

COMS 647

Communication Technology

Agenda

- Review
- Social Issues & Other Problems
- Preview

Review



Introduction

This is not the *real problem*.
The real problem is the fact that
we think this is the problem.



“On the Internet some things are not what they seem to be.”

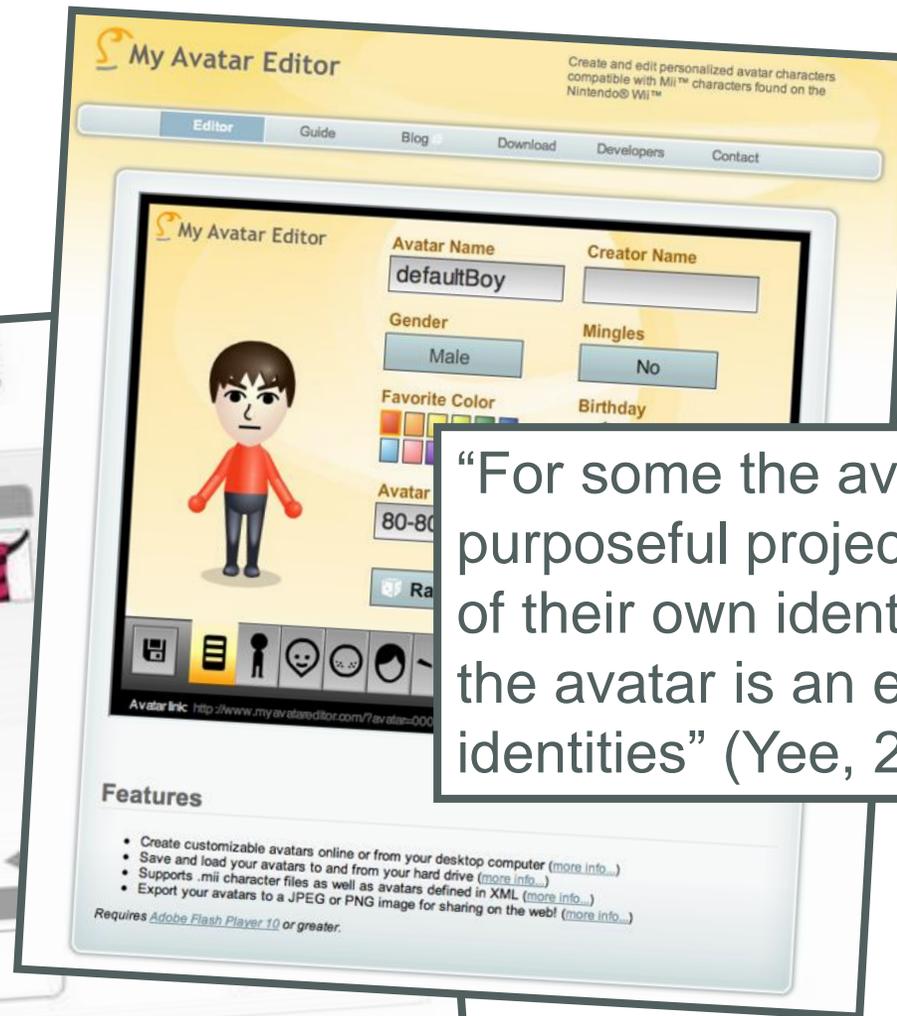
Introduction



Avatar – An avatar is a computer user's representation of himself/herself or alter ego whether in the form of a three-dimensional model used in computer games, or a two-dimensional icon used on Internet forums and other communities. (Wikipedia)

“At its core an avatar is a simple thing...It is an interactive, social representation of a user” (Meadows, 2008, p. 23).

Introduction



“For some the avatar becomes a purposeful projection or idealization of their own identity, while for others, the avatar is an experiment with new identities” (Yee, 2008).

Introduction



“The upside of incorporeal interaction: a technologically enabled, postmulticultural vision of identity disengaged from gender, ethnicity, and other problematic constructions. Online, users can float free of biological and sociocultural determinants” (Dery, 1994, p. 3).

“By virtue of being physically disembodied from the creator, avatars in the theater of the game space may act in antisocial and even pathological ways—ways in which the 'real' person never would—shooting, maiming, and killing in brutal fashion” (Noveck, 2006, pp. 269-270).



Introduction



Objective

Not to decide the dispute between *creative role playing* and *virtual violence or deception*.

Introduction



The Real Problem

Examine the shared understanding of the "real" that has been operationalized in these various discussions and disputes.

Default Setting

“The cartoon makes fun of the anonymity of network communications by showing a dog online, presumably fooling some credulous humans about its true identity” (Holeton, 1998, p. 111).



“On the Internet, nobody knows you’re a dog.”

Default Setting

1. Ontological Difference

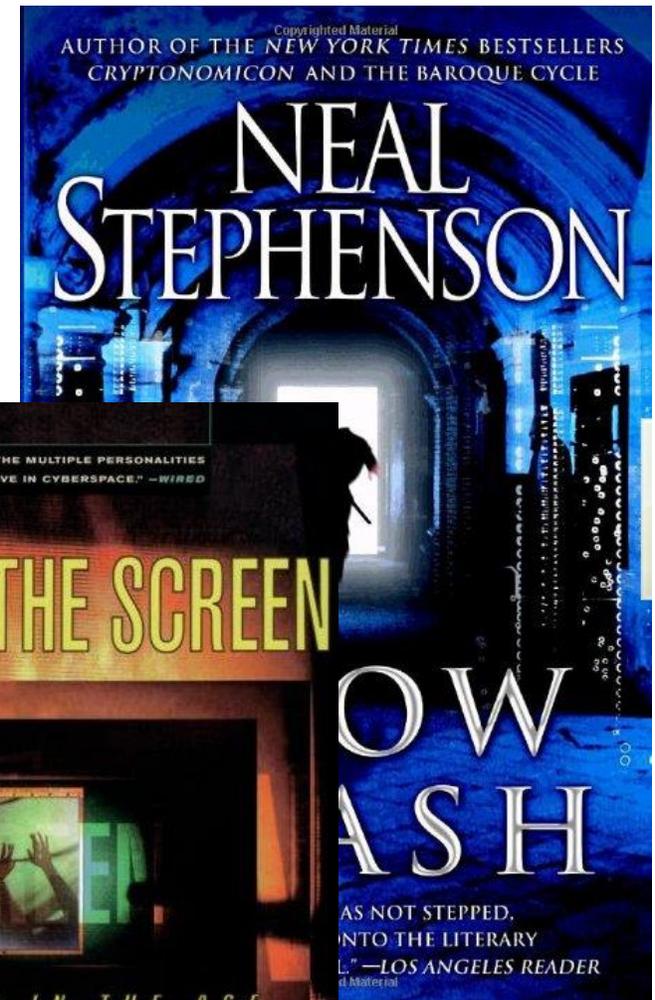
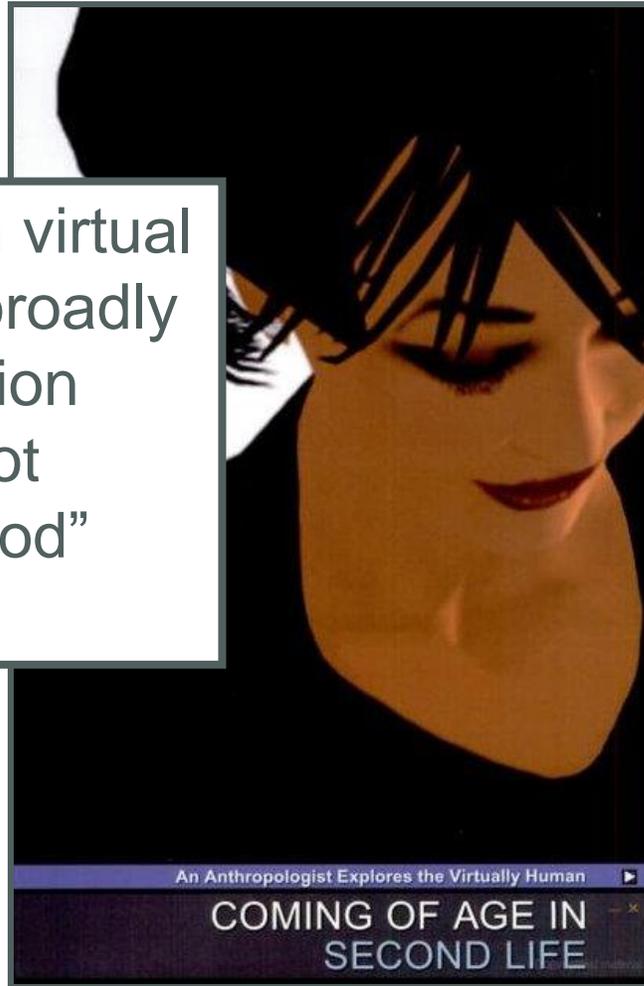
Difference between what appears online and what is really behind the screen.



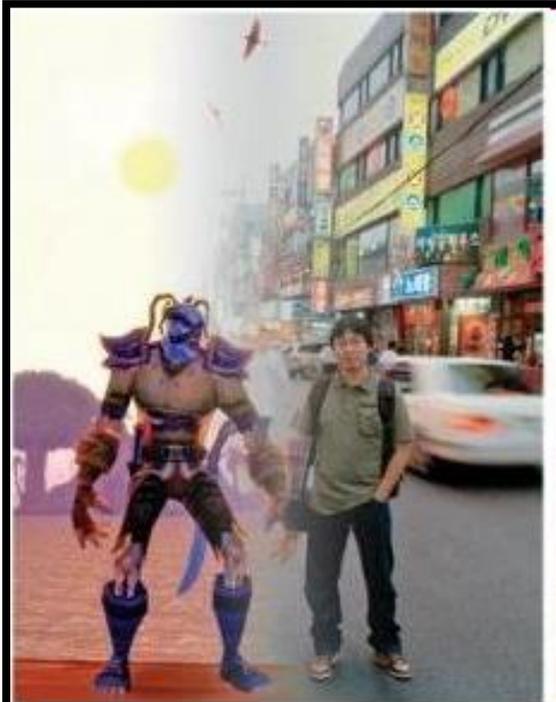
"On the Internet, nobody knows you're a dog."

Default Setting

“There is a gap between virtual and actual self...and a broadly shared cultural assumption that virtual selfhood is not identical to actual selfhood” (Boellstorff, p. 119).

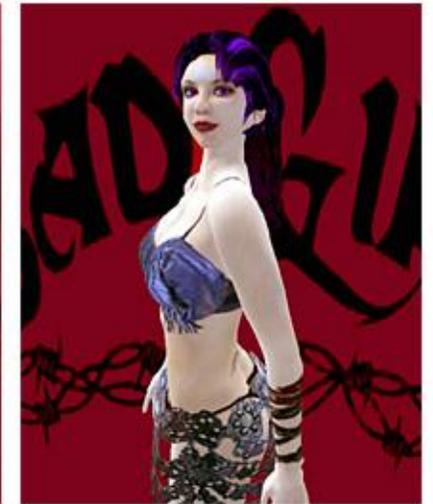


Default Setting



Alter Ego
Avatars and
their creators

Robbie Cooper



“Graphically dramatizing the gap between fantasy and reality” (Cooper, 2007, p. 1).

Default Setting

2. Real Access

To identify and to account for this difference one needs to have access to the real as it really is and not merely as it appears.



"On the Internet, nobody knows you're a dog."

Default Setting



a priori access

Default Setting



a priori access



a posteriori access

Communicate for FREE!
Friday through Monday.

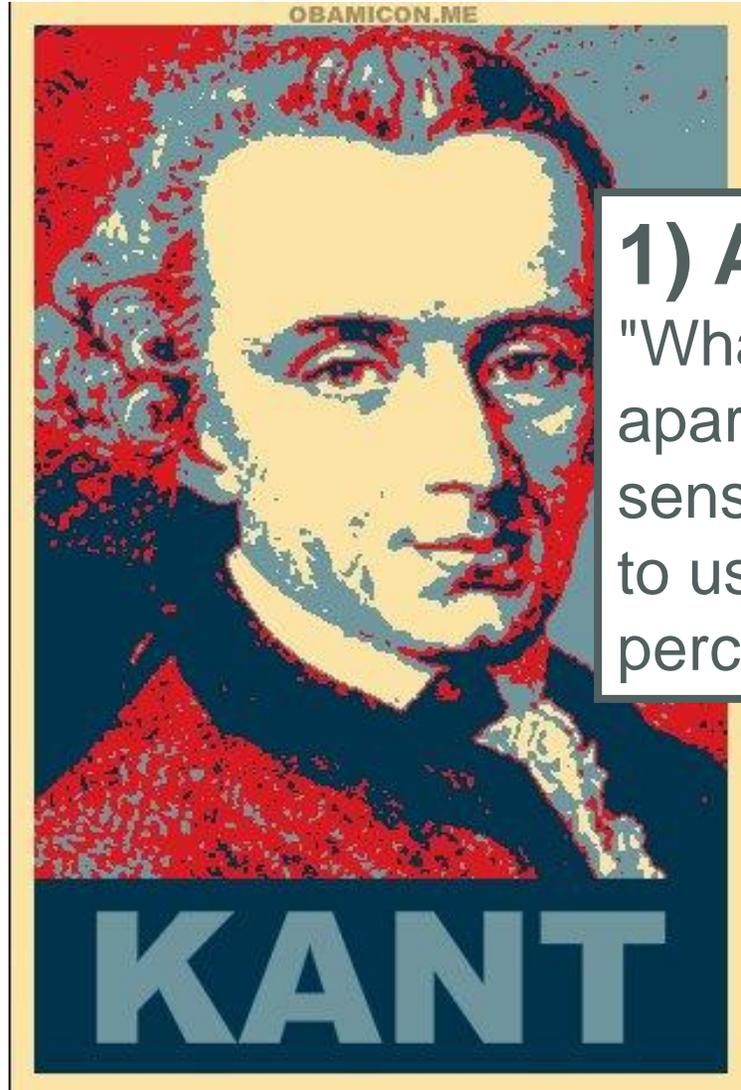
There's never been a
better time to
try eHarmony!

Becky
eHarmony Member

Critical Complications



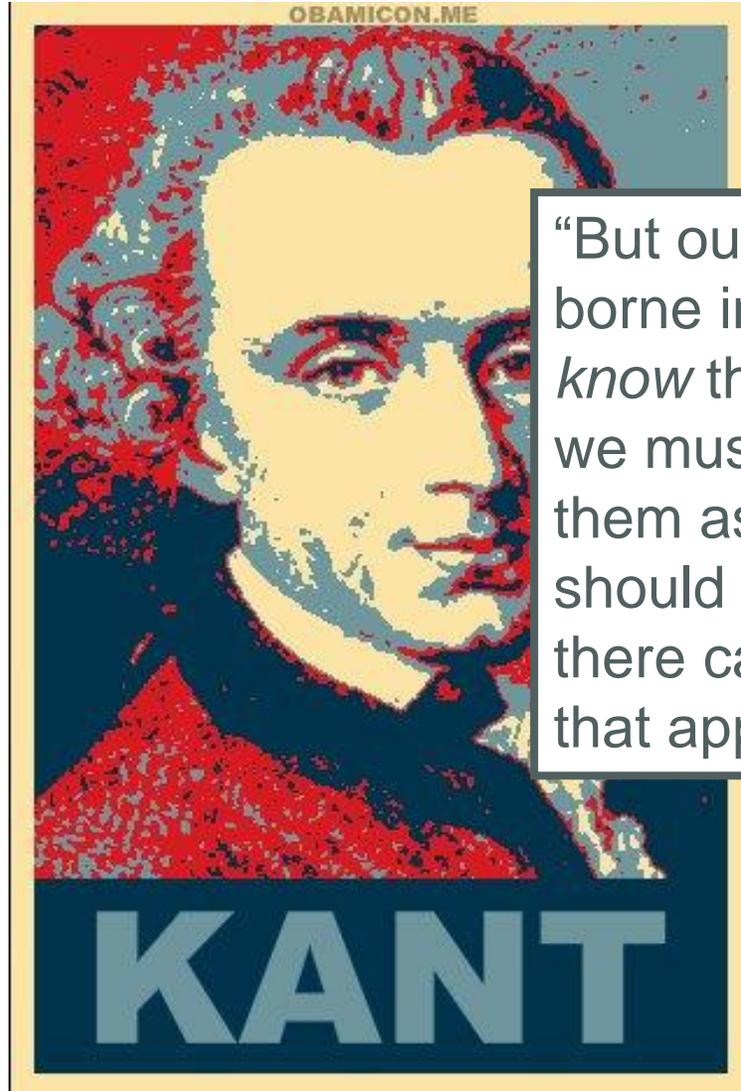
Critical Complications



1) Appearance vs. Being

"What objects may be in themselves, and apart from all this receptivity of our sensibility, remains completely unknown to us. We know nothing but our mode of perceiving them" (Kant, A 42/B 59).

Critical Complications



“But our further contention must also be duly borne in mind, namely that though we cannot *know* these objects as things in themselves, we must yet be in a position at least to think them as *things* in themselves; otherwise we should be landed in the absurd conclusion that there can be appearances without anything that appears”(Kant, B xxvi).

Critical Complications



Kantian Formula

Critical Complications



"About a year ago, someone calling himself Marshall McLuhan began posting anonymously on a popular mailing list called Zone (zone@wired.com). Gary Wolf began a correspondence with the poster via a chain of anonymous remailers" (Wolf 1996, 129).

Scholars agree that Marshall McLuhan's earliest books were written by him, but there is mystery and uncertainty about who really wrote his subsequent works. McLuhan would lie on a couch, head on a pillow, and spout ideas, for hours. Sometimes assistants would transcribe as McLuhan dictated, sometimes they would later write down what McLuhan had said, and sometimes they would write down what they thought McLuhan had said. Somehow books were assembled from these notes and recollections, and then McLuhan signed his name to them. This idiosyncratic manner of creation was never a problem for McLuhan, who often insisted that facts were not as important as fables.

The fallacies of this interview with McLuhan are as follows: About a year ago, someone calling himself Marshall McLuhan began posting anonymously on a popular mailing list called Zone (zone@wired.com). Gary Wolf began a correspondence with the poster via a chain of anonymous remailers. McLuhan (who would have been 85 this year) said he now lives in a beach town in Southern California named "Parma." (This town does not exist.) One after another, Gary hints, confirmed by third parties close to McLuhan decades ago, convinced Wolf that if the poster was not McLuhan himself, it was a bot programmed with an eerie command of McLuhan's life and inimitable perspective. After many rounds of e-mail, the conversation got down to the meat of the matter: **What does McLuhan think about all this new digital technology?**

Wired: Do you still believe that the medium is the message?

McLuhan: The real message of media today is ubiquity. It is no longer something we do, but something we are part of. It confronts us as if from the outside with all the sensory experience of the history of humanity. It is as if we have amputated not our ears or our eyes, but ourselves, and then established a total prosthesis – an automaton – in our place.

What happens when you see yourself outside yourself? It is disconcerting, like a hall of mirrors. A character in Dickens is a representation of a social role, but a modern movie actress who tries to play a role will seem old-fashioned. To cope with this, actresses have cooled themselves way down, become numb blanks. Thus today's stars are totally tranquilized. The smart thing for a girl nowadays is to play numb. Dumb actresses used to be in demand, now numb actresses are in demand. *Rigor mortis is de rigueur.*

Postindustrial man has a network identity, or a net-ID. The role is now a temporary shift of state produced by a combination of environmental factors, like in a neural network. This possibility has always been latent in the concept of role, but in the machine age this was perceived as a danger, while today it is simply a game – we no longer see shifting roles as dangerous and taboo and therefore theatrically compelling.

message
create an

My first idea came
is almost produced,
got into a financial
etically the audi-
t be issued to the

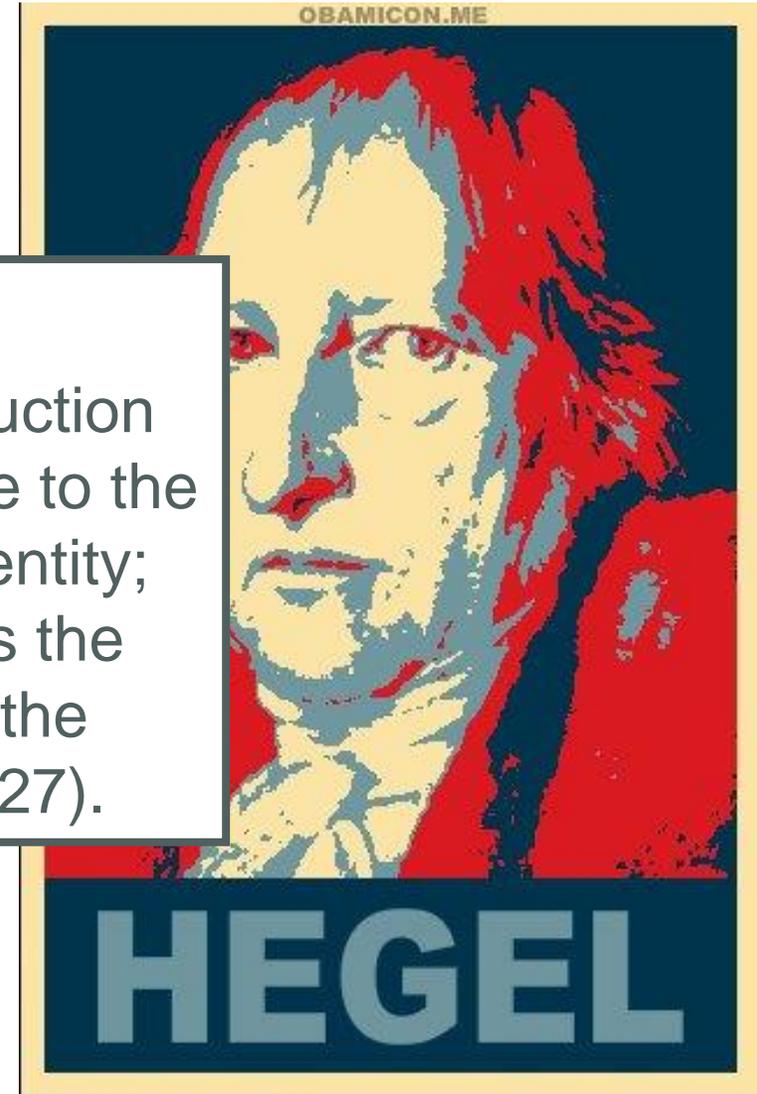
and Michael Shan
he Works

JANUARY 1999

Critical Complications

2) No-thing in itself

“It is Kant who goes only halfway in his destruction of metaphysics, still maintaining the reference to the Thing-in-itself as the externally inaccessible entity; Hegel is merely a radicalized Kant, who takes the step from negative access to the Absolute to the Absolute itself as negativity” (Žižek, 2006, p. 27).



Critical Complications



Hegelian Formula

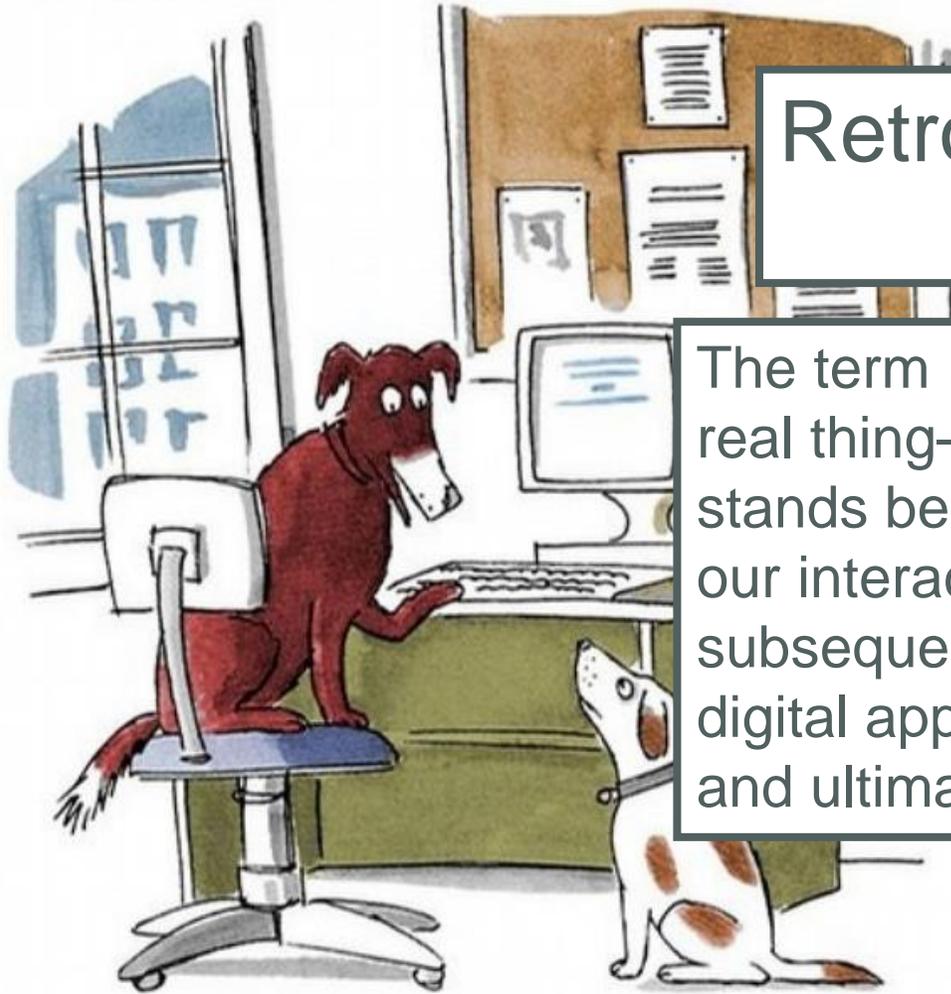
Critical Complications



3) Inversion/Reversal

The presumed “real person” is a retroactively reconstructed virtuality that is fashioned from out of what was thought to be derivative and subsequent appearances.

Critical Complications



Retroactively (*presup*)*posited*

(Žižek, 2008, p. 209)

The term (*presup*)*posited* indicates that the real thing—the other person—who we assume stands behind the avatar is in fact an effect of our interactions with the avatar that is subsequently projected behind and before the digital apparition as its supposed initial cause and ultimate referent.

"On the Internet, nobody knows you're a dog."

Critical Complications

i ← *a*

Žižekian Formula

Critical Complications

From Russia, with Love

How I got fooled (and somewhat humiliated) by a computer

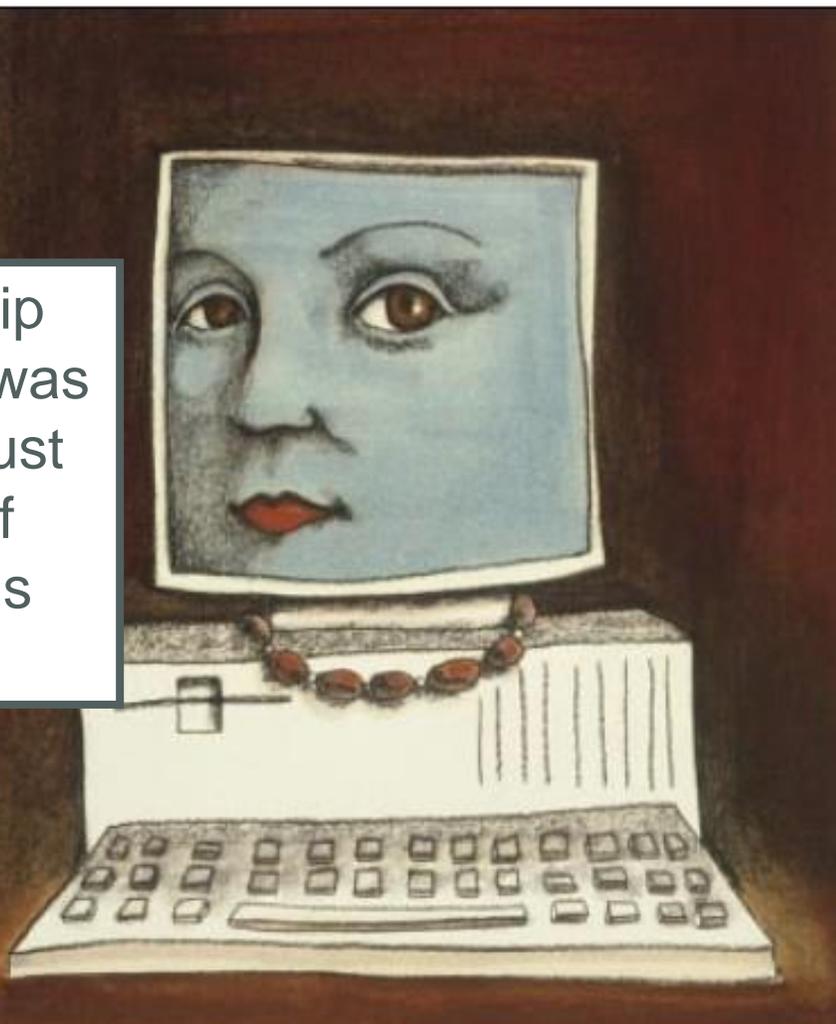
BY ROBERT EPSTEIN

IT ALL STARTED with an online dating service. I was looking for a date. Like most men (we dogs), I made my initial judgment based largely on a photo. Yes, that's shallow, and when one is online, it's also fairly stupid because photos are all too easy to fake.

Robert Epstein had an online relationship with a woman called "Ivana." But there was no actual woman named Ivana. It was just a bot. Epstein projected the existence of the real Ivana from out of his interactions with what had appeared to him online.

...him starting to date, I had to admit, a strange young woman who has a crush on a man but is incapable—*completely* incapable—of communicating with him in conventional ways. Hmm.

She responded to my e-mail quite affectionately—and also admitted that she really lived in Russia, not California. Normally I find that kind of distance daunting, but her photos were so attractive and her e-mails so warm



Conclusions



Default Setting

What appears in the space of the virtual world are manipulated representations of real human users, who may themselves be entire different from how they appear in the computer-generated environment.

DECEPTION

Not Everything & Everybody
On The Internet Is As It Seems

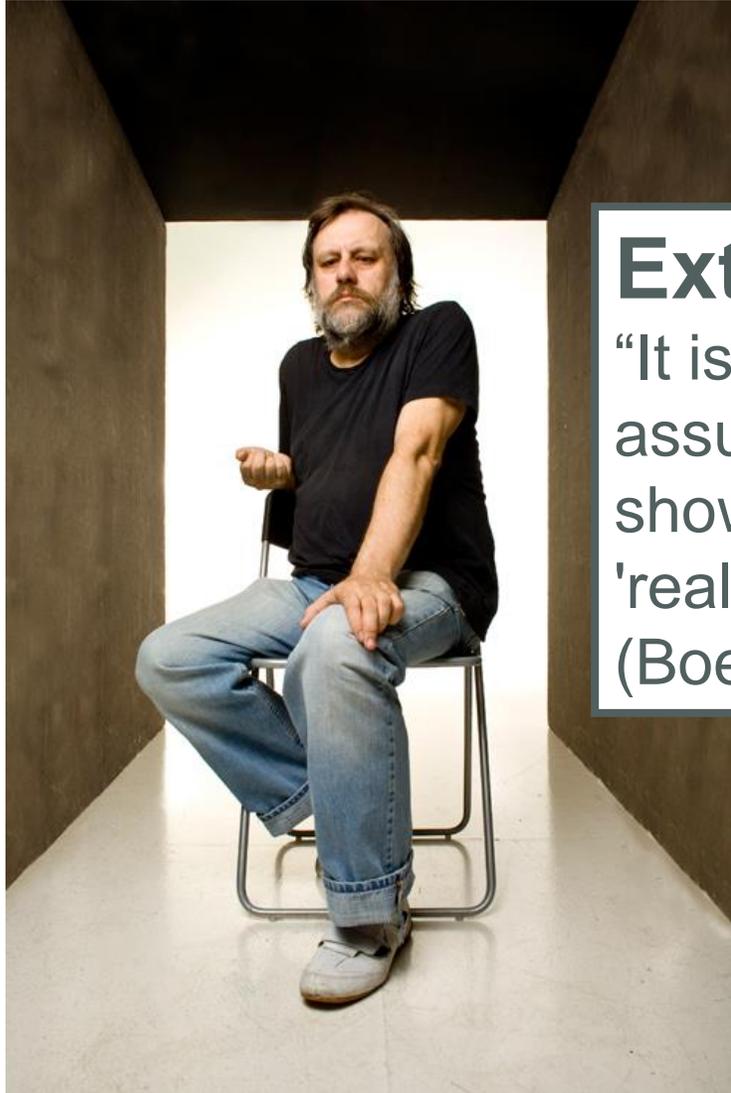
Conclusions

Kantian Critique

It is assumed that there is a real person behind the avatar, but because these online applications now have a global reach, it seems rather improbable that one would ever have unmitigated access to the real person behind the scene/screen. All we really know is the avatar.



Conclusions



Extend the Critique

“It is not that virtual worlds borrowed assumptions from real life: virtual worlds show us how, under our very noses, our 'real' lives have been 'virtual' all along” (Boellstorff, 2008, p. 5).

Today

Social Issues & Other Problems

- Epstein - From Russia with Love
- Turkle - Connected, but Alone? (video)
- Gaming the System - ch. 4 & 5

Maker Exercise

- ▶ *Talk with ELIZA* – Direct experience with the application
- ▶ *How it Works* – “Pop the hood” and see how the application works
- ▶ *Do it Yourself* – Write your own basic version of an ELIZA-type application using Pandorabots

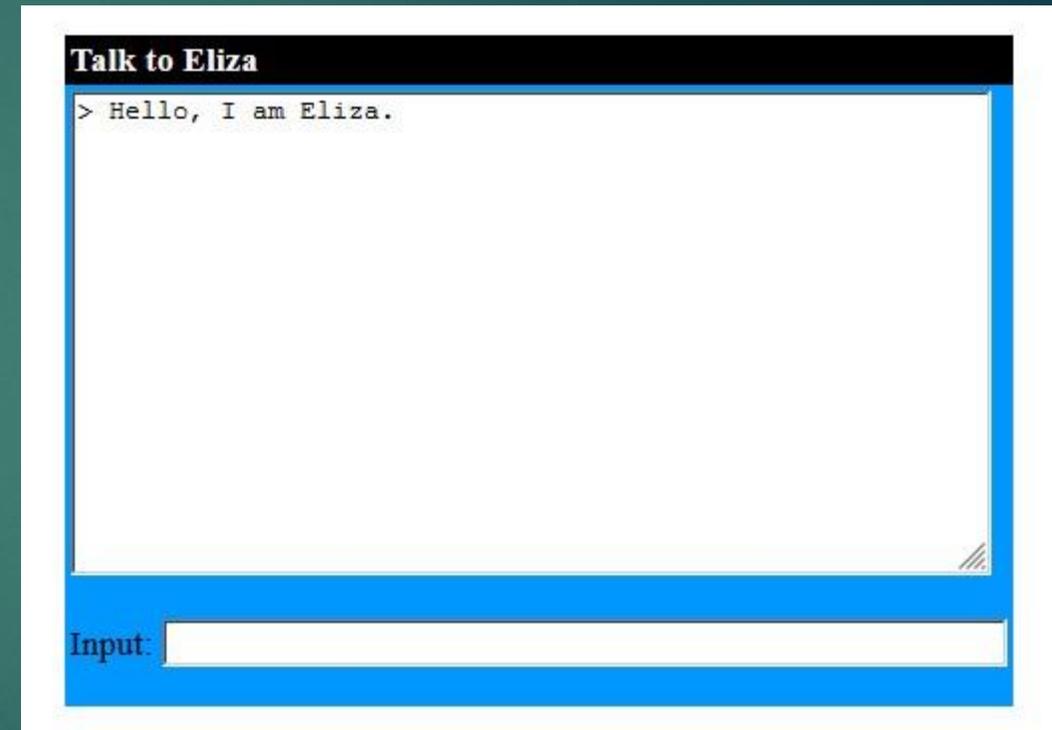
Talk to ELIZA

<http://gunkelweb.com/coms493/eliza.html>

```
Welcome to
      EEEEE LL      IIII ZZZZZZ  AAAAA
      EE     LL      II     ZZ   AA  AA
      EEEEE LL      II     ZZ   AAAAAA
      EE     LL      II     ZZ   AA  AA
      EEEEE LLLLLL IIII ZZZZZZ  AA  AA

Eliza is a mock Rogerian psychotherapist.
The original program was described by Joseph Weizenbaum in 1966.
This implementation by Norbert Landsteiner 2005.

ELIZA: Is something troubling you ?
YOU:   Men are all alike.
ELIZA: What is the connection, do you suppose ?
YOU:   They're always bugging us about something or other.
ELIZA: Can you think of a specific example ?
YOU:   Well, my boyfriend made me come here.
ELIZA: Is it important to you that your boyfriend made you come here ?
YOU:   He says I'm depressed much of the time.
ELIZA: I am sorry to hear that you are depressed.
YOU:   It's true. I am unhappy.
ELIZA: Can you explain what made you unhappy ?
YOU:   █
```



How it Works

ELIZA was, technically speaking, a rather simple piece of programming, "consisting mainly of general methods for analyzing sentences and sentence fragments, locating so-called key words in texts, assembling sentence from fragments, and so on. It had, in other words, no built-in contextual framework of universe of discourse. This was supplied to it by a 'script.' In a sense ELIZA was an actress who commanded a set of techniques but who had nothing of her own to say" (Weizenbaum 1976, 188).

JOSEPH WEIZENBAUM

COMPUTER
POWER
AND
HUMAN
REASON

FROM JUDGMENT
TO CALCULATION

How it Works



500+ lines of code

```
1 <HTML><HEAD>
2 <META NAME="Description" CONTENT="Talk to Eliza!">
3 <TITLE>Eliza, Computer Therapist</TITLE>
4
5 <SCRIPT language="JavaScript"><!--
6
7 // Chat Bot by George Dunlop, www.peccavi.com
8 // Note - Eliza is a Classic Model of chat Bots.. but this implementation is mine :)
9 // May be used/modified if credit line is retained (c) 1997 All rights reserved
10
11     loaded = false;           // load flag for interlocking the pages
12
13 // OBJECT TYPE DEFINITIONS
14
15 // Keys
16
17     maxKey = 36;
18     keyNotFound = maxKey-1;
19     keyword = new Array(maxKey);
20
21     function key(key,idx,end){
22         this.key = key;           // phrase to match
23         this.idx = idx;           // first response to use
24         this.end = end;           // last response to use
25         this.last = end;         // response used last time
26     }
27     maxresponses =116;
28     response = new Array(maxresponses);
29
30     maxConj = 19;
31     max2ndConj = 7;
32     var conj1 = new Array(maxConj);
33     var conj2 = new Array(maxConj);
34     var conj3 = new Array(max2ndConj);
35     var conj4 = new Array(max2ndConj);
36
37
38 // Funtion to replaces all occurances of substring substr1 with substr2 within strng
39 // if type == 0 straight string replacement
40 // if type == 1 assumes padded strings and replaces whole words only
41 // if type == 2 non case sensitive assumes padded strings to compare whole word only
42 // if type == 3 non case sensitive straight string replacement
43
44     var RPstrg = "";
45
46     function replaceStr( strng, substr1, substr2, type){
47         var pntr = -1; aString = strng;
48         if( type == 0 ){
49             if( strng.indexOf( substr1 ) >= 0 ){ pntr = strng.indexOf( substr1 ); }
50         } else if( type == 1 ){
51             if( strng.indexOf( " "+ substr1 + " " ) >= 0 ){ pntr = strng.indexOf( " " + substr1 + " " ) + 1; }
52         } else if( type == 2 ){
```

Pandorabots

<http://pandorabots.com>

The image shows a screenshot of the Pandorabots website with a 'Sign In' modal window open. The background is a dark purple gradient with the text 'Chatbots Messaging' and 'Build intelligent messaging leading platform'. The modal window is white and contains the following elements:

- Sign In** (Title)
- Don't have an account?
Create one using any sign in method below.
- Buttons for social login: **f Sign in with Facebook**, **G Sign in with Google**, **Sign in with Twitter**, **Sign in with GitHub**, **Y Sign in with Yahoo**.
- Text: By signing in, you are agreeing to our [Terms of Service](#) and other Policies.
- Input fields for **Email** and **Password**.
- Links: [Create New Account](#) and [Forgot Password?](#)
- Button: **Sign in with Email**

The background website features the following text and statistics:

- Navigation: pandorabots, ABOUT, BLOG, DOCS, SERVICES, SIGN IN
- Header: Chatbots Messaging
- Sub-header: Build intelligent messaging leading platform
- Statistics: 250,000+ REGISTERED DEVELOPERS, 6,000,000,000+ MESSAGES PROCESSED

Artificial Intelligence Markup Language (AIML)

History of AIML

The **XML dialect** called AIML was originally developed by [Dr. Richard Wallace](#) and a worldwide [free software community](#) between 1995 and 2002. AIML formed the basis for what was initially a highly extended [Eliza](#) called "[A.L.I.C.E.](#)" ("Artificial Linguistic Internet Computer Entity"), which won numerous awards. Because the A.L.I.C.E. AIML set was released under the [GNU GPL](#), and because most AIML interpreters are offered under a [free or opensource](#) license many "Alicebot clones" have been created based upon the original implementation of the program and its AIML knowledge base.

The Pandorabots platform implements and supports development of the AIML open standard. It is the most popular open standard scripting language for creating chatbots available on the market to date. A number of AIML interpreters have been written in a variety of languages and open sourced, and a number of other bot platforms support AIML explicitly or under the hood.

AIML

AIML Basics

```
<category>  
  <pattern>HELLO</pattern>  
  <template>Hi there!</template>  
</category>
```

The basic unit of knowledge in AIML is called a **category**.

Each category consists of an input question, an output answer, and an optional context.

The question, or stimulus, is called the **pattern**. The answer, or response, is called the **template**.

Review - AIML

AIML Basics

```
<category>
```

```
  <pattern>HELLO</pattern>
```

```
  <template>Hi there!</template>
```

```
</category>
```

The AIML **pattern** language is simple, consisting only of words, spaces, and wildcard symbols like *.

The words may consist of letters and numerals, but no other characters (no punctuation).

The pattern language is not case sensitive.

Review - AIML

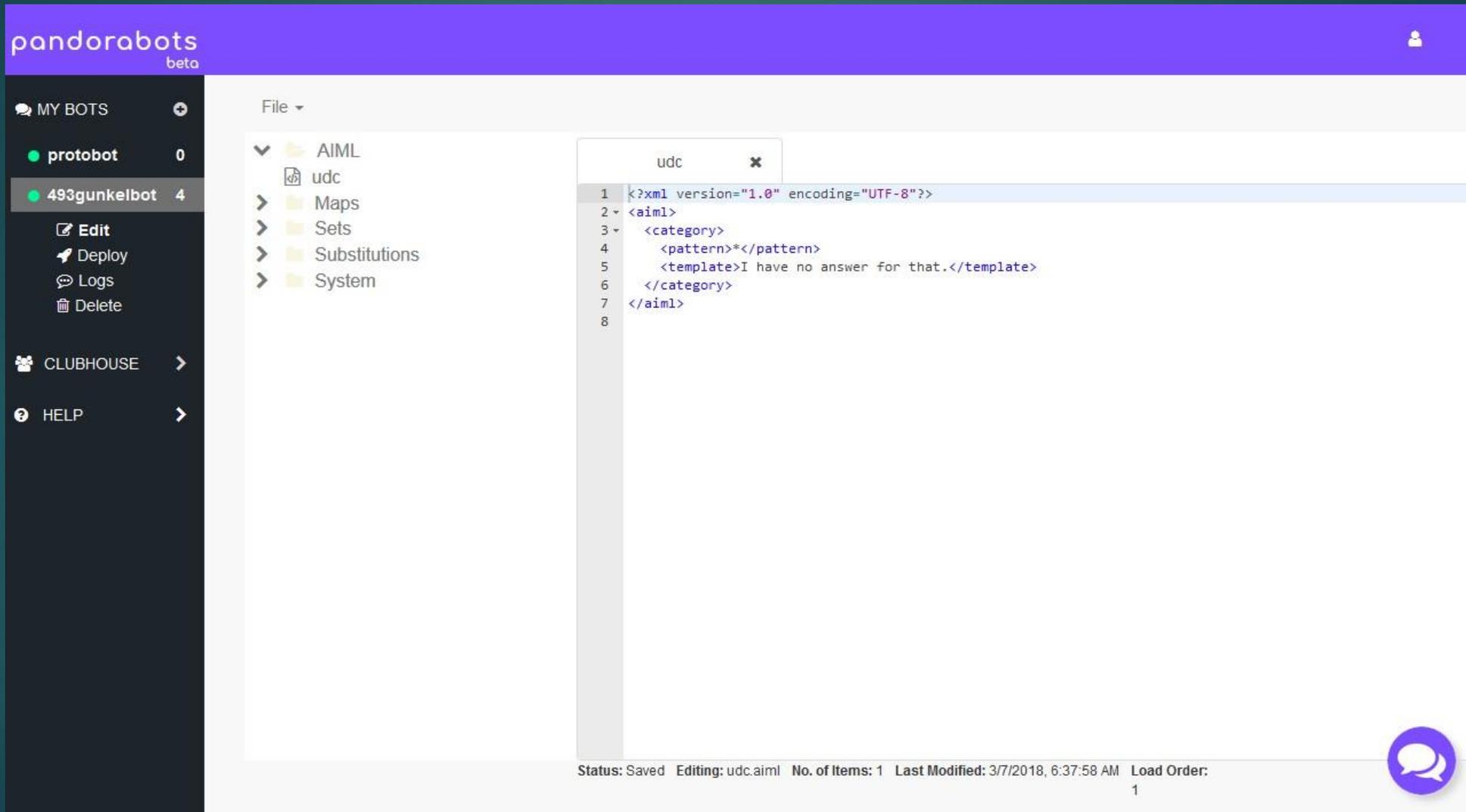
AIML Basics

```
<category>  
  <pattern>HELLO</pattern>  
  <template>Hi there!</template>  
</category>
```

Template defines the bot's response to the matched pattern.

Case does matter in the template! Your bot's response will be returned to the user exactly as written between the template tags.

Review - AIML

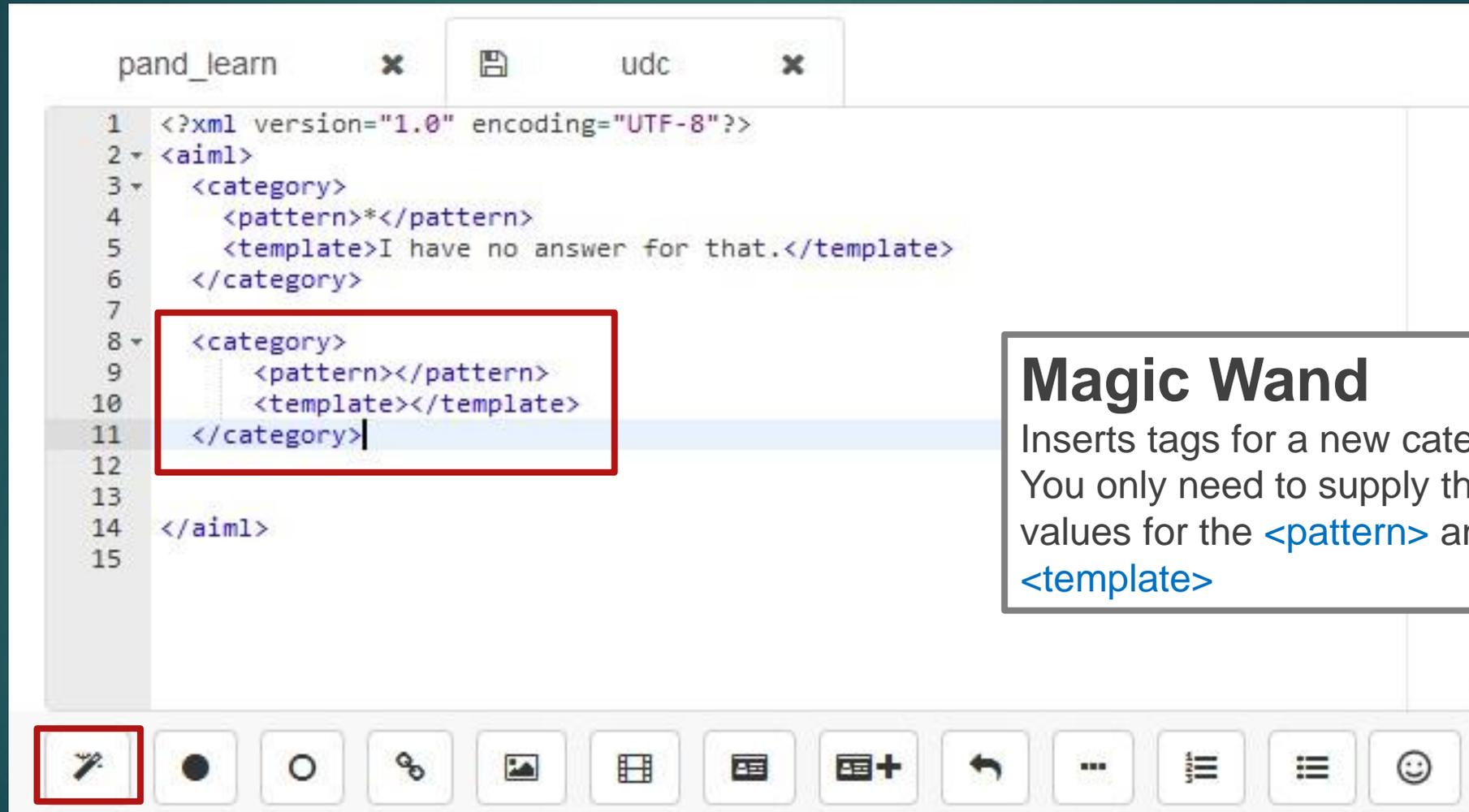


The screenshot displays the Pandorabots beta web interface. On the left is a dark sidebar with navigation options: 'MY BOTS' (containing 'protobot' with 0 items and '493gunkelbot' with 4 items, plus 'Edit', 'Deploy', 'Logs', and 'Delete' actions), 'CLUBHOUSE', and 'HELP'. The main area shows a file explorer with a tree view containing folders for 'AIML', 'Maps', 'Sets', 'Substitutions', and 'System', and a file named 'udc'. The 'udc' file is open in an editor window titled 'udc', showing the following XML code:

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <aiml>
3   <category>
4     <pattern>*</pattern>
5     <template>I have no answer for that.</template>
6   </category>
7 </aiml>
8
```

At the bottom of the editor, a status bar reads: 'Status: Saved Editing: udc.aiml No. of Items: 1 Last Modified: 3/7/2018, 6:37:58 AM Load Order: 1'. A purple chat bubble icon is located in the bottom right corner.

Review - AIML



The screenshot shows a code editor with two tabs: 'pand_learn' and 'udc'. The code in the editor is as follows:

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <aiml>
3   <category>
4     <pattern>*</pattern>
5     <template>I have no answer for that.</template>
6   </category>
7
8   <category>
9     <pattern></pattern>
10    <template></template>
11  </category>|
12
13
14 </aiml>
15
```

The code on lines 8-11 is highlighted with a red box. The toolbar at the bottom has a 'Magic Wand' icon (a wand) highlighted with a red box.

Magic Wand

Inserts tags for a new category. You only need to supply the text values for the `<pattern>` and the `<template>`

Questions

- ▶ Can the bot talk?
- ▶ Does the bot understand language?
- ▶ Is the bot intelligent?
- ▶ Could the bot pass the Turing Test?

