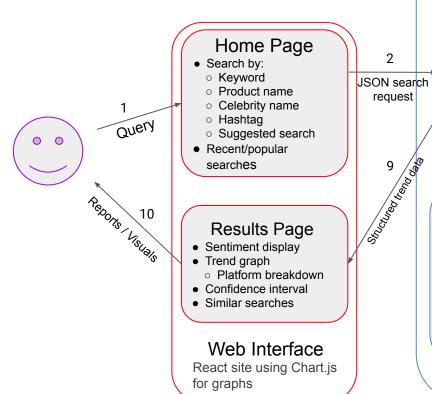
Design D0



Design D1 Social Media APIs - Facebook, Twitter, Reddit Web API / Web Server Home Page Crawling / Text Collection - responsible for passing data between 2 Client and Server Search by: - responsible for Social Media API Textual Data Keyword \$earch request interaction / textual data collection Product name - responsible for saving/retrieving data o Celebrity name from the database Hashtaq Query Suggested search Recent/popular 6 searches Sentiment data Batch social media text Reports Visuals Sentiment Analysis Engine - Determine trending terms in a batch of Results Page documents/items - Calculate overall sentiment from a batch Sentiment display of documents Trend graph - Ability to score different search terms in Platform breakdown the same request for comparison · Confidence interval - Able to handle data from different Social Similar searches Media Platforms Web Interface Back End

Design D2



Web API / Web Server

Asynchronous Node.js server for streaming, aggregating and routing data

- responsible for passing data between Client and Server
- responsible for Social Media API interaction / textual data collection
- responsible for saving/retrieving data from the database

8 Sentiment data 7 Batch social media text

Sentiment Analysis Engine

Stand-alone API built using Python and hosted on AWS API Gateway

- Determine trending terms in a batch of documents/items
- Calculate overall sentiment from a batch of documents
- Ability to score different search terms in the same request for comparison
- Able to handle data from different Social Media Platforms

Back End

Trend Cache

SQL database with previous trend data

- Historical search data

SQL query _

Response

Textual Data

- Allows Web API to only fetch and process recent data for common searches
- Only stores overall trend
 no highly specific info
- Increases speed, reduces cost

Social Media APIs

- Facebook, Twitter, Reddit