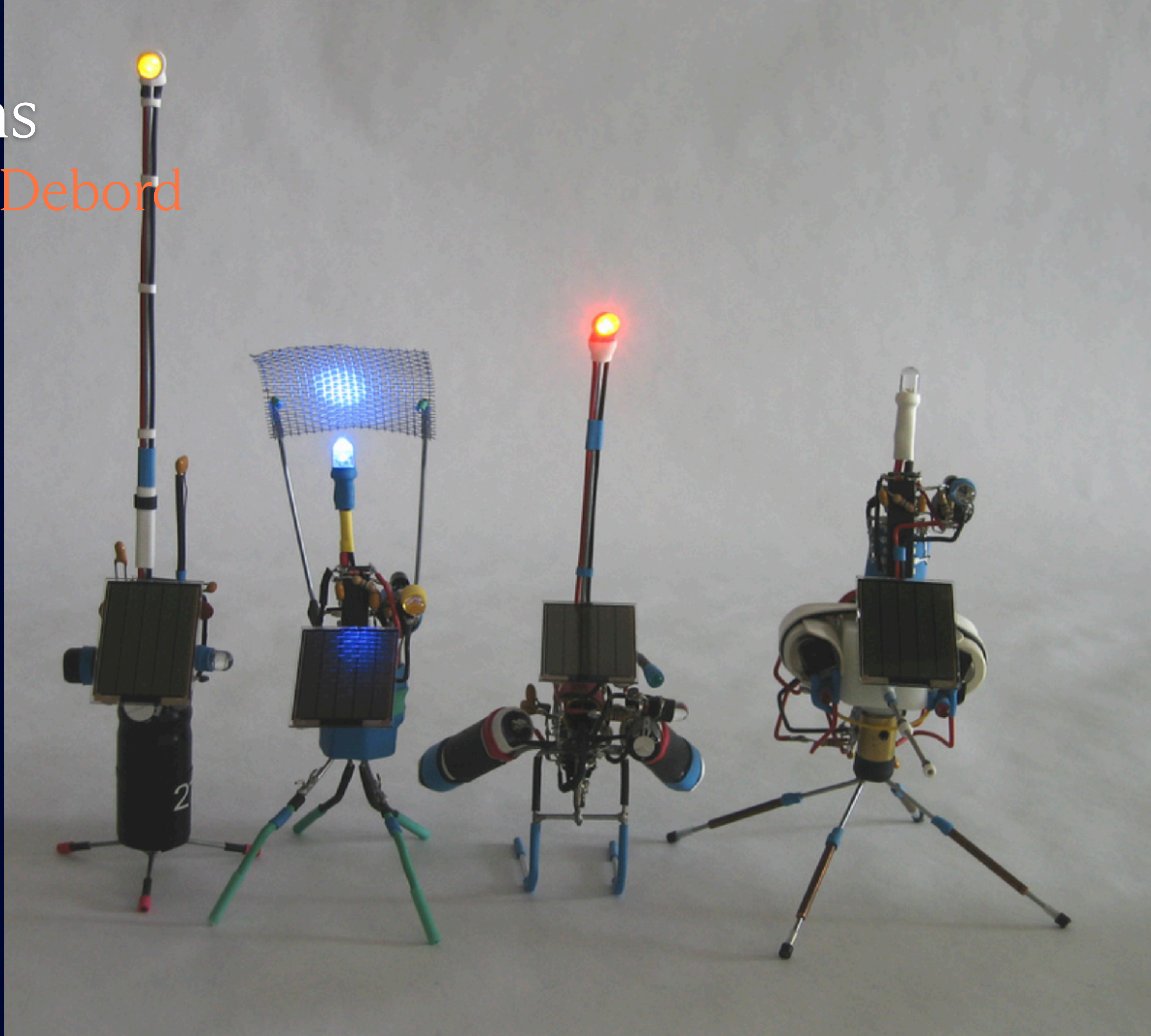
Marie Sester





# Helioforms

Zack & Kim Debord





# The Tidy Table

## Katazuke





# Stealth Products

## Kok-Chian Leong





# Feral Robotics

Natalie Jeremijenk





# MOS – an instrument for Merapi

Andreas Siagian





# Various Prototypes

Andreas Siagian





# Group Building Form

[link.zhdk.ch/physcom25](https://link.zhdk.ch/physcom25)