

# noSQL - Not Obligatory SQL

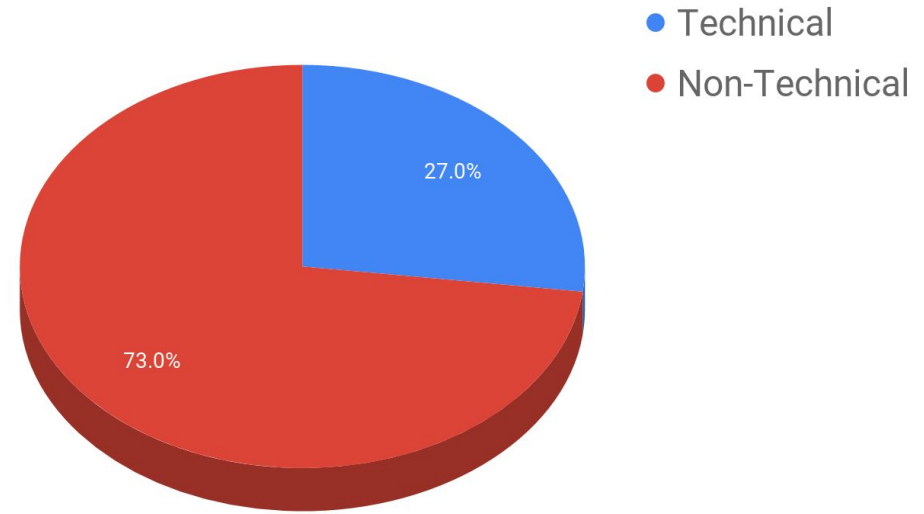
Team Hack-o-holics  
Theme - ML & Data Science

A Natural Language Interface  
for SQL



# NEED

Most institutions have their data in the digital format. It becomes difficult for people with no technical background to work on such systems.



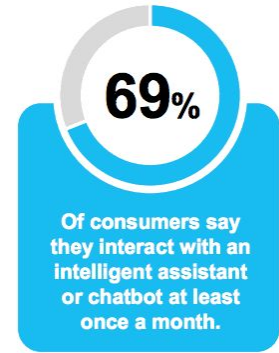
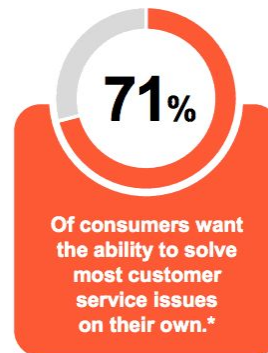
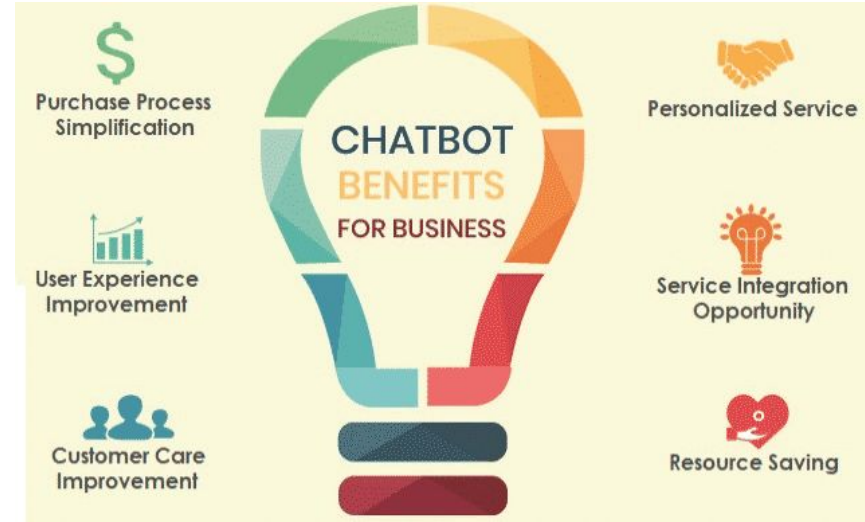
This graph shows the distribution of working crowd with respect to their technical background.

# CHATBOTS

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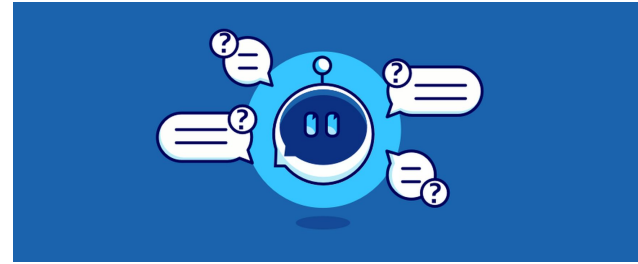
Chatbots are revolutionizing the way people interact with technology.

They bridge the gap between human understanding and respective computer interpretation. With a chatbot interface the user does not need any kind of technical background and leveraging the modern day AI and NLP tools we can get maximum efficiency.



# PROPOSED SOLUTION

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We have implemented a Natural Language interface to access a Relational Database Management System for users who do not have knowledge about SQL. The user can access the database using a chatbot interface where he/she can retrieve data using simple English language rather than using complex SQL queries.

The system takes .sql file as an input and an **SQL parser** program fetches the tables, attributes, primary keys of each table and the relations between the tables(foreign keys).

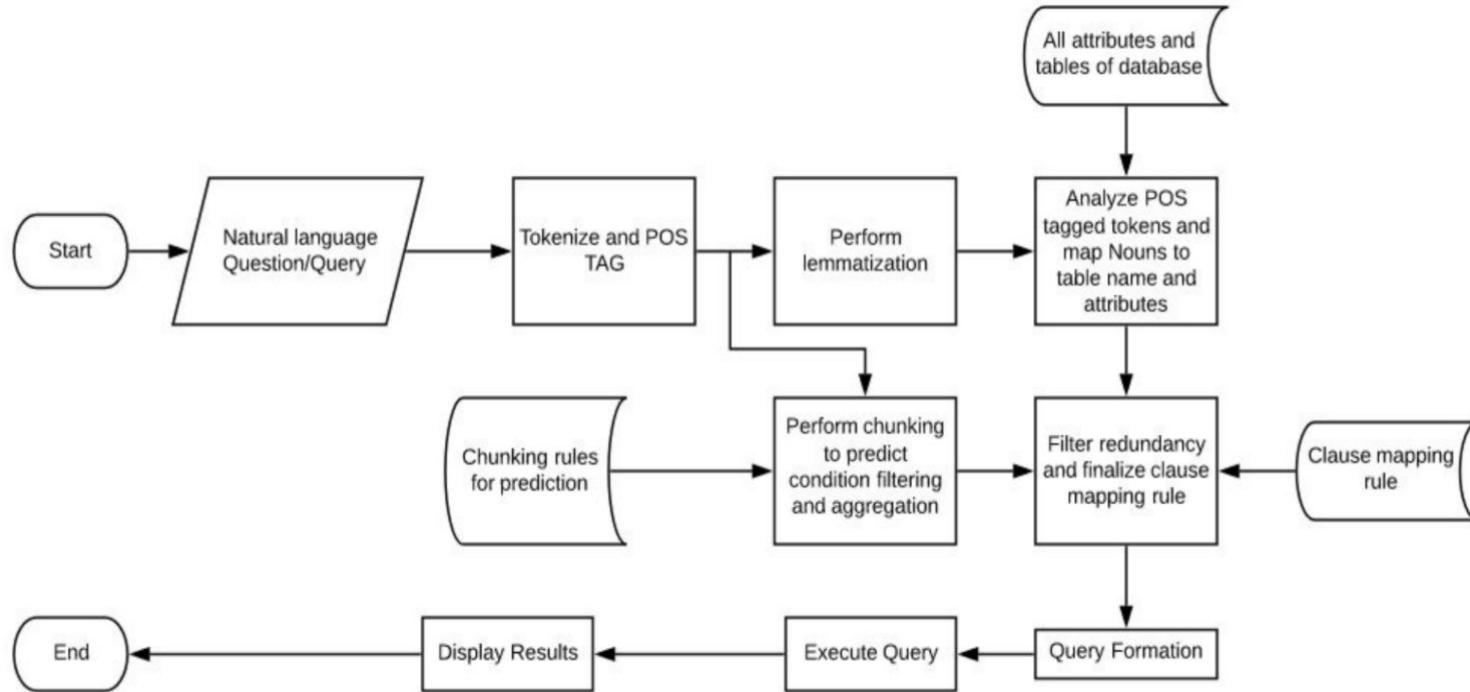
# Unique Selling Points

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1. First of a kind chatbot interface which can be integrated with any database system.
2. Access Database from an interactive interface.
3. Give suggestions when user gives input.
4. Give accurate results in spite of grammatical and semantic errors using Deep Learning algorithms.
5. Speech-to-text and text-to-speech conversion
6. Multilingual facility (future scope)



# ARCHITECTURE

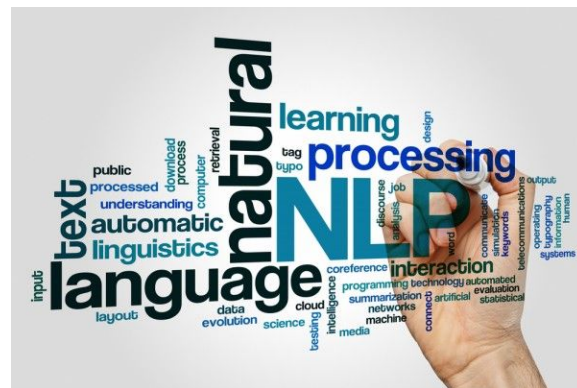
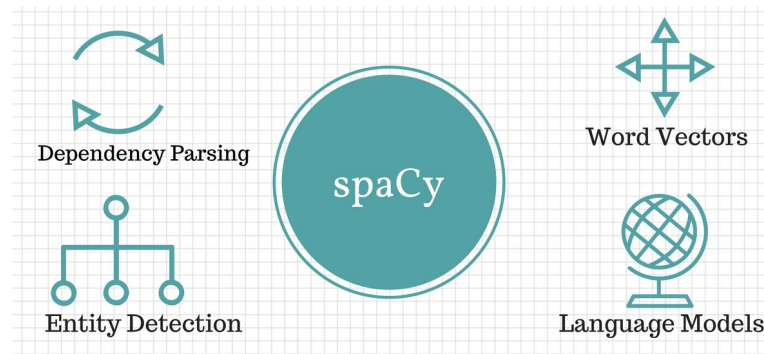


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The Django logo, which consists of the word "django" in a lowercase, bold, sans-serif font. The letter 'j' has a distinctive hook that extends below the baseline. The logo is positioned in the top left corner of the slide.

## Frontend -

- HTML5
- CSS3
- Bootstrap
- AJAX, jQuery



# APPLICATION

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This kind of interface has wide applications where the users of the database don't necessarily need to be well-versed with SQL language. Such systems can be used in -

- Hospitals to store and retrieve medical records
- Financial markets to analyse market trends and
- E-commerce companies to save and retrieve data of customers and products



# FUTURE SCOPE

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1. Complex queries like JOINS and subqueries.
2. Multilingual facility.
3. Increased efficiency for complicated English questions.
4. Download option for large output data.