

# 선도인재양성 중급 (1주차)

## AI + X

## Advanced Project

# ✓ Today's Agenda

- Syllabus Review
- Introduction (You and Me)
- Class Structure
- Lecture: **Current AI Trends**
- Discussion

# Syllabus Review

# PoC

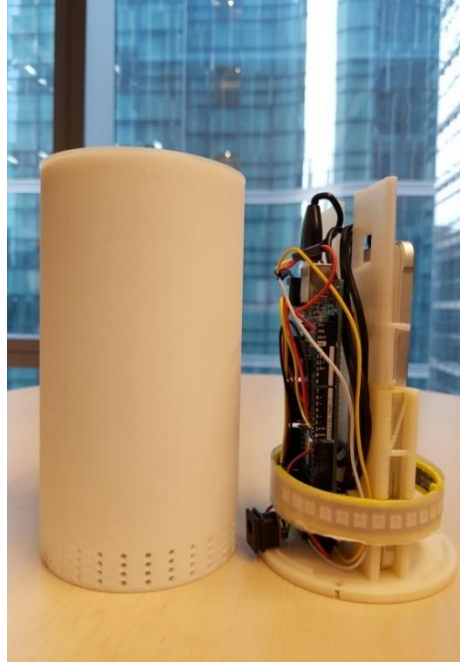
# Proof of Concept

## ✓ Example : Voice Recognition Speaker NUGU

March, 2015  
Smart Box I Prototype



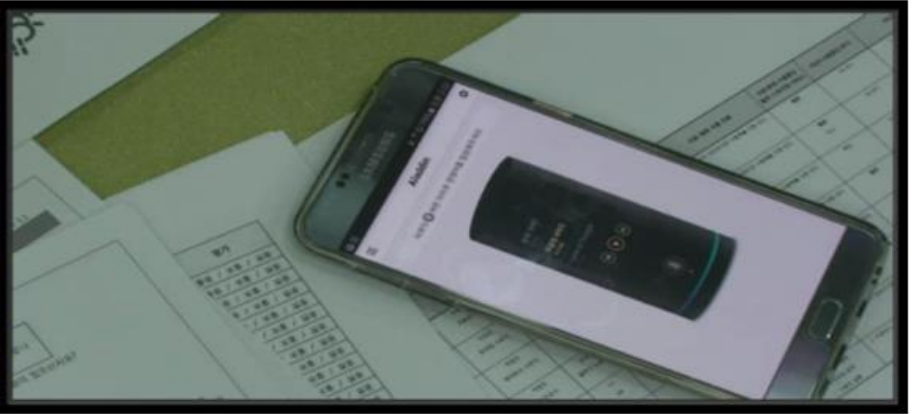
August, 2015  
Smart Box II Prototype



September, 2016  
NUGU Speaker



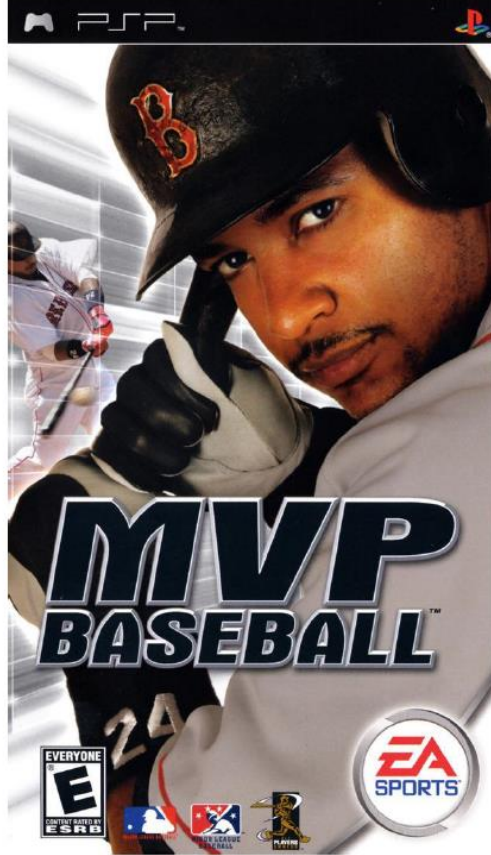
# Usability Testing



# MVP

# Minimal Viable Product

# MVPs (Minimum Viable Products)



A most **valuable** player



# MVP

“The minimum viable product (**MVP**) is a product with **just enough features** to be considered **working**”

**최소 기능 제품**

**Minimum Viable Product, MVP**

**고객의 피드백을 받아 최소한의 기능(Features)  
을 구현한 제품**

# Project Members

## Two Teams

# Peer Evaluation

360도 평가

# AI Product Requirement Definition

AI Paper

Patent

Award

# Project Brief

# Grades

**Proposal 15%**

**Midterm 20%**

**Checkup 15%**

**Finals 30%**

**Team Project**

**Attendance 10%**

**Participation (Peer Eval 포함) 10%**

# Introduction (Me)



**<http://wintermute.pe.kr/>**

# Introduction (You)

# Class Structure

# Group Project

# ✓ Expectations

- I expect you to fully **engage** in the class with **full participation**

# Respect

# Lecture: Trends

Chat GPT |



**GPT-3**



# Chat GPT |

- 기존의 GPT-3 → GPT-3.5로 진화(2022년 초 Trained)
- GPT 3.5를 바탕으로 챗에 적합한 형태로 모델 설계 및 챗 UI 추가
- 더욱 사람과 비슷한 대화 수준이 된 것은

초기 모델 학습때부터

Human Reviewer 1명은 사람을 가정하고

다른 Human Reviewer 1명은 챗봇을 가정하고

그 맥락상에서 대화내용을 평가함

- Google 람다와의 결정적 차이



# Chat GPT |

- 정제된 대화형 데이터(Conversational Data)를 학습하다 보니  
일반 데이터 크롤링/수집했을때 보다 더 맥락/정황에 맞는  
대화 및 질의/응답이 가능해짐.
- 한마디로 양질의 "족보"를 가지고 학습한 케이스



# Chat GPT | Examples

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what is the difference between chatGPT and GPT3?



GPT-3 (Generative Pretrained Transformer 3) is the latest and largest language model developed by OpenAI. It has been trained on a massive amount of text data and can perform a wide range of language tasks, such as text completion, question answering, and text generation.






ChatGPT, on the other hand, is a variation or application of GPT-3 specifically designed for conversational AI. It has been fine-tuned for generating human-like responses in a conversation setting. This fine-tuning process involves training the model on a large dataset of conversational text, which helps it understand the nuances and context of a conversation and generate appropriate responses.

So, in essence, GPT-3 is the larger and more versatile language model, while ChatGPT is a smaller and more specialized version of the model designed specifically for conversational AI.

# Chat GPT vs 박성준

Open Access Review

## Empathy in Human–Robot Interaction: Designing for Social Robots

by  Sung Park <sup>1</sup>  and  Mincheol Whang <sup>2,\*</sup> 

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(This article belongs to the Special Issue **Mobile Health Interventions**)

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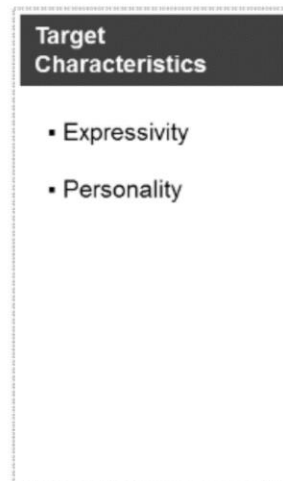
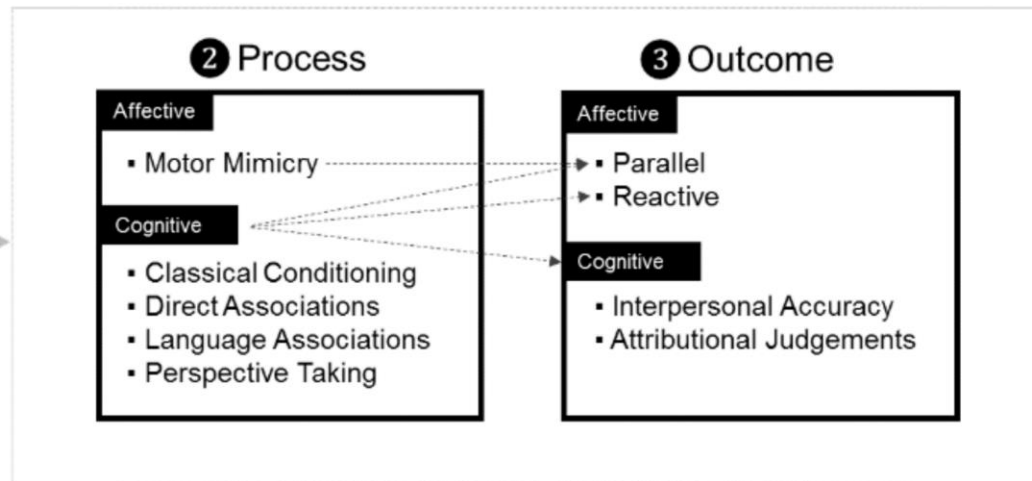
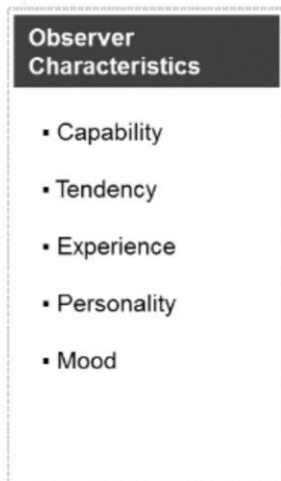
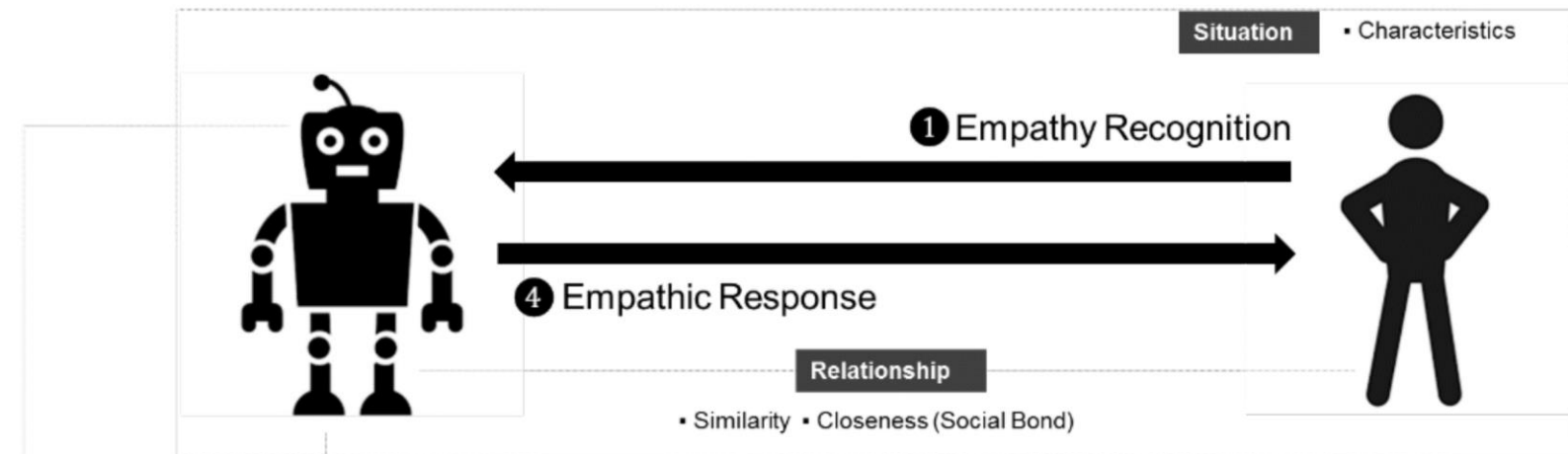
Versions Notes

### Abstract

For a service robot to serve travelers at an airport or for a social robot to live with a human partner at home, it is vital for robots to possess the ability to empathize with human partners and express congruent emotions accordingly. We conducted a systematic review of the literature regarding empathy in interpersonal, virtual agents, and social robots research with inclusion criteria to analyze empirical studies in a peer-reviewed journal, conference proceeding, or a thesis. Based on the review, we define empathy for human–robot interaction (HRI) as the robot's (*observer*) capability and process to recognize the human's (*target*) emotional state, thoughts, and situation, and produce affective or cognitive responses to elicit a positive perception of humans. We reviewed all prominent empathy theories and established a conceptual framework that illuminates critical components to consider when designing an empathic robot, including the empathy process, outcome, and the *observer* and *target* characteristics. This model is complemented by empirical research involving empathic virtual agents and social robots. We suggest critical factors such as domain dependency, multi-modality, and empathy modulation to consider when designing, engineering, and researching empathic social robots.

**Table 1.** The number of articles screened, assessed, and included for a review.

	Interpersonal	Human–Agent	Human–Robot
Abstract Screened	1116	128	76
Full-text Assessed	232	27	21
Studies Included	70	10	12



# Chat GPT

## 극강의 Presentation

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I want to understand human empathy.



Empathy is the ability to understand and share the feelings of another person. It's a complex and multifaceted construct that involves both cognitive and emotional components.



From a cognitive perspective, empathy involves being able to accurately recognize and interpret the emotions and thoughts of others. This requires paying attention to and understanding the context and circumstances that may be influencing the other person's feelings, as well as being able to put oneself in the other person's shoes and imagine what they might be experiencing.

From an emotional perspective, empathy involves feeling with and for others. This can involve feeling compassion, concern, or other emotions in response to the experiences of others. When we experience empathy, we don't just understand someone else's emotions, we actually feel them ourselves to some extent.

Empathy is an important part of our social lives, as it allows us to connect with and understand others, and to provide support and care when they need it. Additionally, empathy is often considered a key component of prosocial behavior and is associated with positive outcomes, such as increased cooperation and helping behavior.

간단 명료 요약

요약에 대한 부연

결론 및 의의

# Chat GPT – Disruptive Experience

사용자가 입력한 문장에 대한 이해도가 높고,

답변 정보의 질(**Quality**)

뿐만 아니라 표현 방식(**Presentation**) 또한 기존 챗봇

기존 검색 시스템/정보형 챗봇 보다 월등하게 높음



Emerson

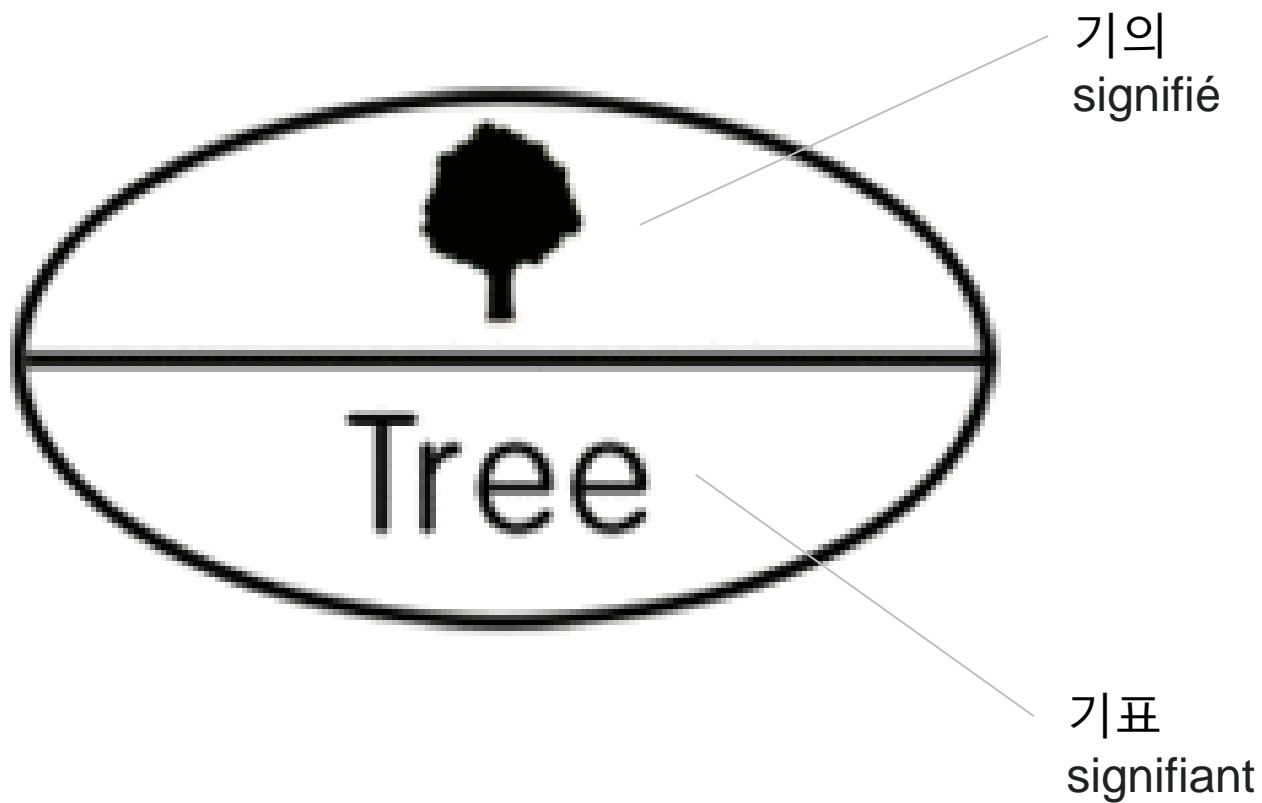
# The Transformer Model





# [ 대세는 Transformer ]

- Goggle Brain '17
- Replacing RNN(LSTM)
- Led to **BERT** and **GPT**
- Process the **entire input at once**
- **Attention** mechanism **provides context**



개

# Dog



# “4발 늑대출신 애완동물” (기의)





# Discussion