

## Embodied Conversational Agents

### Intelligent User Interfaces

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## Readings

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- Pelachaud, Multimodal Expressive Embodied Conversational Agents, MM'05
- Bickmore & Picard, Establishing and Maintaining Long-Term Human-Computer Relationships, ToCHI 2005  
*[Ph.D. thesis journal article]*

Play videos: [Laura](#) & [Greta](#)

## An Unfortunate Terminology

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- **Embodied Conversational Agent:**  
Autonomous agent with a human-like appearance and communicative skills.  
-Pelachaud
- originally used to distinguish from “disembodied” agents
- but now humanoid robots becoming important---robots have real bodies!

## Key Issues

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- Generating
  - facial expressions
  - gestures
  - body language
  - expressive speech
- Recognizing all of the above (though this work not as developed)
- Graphics (real-time)
- Generic tools

## Overlap with Other Course Topics

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- Goal/Task Based User Interfaces
- Intelligent Tutoring Systems
- Personal Assistants
- Multimodal Dialogue
- Collaborative Dialogue
- Affective Computing
- Human-Robot Interaction

## Readings

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- Pelachaud, Multimodal Expressive Embodied Conversational Agents, MM'05
  - mainly concerned with generation
  - emotional expressivity
- Bickmore & Picard, Establishing and Maintaining Long-Term Human-Computer Relationships, ToCHI 2005
  - mainly concerned with persistence (increasingly important issue in software generally)
  - best user study you'll read in course (cf. NIH)

## “Low End” Version

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- Microsoft Agent - free toolkit download

