

# Smart Home Ambient Intelligence: voice assistants

a new limit for our freedom?

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December 12, 2017

# Presentation Outline

Smart Home Ambient Intelligence: voice assistants  
a new limit for our freedom?

## ① Introduction

- Technological Mediation
- Definitions

## ② Case Study: Google Home - Google Assistant Actions

- Applied concepts of Technological Mediation limiting our freedom
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## ③ Possible Remedies

# Introduction

# Technological Mediation

*While fulfilling their function, technologies do much more: they **give shape to what we do** and how we experience the world. And in doing so they **contribute actively** to the ways we live our lives (Verbeek 2011)*

- ▶ Technologies are not **neutral intermediaries**
- ▶ Technologies play an **actively mediating role**
- ▶ Artifacts are **bearers of morality** (Latour 1992)
- ▶ Morality is a matter of **human-technology associations**
- ▶ Two perspectives of mediation:
  - ▶ Perception
  - ▶ **Action**: I will focus on **human freedom**

# Definitions I

## Ambient Intelligence

***Ambient Intelligence** is an approach that combines two major technologies: Ubiquitous Computing and Intelligent User Interfaces (Brey 2005)*

## Voice Assistant

*A **voice assistant** is a digital assistant that uses voice recognition, natural language processing and speech synthesis to provide aid to users through phones and voice recognition applications (WhatIs 2017)*

# Definitions II

## Freedom

Two forms (Brey 2005, 2006):

- ▶ Negative Freedom:

- ▶ act without obstruction or interference by others
- ▶ absence of limits and external constraints

example:

- ▶ **Positive Freedom (Human Autonomy):** I will focus on this

- ▶ mastery over your own life
- ▶ think freely, make your own decisions and act based on those

example:

# Case Study: Google Home - Google Assistant Actions



# Google Assistant Actions

I may talk very very briefly about the tools



# Script

- 1) Developers design the whole conversational interaction.  
Pre-defined templates. Ok lo lascio cosi.

## Invitation/Inhibition structure

1) Developers define what actions are possible and what are not. The scripts of artifacts suggest specific actions and discourage others. Idea: the flow won't go on until the user has included in the answers the parameters

# Behaviour Steering

- 1) suggestion chips
- 2) In future Google Assistant will propose in the conversation also ADS!!! And developers can see analytics to shape further the behaviour.
- 3) Idea: natural language “may hide” the behaviour steer but it is designed there! "Explicit vs implicit invocation".

# Where is Technological Mediation?

1) Google Actions Policies and terms: designed towards privacy, content, branding, ... : what about technological mediation?

# Technocracy

+ we may have the opposite problem: non technical people designing actions without having enough background!!!

# Moral Laziness

commodification of morality

# Moral responsibility of designers

What if in the future developers will shape morality???

Responsibility vacuum

## Possible Remedies



## Possible Remedies

# Bibliography I



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