

# The Haptic Creature Project

Social Human-Robot Interaction through Affective Touch



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Interaction Design Spring 2018

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▲ Picture from the reading



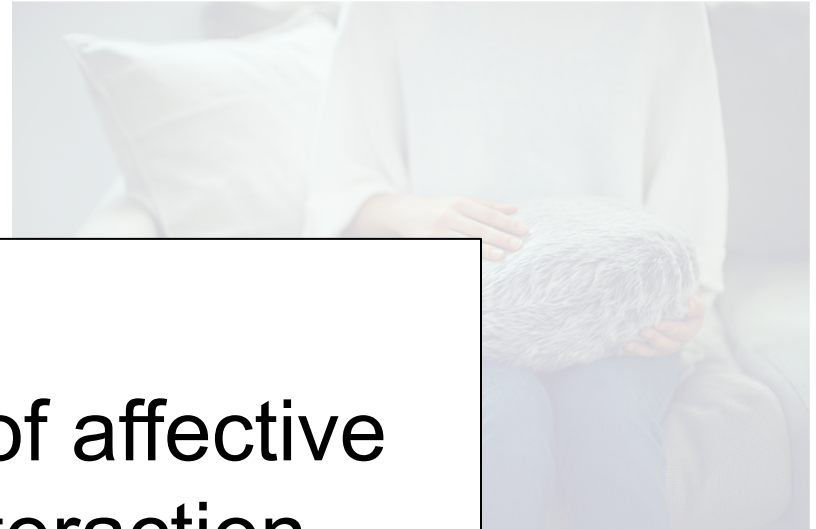
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◀ Designed by Steve Yohanan



▲ Picture from the re



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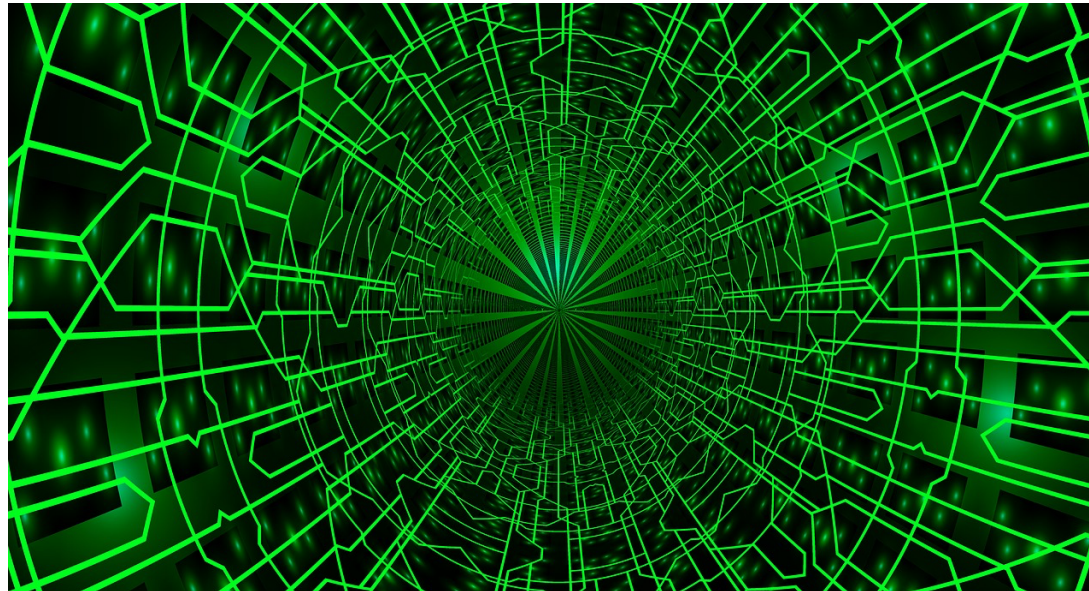
**Goal:**  
To investigate the use of affective touch in the social interaction between human and robot



◀ Designed by Steve Yohanan

# Social Interactive Robotics

- A subfield of human-robot studies for which social interaction plays a key role.



# Affect Display & Affective Touch

- Affect Display

“External manifestation of internal emotional state-as it helps to regulate and add significance to the interaction” (Yohanan 1).

- Affective Touch

“A touch that communicates or evokes emotion” (Yohanan 2).

# How is it different from others?

1. Has a strong concentration on the approach of touch for affect display
2. Have a more amorphous appearance and be recognizable as animal-like



# Design Considerations

1. Interaction centers around "touch"
2. Deals with providing an organic interaction whereby the sensing and the affect display seems a coordinate whole
3. Wants high level of zoomorphism & minimalistic



# Development Phases

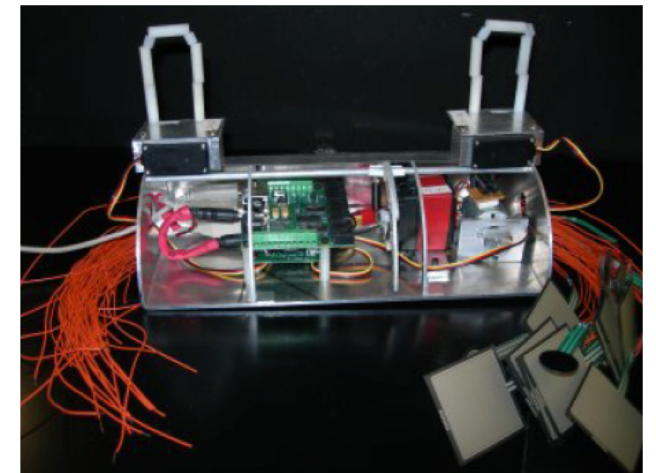
1. Wizard of Oz Prototype



◀ Wizard of Oz Prototype

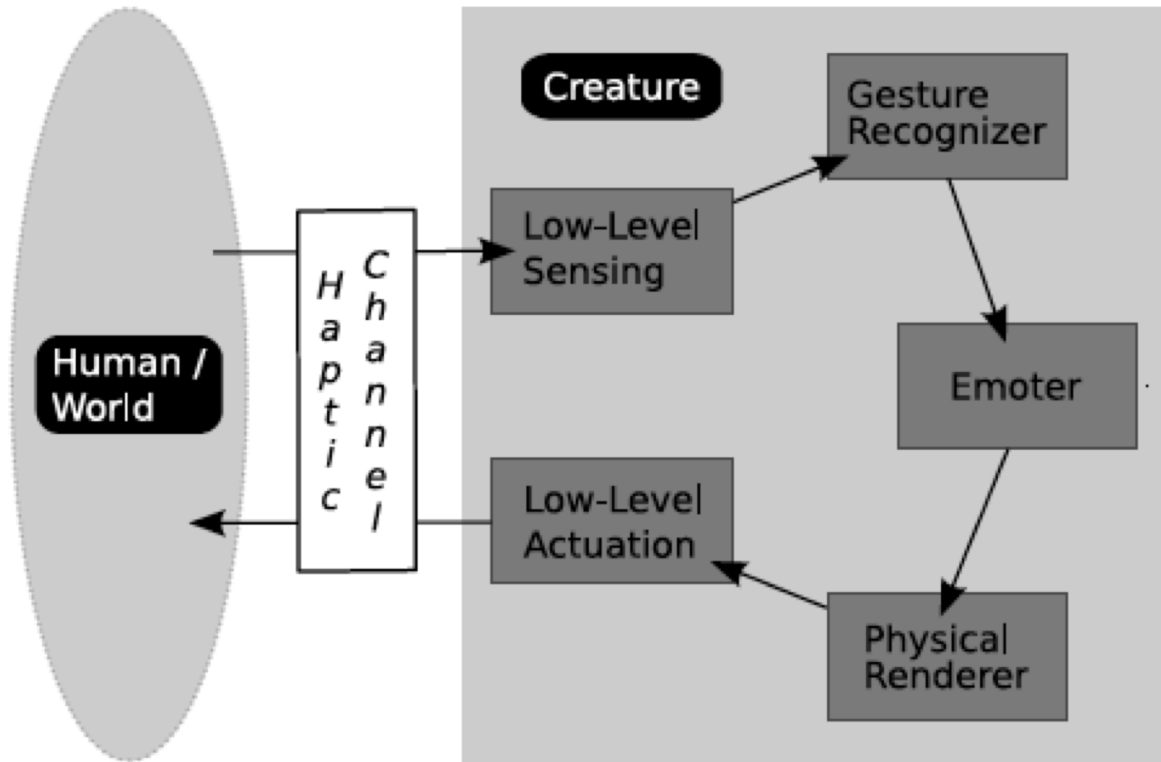
2. Automated Prototype

Internals of Haptic Creature ▶



3. Final Creature

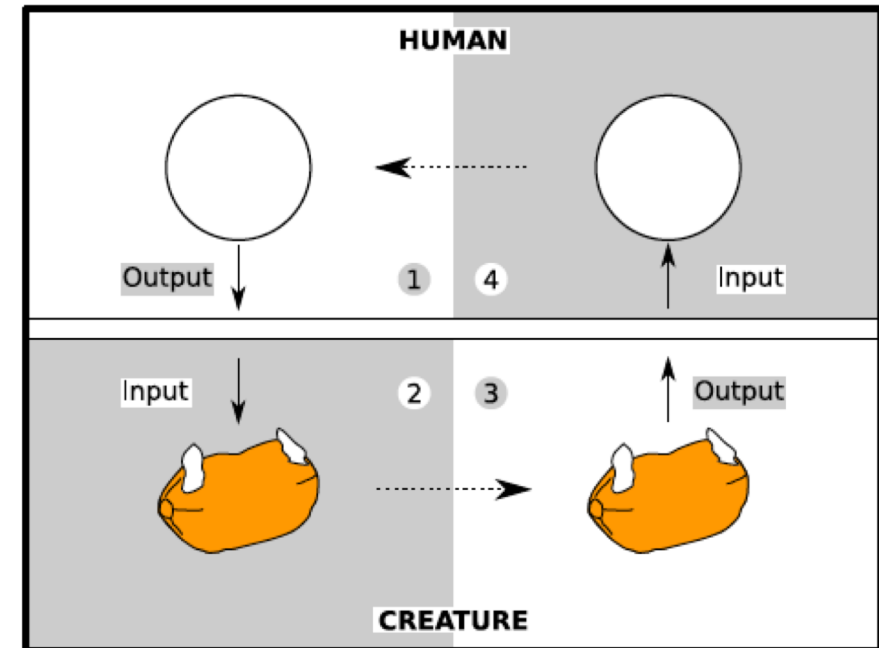
# Architecture



1. Low-Level Sensing
2. Gesture Recognizer
3. Emoter
4. Physical Renderer
5. Low-Level Actuation

# User Studies

1. Preliminary Investigation
2. Interaction Decomposition
3. Companionship



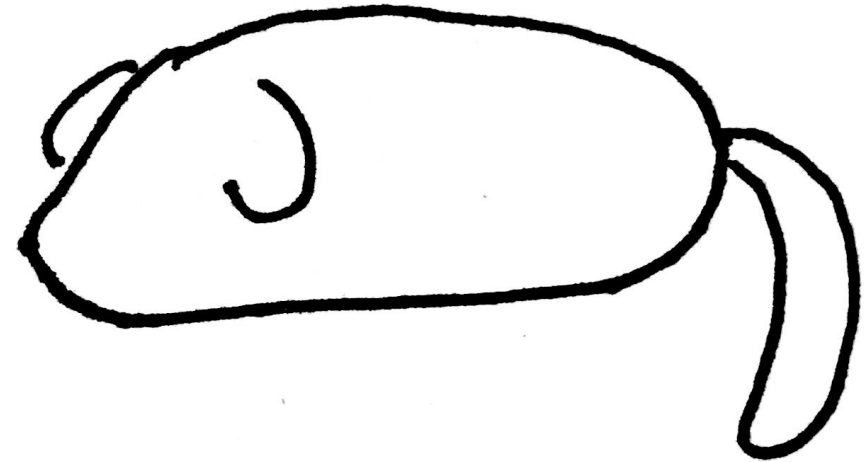
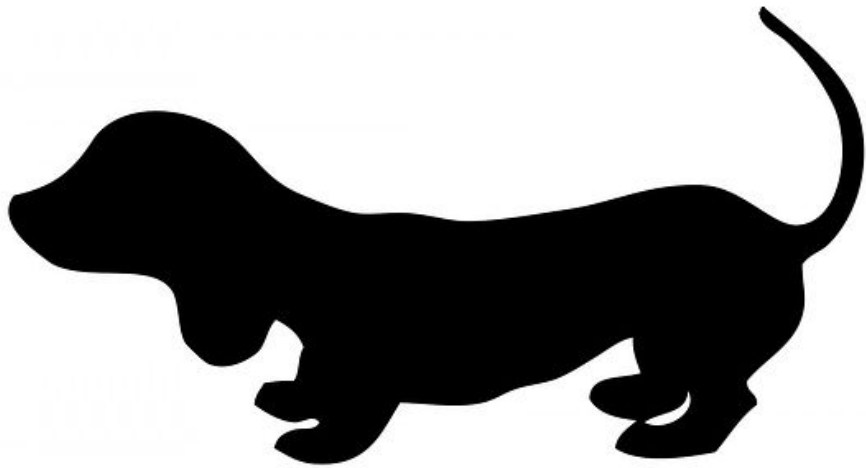
▲ Interaction loop between human and Haptic Creature

# Discussion Questions

1. If you are in the design team of the Haptic Creature Project, how would you design your haptic creature?



# My thought (Discussion Question #1)



2. Can robotic pets (like the Haptic Creature), compared to biological pets, provide users with similar outcomes related to social companionship or improved quality of life? Please predict to the 3<sup>rd</sup> user study that the project team is planning to conduct.



# References

- Steve Yonahan, The Haptic Creature, “The Haptic Creature robot (Photo: Martin Dee). <http://yohanan.org/steve/projects/haptic-creature/>
- Qoobo Homepage Site, Japan, <http://qoobo.info/?lang=en>
- Steve Yohanan and Karon E. MacLean (2008) “The Haptic Creature Project: Social Human-Robot Interaction through Affective Touch,” In Proceedings of the AISB 2008 Symposium on the Reign of Catz & Dogz: The Second AISB Symposium on the Role of Virtual Creatures in a Computerised Society, volume 1, pp. 7-11, Aberdeen, Scotland, UK, April 1-4 2008. (Best Paper Nominee)