Synthetic Personality in Robots and its Effect on Human-Robot Relationship

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1. Goal

By implementing a playful and fearful dog behaviors in a robot dog, attempt to create a more believable robot dog and evaluate the reactions and responses from humans

2. Robotic Emotions

Synthetic emotions can help robots operate in an ever-changing world and interact effectively with humans

Synthetic emotions are a programmable set of communicative and sociological behaviors associated with emotional patterns. They can enhance a robotic interface so it will be perceived by humans as eliciting emotions.

3. Tools

We propose to employ Sony's Aibo ERS-7M2/B robot dog, using the R-CODE to design and program the robot's behavior.

4. Implementation:
Basic Sequence of Emotions

Playful state: Imitate a playful dog by wagging its tail and barking happily to draw people's attention.

Fearful state: Characterized by growling, crying frighteningly and barking. Back away from the audience but still seek some comfort from the audience.

5. Evaluation

Place Aibo in a crowded environment, on leash, much like a lost puppy.

Aibo will follow one of the two emotional states. Monitoring the test sites will be done via video camera.

Find out how people perceive Aibo: An Object? A toy? A robot? A puppy? A computer?

Find out people's reaction of synthetic emotions: good, bad or indifference.

6. Conclusion

Address future robot designs such as colors and shapes.
Determine necessary behaviors required of robots in asking for help in a large crowd
Determine a set of synthetic emotions that will improve its usability and survivability.