

THE LOEBNER PRIZE

1. The Loebner Prize

In 1990, Hugh Loebner established a prize called 'The Loebner Prize' [1] that is awarded to any system that can sufficiently pass the Turing Test. The prize consists of a Gold Medal and \$100,000. However, no system or machine has so far won the Gold Medal. Every year, a bronze medal and \$2000 is awarded to the best system among all the competing entries and which seems better than the others at exhibiting human-like behavior irrespective of how it is in the absolute sense.

2. The Turing Test

In his paper, Computing Machinery and Intelligence [2], Alan Turing laid the foundation of the Turing Test. The standard, widely acceptable version of it is essentially: If an interrogator is communicating with a machine via a terminal or some means of communication that involves written responses, and the machine is able to imitate a human and fool the interrogator into believing it is a human, then the machine is intelligent. This certainly requires several capabilities on part of the machine such as natural language understanding, knowledge representation in a knowledge base, reasoning, and learning.

3. Recent winners of the Loebner Prize

Due to lack of space, I describe winners of the Loebner Prize for the past few years only and discuss my experiences with them including a couple of chat transcripts. Some of the winners have been excluded because they were not available online.

(a) 2011 and 2010: Suzette [3] by Bruce Wilcox

I chatted with Suzette for about 10 minutes. It seemed to understand the sentences I typed in so it does have a sophisticated amount of natural language processing built into it. Its responses were grammatically correct but out of context. The chat began with the usual pleasantries but then shifted abruptly to topics like death, hair, age, career and so on. It is evident that Suzette does not have any formal sense of the theme that the conversation is running. It picks a word randomly and continues a conversation on it irrespective of what the human is talking about. In that sense, Suzette is an awful listener. It does not display any signs of intelligence in its responses and sometimes the responses were other questions that seemed to be hardwired into the chatbot or they were meaningless and unnecessary. As a result, it seems that there is no logical or common sense reasoning built into it. However, it can retain facts like my name, gender etc. so it does maintain a knowledge base and can learn facts.

Portion of a chat transcript with Suzette:

Hi pretsb !

[Af:1 At:7 Sp:0] How are you?

pretsb - I'm good

[Af:1 At:8 Sp:0] Glad to hear you are in good health. Sadly, it is merely the slowest possible rate at which one can die. How long do you have left?

pretsb - Several Years I suppose

[Af:1 At:9 Sp:0] Why so short?

pretsb - Its not short, its indefinite

[Af:1 At:9 Sp:0] Speaking of shorts... Tell me about your hair.

pretsb - its black and long

[Af:1 At:10 Sp:0] I like long hair.

pretsb - nice to know that

[Af:1 At:13 Sp:0] This is fun. How tall are you?

pretsb - 5 feet 3 inches

[Af:1 At:14 Sp:0] I'm 5 foot 9 inches.

pretsb - cool

[Af:1 At:15 Sp:0] Do you consider yourself young, old, middling, past it, or don't care?

pretsb - young

[Af:1 At:14 Sp:0] Underage young?

pretsb - no

[Af:0 At:14 Sp:0] You will grow out of it. Enjoy it for now.

pretsb - hmm

[Af:0 At:13 Sp:0] How old are you?

pretsb - 27

[Af:0 At:12 Sp:0] Have you picked a career yet?

pretsb - yes

[Af:1 At:12 Sp:0] What is it?

pretsb - computer scientist

[Af:1 At:11 Sp:0] Do you like being 27 or would you prefer a different age?

pretsb - i like being 27

[Af:1 At:8 Sp:0] Let's move on to the topic of psychological self. Would you say you are a person who sees the glass as half full or half empty? An optimist or a pessimist? An extravert or an introvert?

(b) 2008: Elbot [4] developed by Fred Robots from Artificial Solutions

Elbot was terrible as a chatbot. It did not respond to any of my greetings and questions. It said random words and sentences that did not have any link to the conversation we were carrying out. Sometimes, it had one-word replies. There does not seem to be any intelligence implemented in it and neither does it have any natural language understanding capability.

(c) 2007: Ultra Hal Assistant [5] developed by Zabaware

Like other chatbots, Hal did not display signs of intelligence but it can certainly remember things. Thus, like Suzette, it seems to have a knowledge base but very limited reasoning capabilities. It too changed the theme of the conversation randomly and quickly and did not carry out what would be termed as a 'sensible' and cohesive conversation. Its responses were appropriate and it did understand some of my questions and responses so it has some NLP capability. However, it did not understand some of the commonly used words like 'where' and asked the user, that is me, to explain them to it. The professional version of Hal comes with a choice of male and female voices to chat with and hence, I am assuming it has speech recognition as well as speech generation incorporated in it.

(d) 2005 and 2006: Jabberwacky [6] by Rollo Carpenter

Jabber wacky has a nice interface for chatting where the user can correct the chatbot if its response has a mistake. The user can also prompt the chatbot to answer a question if there is a delay in response. The interface also provides a provision for the user to set an appropriate reaction and emotion to his/her response, which they claim enhances the ability of Jabberwacky to respond appropriately but I did not witness any significant change in the chats after setting the reaction and emotion. Despite all the fancy features of the interface, the chatbot, unfortunately, is no different from others. It quickly jumps from one thread to another. Its responses were incorrect and inappropriate and sometimes it asked me questions about things that I had never mentioned in the conversation at all. It appears to have responses to standard questions hardcoded in its knowledge base. Thus, it seems to have little NLP capability, no reasoning or learning and a very rudimentary form of knowledge base.

(e) 2000, 2001 and 2004: AliceBot [7] by Richard Wallace

AliceBot is a lot like Suzette in many ways. It can retain facts in its knowledge base but it cannot infer anything from them. It certainly lacks common sense reasoning or even rule based reasoning. For instance, given my date of birth, it still could not compute my age from it and had to be explicitly told.

Portion of my chat transcript with AliceBot:

judge: i am female
ALICE: I am a girl too.
judge: nice to know that
ALICE: Thank you for your kindness.
judge: what is your age?
ALICE: I was activated in 1995.
judge: ok
ALICE: Aha.
judge: so what else?
ALICE: That's all.
judge: ok
ALICE: Really.
judge: can you talk?
ALICE: Yes talking is my primary function.
judge: what is my name?
ALICE: I know you as Judge.
judge: ok
ALICE: Ah.
judge: when was i born
ALICE: You haven't told me your age.
judge: i was born in january 1985
ALICE: Thank you for telling me your birthday, judge. I will remember it.
judge: when was i born?
ALICE: You haven't told me your age.
judge: my age is 27
ALICE: What is your fondest memory?
judge: what is my age?
ALICE: You said you were 27 years old.
judge: yes
ALICE: I understand.
judge: ok
ALICE: That's alright.
ALICE: Ooops I sent you the wrong question.
judge: ok, bye
ALICE: Er.. See you later judge.

Thus, in conclusion, I would say that all the chatbots failed miserably at passing the Turing test. Responding to simple questions and saying a few grammatically correct sentences (which are most likely hard-coded in the program by a developer) is not a sign of intelligence.

4. References:

- [1] The Loebner Prize. <http://www.loebner.net/Prizef/loebner-prize.html>
- [2] Turing, A.M. (1950). Computing machinery and intelligence. Mind, 59, 433-460.
- [3] Suzette <http://ai.bluemars.com/chat/>
- [4] Elbot <http://www.elbot.com/>
- [5] <http://zabaware.com/>
- [6] Jabberwacky <http://www.jabberwacky.com/>
- [7] AliceBot <http://alice.pandorabots.com>