Pulse-X

The complete social media intelligence platform with dynamic sentiment analysis

Domain : Student Innovation

Team name : git_commit

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Problem Statement

- As companies enter a new era of online marketing and e-commerce, they are susceptible to criticism from a world-wide audience.

- Tweets and posts have the potential of making or breaking a company's reputation and giving the right responses is essential.

- We propose a software to overcome this problem by introducing an intelligent system to categorically filter, classify and summarize the relevant reviews in the simplest way.
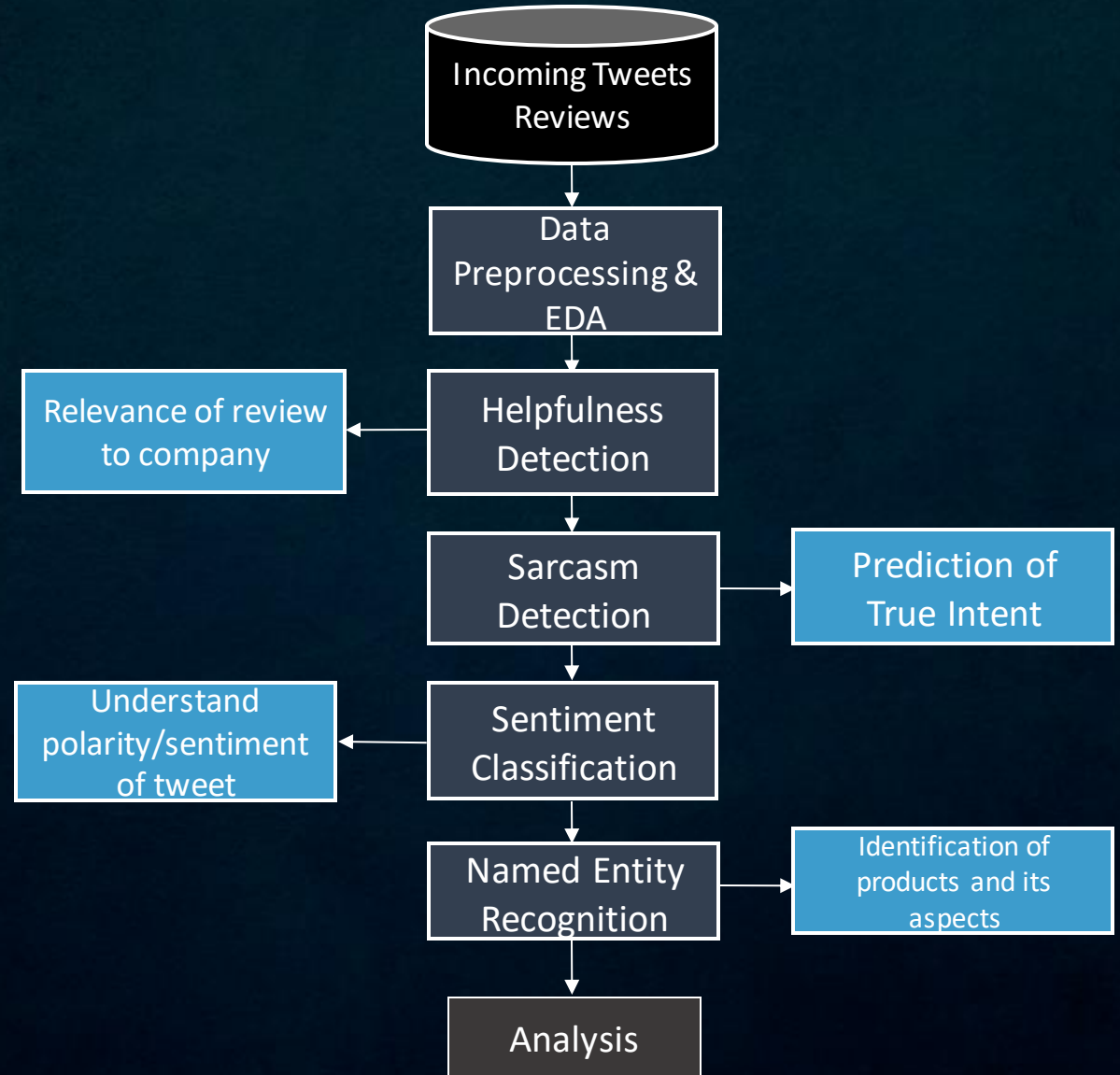
Proposed Solution

- PULSE-X is a multi-layered market sentiment aggregator with real time analytics and a gamified user interface, that uses Artificial Intelligence to help companies segregate relevant feedback from the internet.

- The social media data goes through three layers of filtering that detect helpfulness, sarcasm and sentiment. The feedback is then summarized to understand which product and what aspects of it are being spoken of.

- Finally, the highly condensed data is sent over to the employees through a gamified interface which supports speedy updates and smooth transitions.

SOCIAL MEDIA NEWS/COMPANY WEBSITE → DATA SCRAPING → DATA PRE-PROCESSING → NATURAL LANGUAGE PROCESSING → INTELLIGENT ANALYSIS → USER INTERFACE FOR RESPONSES
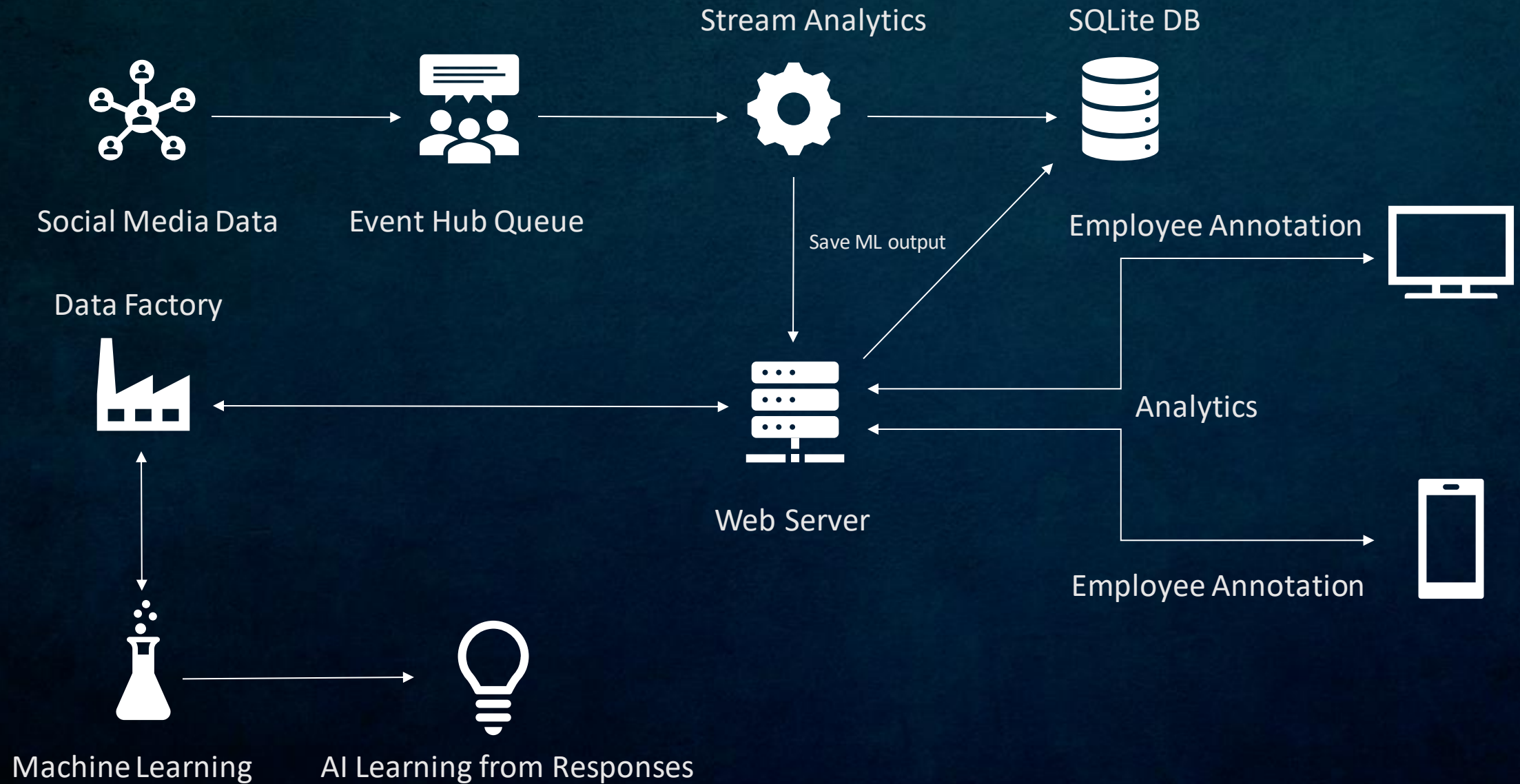
Unique Selling Points

- The application will be cross-platform and will run on all devices: Android, iOS or any modern browser. This will allow users to:
  - Synchronize their work effortlessly across different platforms.
  - Work wherever they want.

- Machine Learning will be used for:
  - Detection of helpfulness, sentiment and sarcasm that will enable the right review to reach the employees in time.
  - Identification of the product to facilitate an appropriate understanding between the company and the customers.
  - Making human like responses after the AI learns from the reviews.

Incoming Tweets Reviews

Data Preprocessing & EDA

Relevance of review to company ← Helpfulness Detection

Sarcasm Detection → Prediction of True Intent

Understand polarity/sentiment of tweet ← Sentiment Classification

Named Entity Recognition → Identification of products and its aspects

Analysis

Architecture

Tech Stack

Machine Learning

- DeepPavlov
- Networkx
- NLTK
- Pytorch
- Transformers
- Spacy
- TextBlob
- Sci-kit learn

Server & Deployment

- Azure
- Django Rest Framework
- Gunicorn
- NGINX
- SQLite

Website Frontend

- ChartJS
- Material UI
- ReactJS

Mobile app development

- Expo SDK
- React Native
- React Native Paper (UI)
- React Navigation

Future scope

- Automated replies will be sent to customers using Pattern Recognition and AI.

- Creating a spam filter to detect bot generated feedback.

- Addition of the feature of voice recognition, to include live feedback from users.

- Support for multi-language content