Flight Delay Prediction and Visualization for US Travelers

Objectives

- Create a ML model to predict delays for domestic flights given departure date/time and airport and/or flight number.

- Setup an interactive user interface where user can specify flight details and determine the estimated delay.

Current workflow & limitations

Traveler

Commercial

- ✓ Simple Flight Stats
- ✗ ML based prediction
- ✓ Consumers have access

Private websites, National Airspace System Status

Academia

- ✓ Simple Flight Stats
- ✓ ML based prediction
- ✗ Consumers have access

Various ML models built on historical flight data

Solution

Back end

Weather Data

Flight Data

Noise cleanup

Train and Test ML models

Flight info

Final ML model

Delay prediction

Front end

Interactive Map

User friendly Interface

Useful Stats

Traveler

Stakeholders and Impact

Stakeholders

Travelers

Airlines

Impact

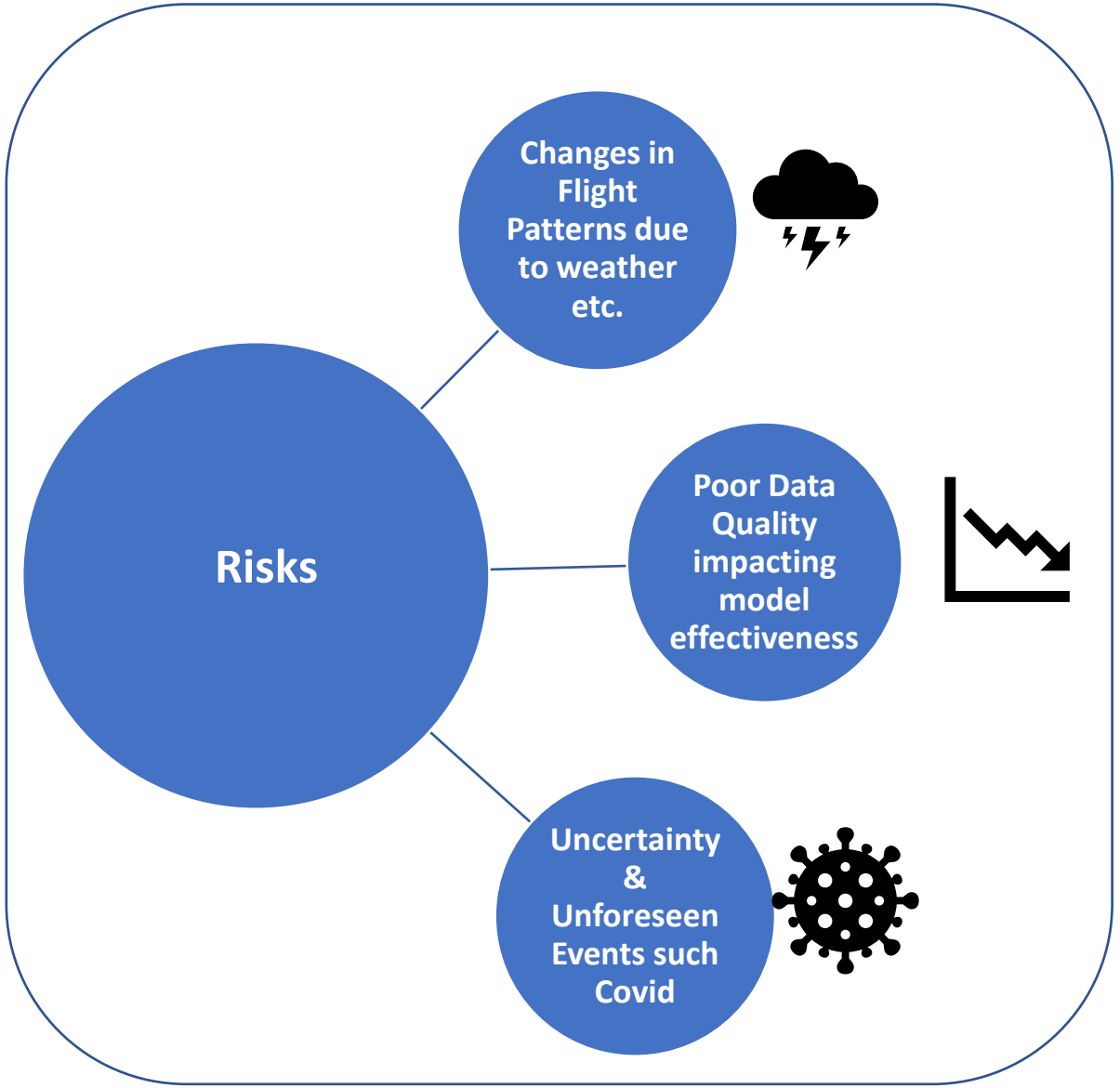
Travelers avoid delays; time savings

Avoid hotel and rental car cancellations; cost savings

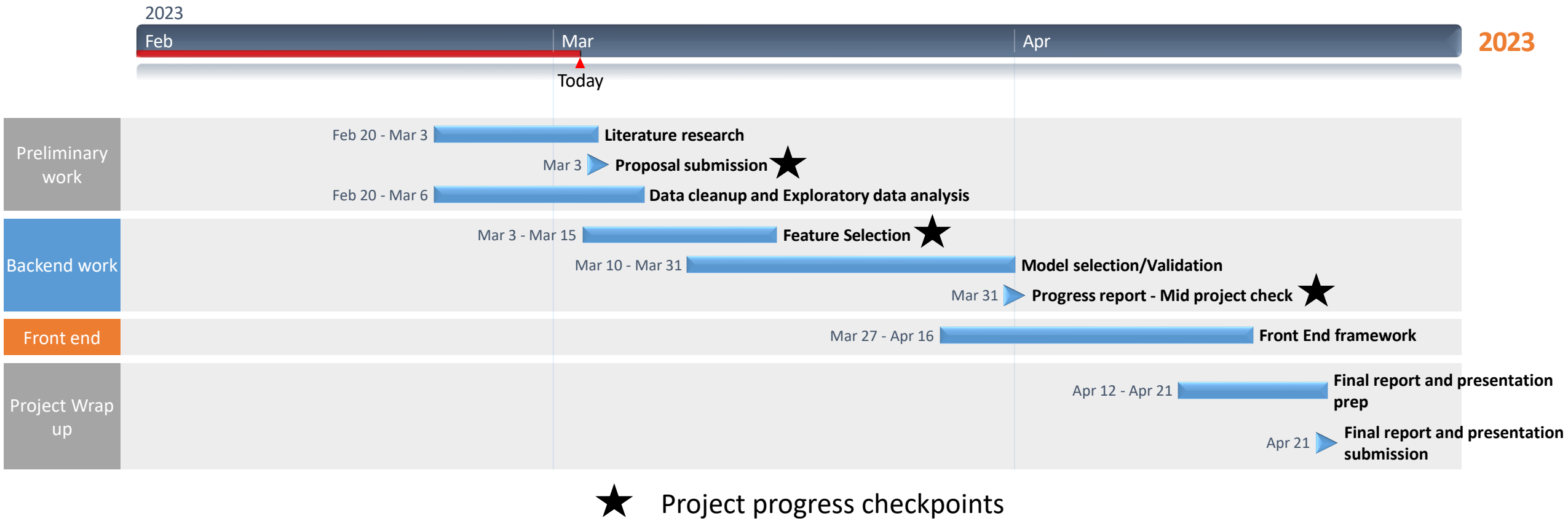
More productivity for business travelers

Increased passenger satisfaction with airlines

Risks and Rewards



Project Plan and Costs



★ Project progress checkpoints

Costs

- No usage of any cloud services
- No additional compute resources need
- No additional cost