TRENDS MARKETPLACE

Recommendation engine for music platforms

Team 20(Link to Video): Archit Agarwal, Viswanath Reddy Edunuri, Sirui Jiang, Yutong Liu, Wenyi Wang

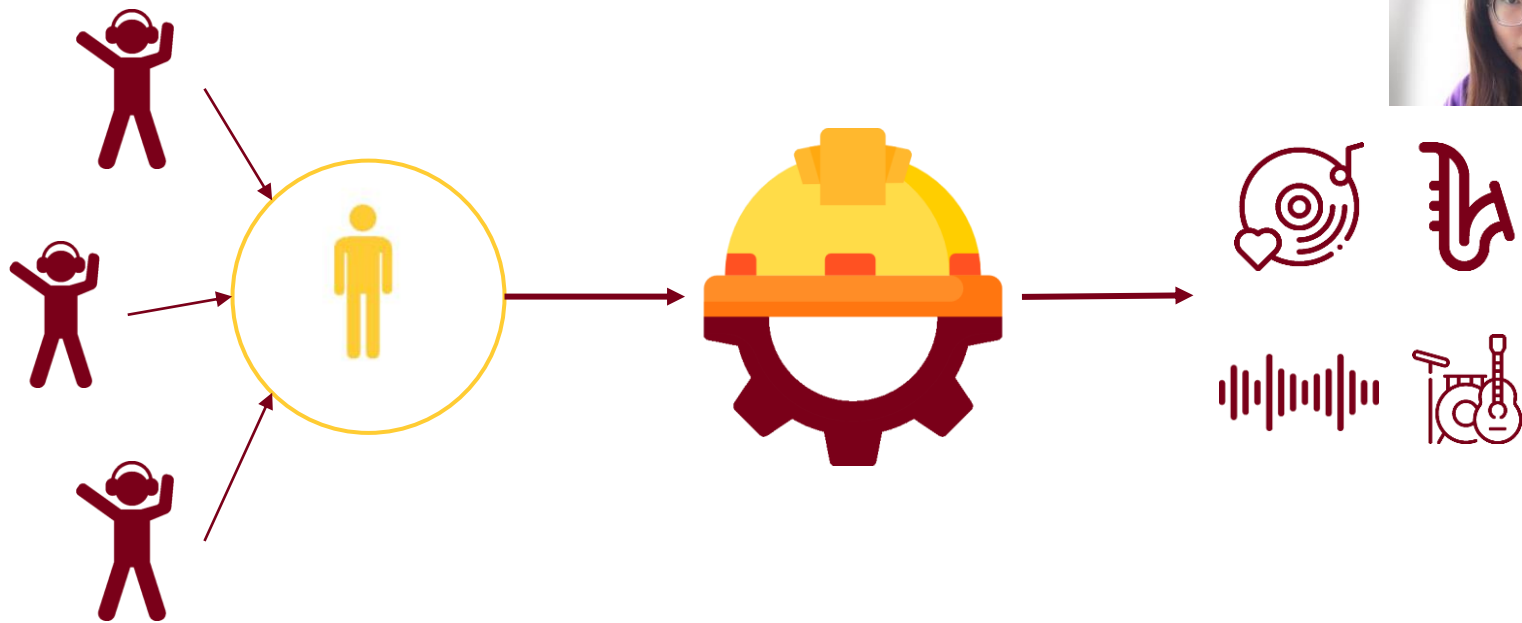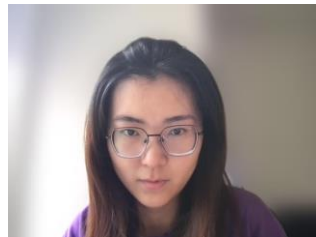UNIVERSITY OF MINNESOTA
Driven to Discover℠

Music streaming industry is expected to grow 9% YoY[1]

- Expected revenue to increase by **$37.8bn** year on year(average)[1]

- Major markets:
  - USA (~10%)
  - China (~20%)
  - EU (~8%)

- Digital push since COVID-19

- Personalization and New music discovery

Reference: statista.com

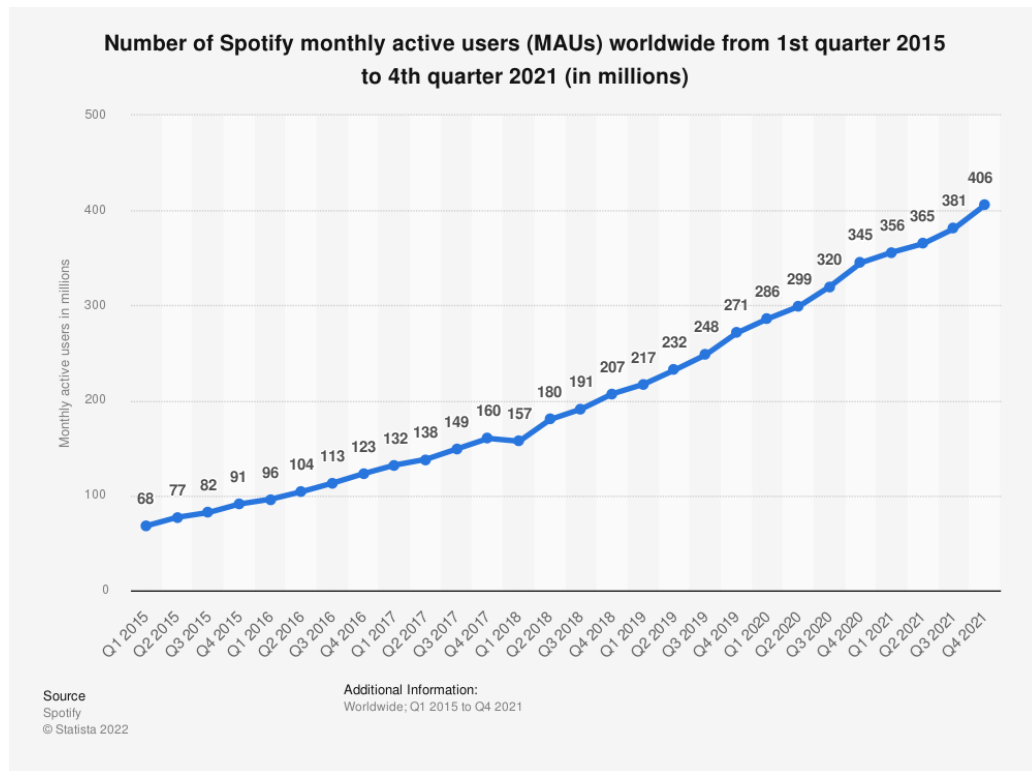# Recommendation Engine drives engagement by personalization and discovery

Identify similar customers

Recommend new music

Enable high engagement

Increasing users generate exponential data demanding compute, storage for recommendations

Number of Spotify monthly active users (MAUs) worldwide from 1st quarter 2015 to 4th quarter 2021 (in millions)

Monthly active users in millions

68, 77, 82, 91, 96, 104, 113, 123, 132, 138, 149, 160, 157, 180, 191, 207, 217, 232, 248, 271, 286, 299, 320, 345, 356, 365, 381, 406

Q1 2015, Q2 2015, Q3 2015, Q4 2015, Q1 2016, Q2 2016, Q3 2016, Q4 2016, Q1 2017, Q2 2017, Q3 2017, Q4 2017, Q1 2018, Q2 2018, Q3 2018, Q4 2018, Q1 2019, Q2 2019, Q3 2019, Q4 2019, Q1 2020, Q2 2020, Q3 2020, Q4 2020, Q1 2021, Q2 2021, Q3 2021, Q4 2021

Source
Spotify
© Statista 2022

Additional Information:
Worldwide; Q1 2015 to Q4 2021
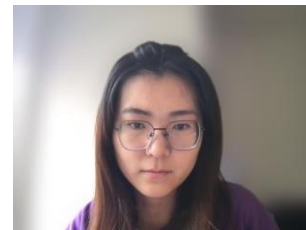
Users increased by 500%

The number of users went from 46M-406M at the end of 2021
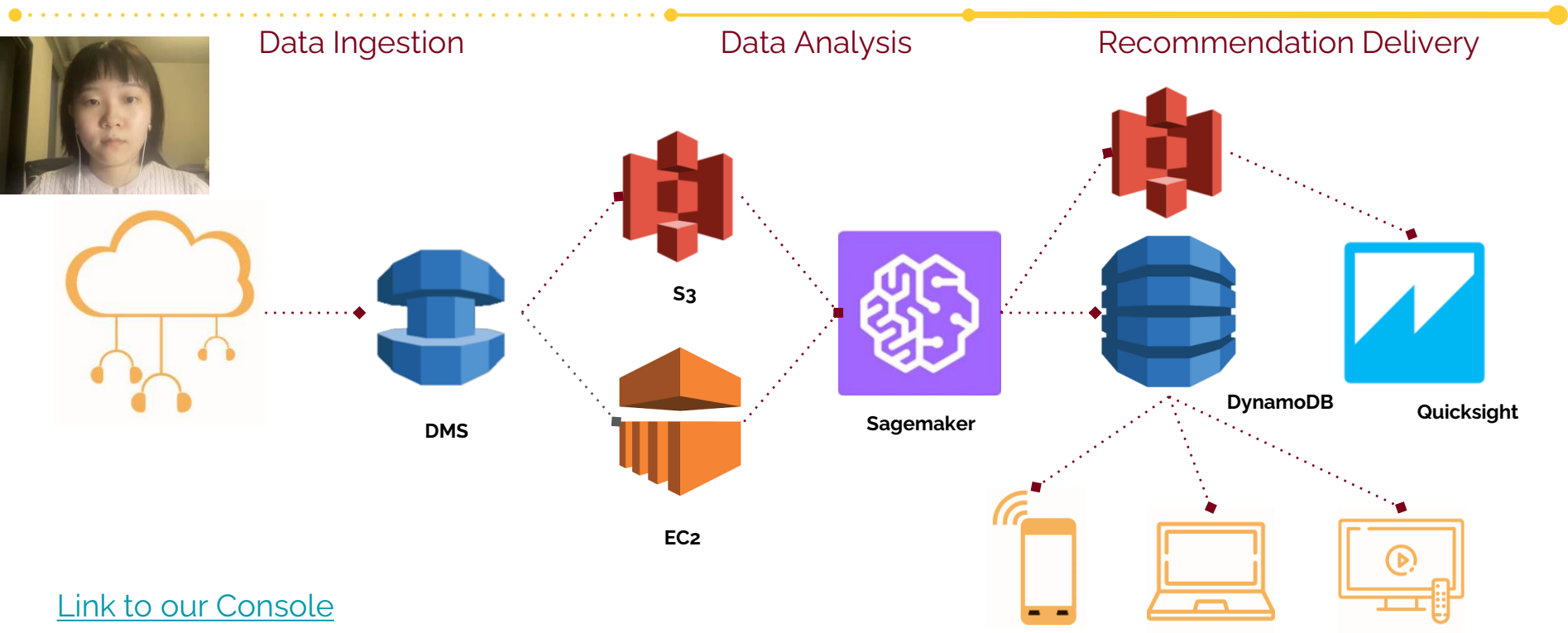
Data increased by 400%

Spotify churns 10TB data per day for its analytical needs

Traditional data processing

A python based recommendation engine will take weeks to compile this much data and recommend next songs, artists

Reference: statista.com

Cloud solutions can streamline recommendation delivery with scalability

Data Ingestion   Data Analysis   Recommendation Delivery

DMS

S3

EC2

Sagemaker

DynamoDB

Quicksight

Link to our Console

Link to our Demo Video

Link to our Console

Recommendations can be used to generate business insights using Quicksight
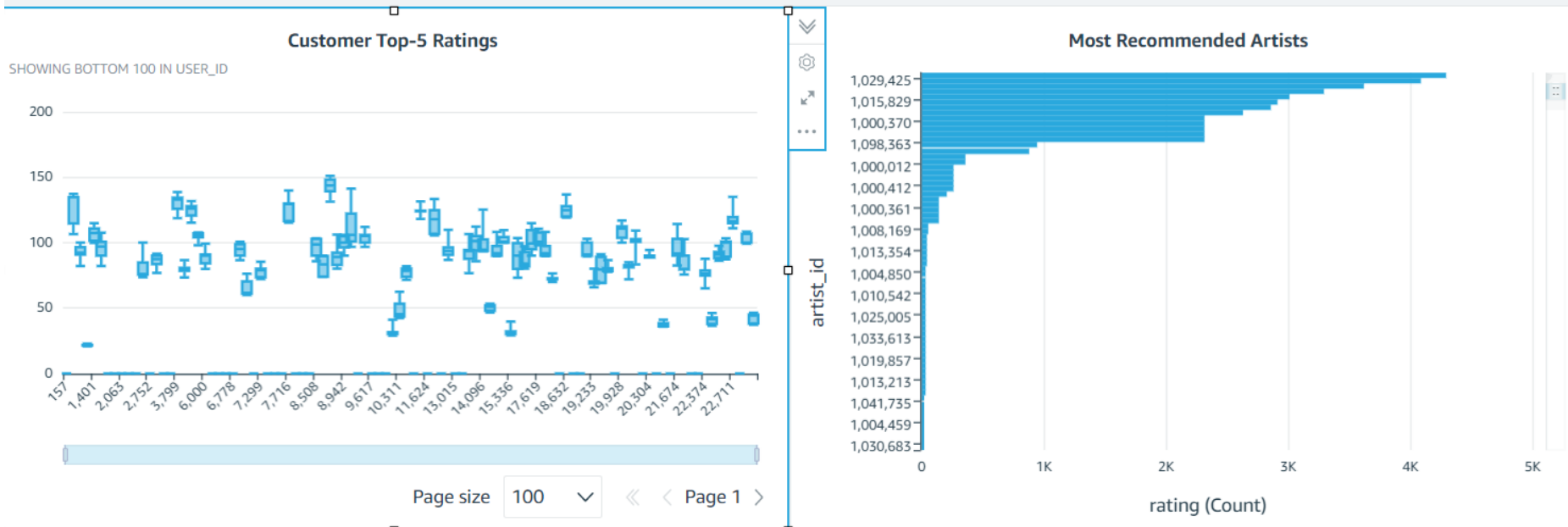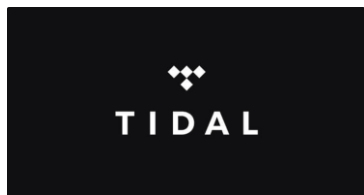

Our pipeline streamlines raw data to music recommendation delivery with business insights in <10min

Our solution solves current challenges and prepare organizations for the future

Scalability
Adding nodes is just $ away

Durability
Infrastructure is platform agnostic

Maintenance
AWS maintain & ensure ~0 outage
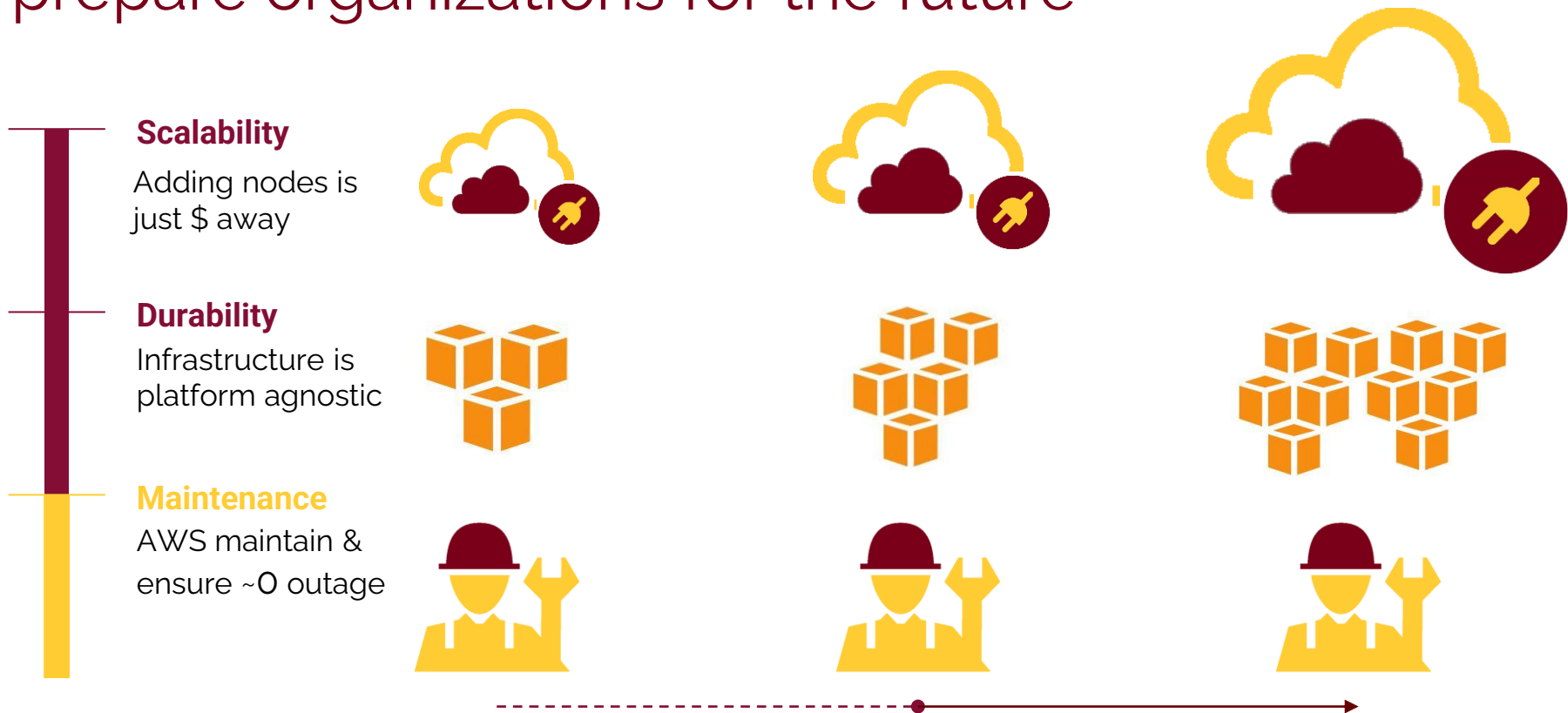
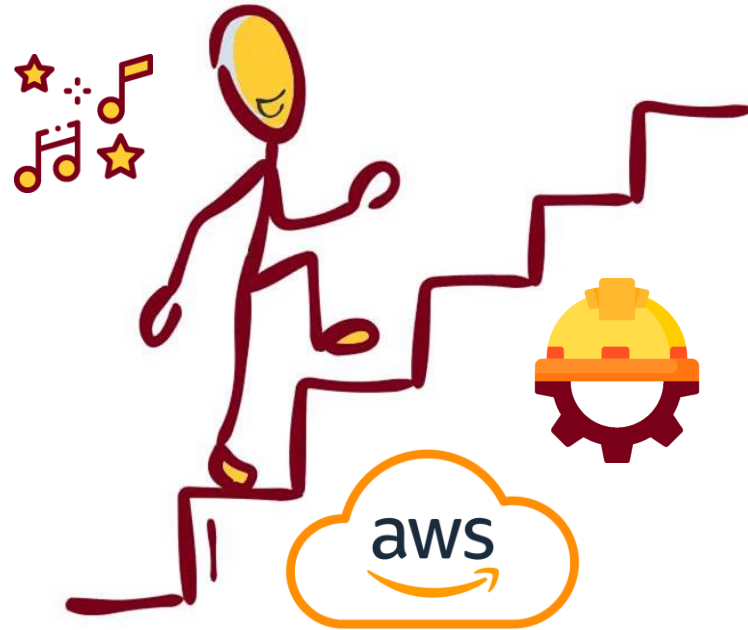# Ascending music streaming services can use our system and build upon it

$30M

AWS enables streamlined recommendations for exponentially increasing data

Thank you!

Link to our GitHub