

Natural Language Processing  
Instructor: Dr. Mumit Khan & Naushad UzZaman  
Course No: CSE 431  
Snigdha Saha  
ID: 02101038

BANGLA TEXT DIALOG SYSTEM

“Bangla Text Dialog System” is a system where a human can talk with a system that can response like any other human. The concept was similar to chatting. Where in chatting one can make conversation with a human, here he/she can do it with a Male Robot called 'Abdul' and a Female Robot called 'Sakhina'. So the main task of this project was to build

- ✓ a male robot called ABDUL
- ✓ a female robot called SAKHINA

### **Literature Review:**

ABDUL and SAKHINA worked by having a cascade of regular expression substitutions that match a part of the input lines and return a corresponding statement. For instance if the regular expression for “name” in bangla is /na\*m/ and the input string is “tomar naam ki?” then it will reply “amar naam abdul”. So I need to write different regular expression for different word. In case of choosing words among lots of Bangla words, i study on some human conversation like chatting conversation, phone conversation, etc and chose the selected common word.

huvra\_bd: hi..  
shuvra\_bd: knock knock knock !!!!!!!!!!!!!!!  
shuvra\_bd: basay keo achen.?  
shuvra\_bd: knock knock knock !!!!!!!!!!!!!!!  
BUZZ!!!  
shuvra\_bd: basay keo achen.?  
shaina : hi  
shaina : hehehehe  
shaina : salam salam  
shuvra\_bd: taholey basaay achen..  
shuvra\_bd: ha ha ha ha....thanx.  
shuvra\_bd: for calling at last night..  
shaina : ki khobor?  
shuvra\_bd: darun khobor !  
shaina : babba  
shaina : khobor tao abar darun  
shaina : tahole to shuntei hoy

I divide the conversation into different domain such as :

- ✓ Introductory/general conversation.
- ✓ Replying aggressive questions (Anger management!).
- ✓ Replying emotional (happy, sad, ...) statements/questions.
- ✓ Replying when you have less clue to what the human is talking!.
- ✓ Replying personal questions to human.

I also study the other Chatboat such as ELIZA, HAL, ALICE, ELBOAT and analysis the way they response. From the analysis i found that some Chatboat response their feelings by images, keeping

history of the past(how the human talks), etc. So the a robot can make response by

- Images..
- Input string.
- Expression using character symbol.
- Keeping history of the past.

### **Solution:**

All the way of responding to the human found by analysis are implemented in ABDUL and SAKHINA. All the domain described before were implemented. Special symbol like [:( , :( , :S , :P , :D] were added to express emotions. They are able to keep track with conversation. They store a limited amount of conversation and ask them to the user again. They also able to express their emotions by images. They can randomly reply in different way for the same question.

### **Drawbacks:**

- Limited number of regular expression.
- Lack of appropriate images for different human expression.

### **Future Work & Referenced:**

This project will be merged with Backward and Forward N-Gram analysis. The project done by Rajib Rahman, Jahangir Alam and Tarek Habib. For this, I need a Bangla Corpus from any story book. A way to link Python and Java Script.