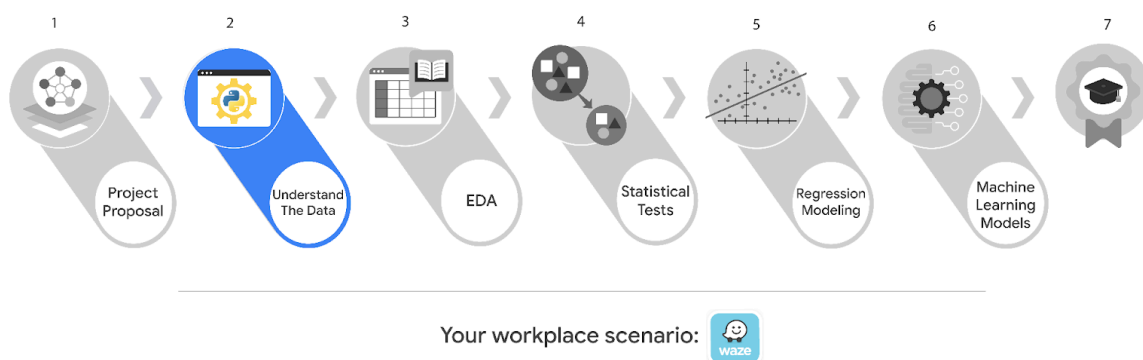


Course 2 end-of-course portfolio project overview: Waze

Learn about the Course 2 Waze workplace scenario!

The end-of-course project in Course 2 focuses on your ability to understand the data needed for a project. As a reminder, in Course 1 you developed a project proposal that outlined milestones, which progress with each of the end-of-course projects. A visual representation is provided in the graphic shown here:



Learn more about the project, your role, and expectations in this reading.

Background on the Waze scenario

Waze's free navigation app makes it easier for drivers around the world to get to where they want to go. Waze's community of map editors, beta testers, translators, partners, and users helps make each drive better and safer. Waze partners with cities, transportation authorities, broadcasters, businesses, and first responders to help as many people as possible travel more efficiently and safely.

You'll collaborate with your Waze teammates to analyze and interpret data, generate valuable insights, and help leadership make informed business decisions. Your team is about to start a new project to help prevent user churn on the Waze app. Churn quantifies the number of users who have uninstalled the Waze app or stopped using the app. This project focuses on monthly user churn.

This project is part of a larger effort at Waze to increase growth. Typically, high retention rates indicate satisfied users who repeatedly use the Waze app over time. Developing a churn prediction model will help prevent churn, improve user retention, and grow Waze's business. An accurate model can also help identify specific factors that contribute to churn and answer questions such as:

- Who are the users most likely to churn?
- Why do users churn?
- When do users churn?

For example, if Waze can identify a segment of users who are at high risk of churning, Waze can proactively engage these users with special offers to try and retain them. Otherwise, Waze may lose these users without knowing why.

Your insights will help Waze leadership optimize the company's retention strategy, enhance user experience, and make data-driven decisions about product development.

Project background

Waze's data team is in the earliest stages of the churn project. The following tasks are needed before the team can begin the data analysis process:

- Build a dataframe for the churn dataset
- Examine data type of each column
- Gather descriptive statistics
- Your assignment

Your assignment

You will build a dataframe for the churn data. After the dataframe is complete, you will organize the data for the process of exploratory data analysis, and update the team on your progress and insights.

Team members at Waze

Data team roles

- Harriet Hadzic - Director of Data Analysis
- May Santner - Data Analysis Manager
- Chidi Ga - Senior Data Analyst
- Sylvester Esperanza - Senior Project Manager

Data team members have technical experience with data analysis and data science. However, you should always be sure to keep summaries and messages to these team members concise and to the point.

Cross-functional team members

- Emrick Larson - Finance and Administration Department Head
- Ursula Sayo - Operations Manager

Your Waze team includes several managers overseeing operations. It is important to adapt your communication to their roles since their responsibilities are less technical.

Note: The story, all names, characters, and incidents portrayed in this project are fictitious. No identification with actual persons (living or deceased) is intended or should be inferred. And, the data shared in this project has been created for pedagogical purposes.

Specific project deliverables

With this end-of-course project, you will gain valuable practice and apply your new skills as you complete the following:

- Complete the questions in the Course 2 PACE strategy document
- Answer the questions in the Jupyter notebook project file
- Complete coding prep work on project's Jupyter notebook
- Summarize the column Dtypes
- Communicate important findings in the form of an executive summary

Good luck with this project! Your Waze team members are looking forward to seeing how you communicate your creative work and approach problem-solving!

Key takeaways

The Google Advanced Data Analytics Certificate end-of-course project is designed for you to practice and apply course skills in a fictional workplace scenario. By completing each course's end-of-course project, you will have work examples that will enhance your portfolio and showcase your skills for future employers.

Scenario

Your team is still in the early stages of their project to develop a machine learning model to predict user churn.

Previously, you were asked to complete a project proposal by your supervisor, May Santner. Now, you have received notice that your project proposal has been approved and your team has been given access to Waze's user data. To get clear insights, the data must be inspected, organized, and prepared for analysis.

You discover two new emails in your inbox: one from May Santner, and one from your teammate, Chidi Ga. In the email, May asks for your help reviewing the data and completing a code notebook, and Chidi shares the details of the notebook. Review the emails, then follow the provided instructions to complete the PACE strategy document, the code notebook, and the executive summary.

Note: Team member names used in this workplace scenario are fictional and are not representative of Waze.

Email from May Santner, Data Analysis Manager

Subject: Help with coding notebook?

From: "May Santner," May@waze

Cc: "Chidi Ga," Chidi@waze

Good morning!

I have a couple of updates on the user churn project. First off, the project proposal you completed has been approved. Thanks for all your great work so far. Second, I just received an email from our Senior Project Manager, Sylvester Esperanza, that our team has been given access to the Waze user data.

Before we begin the process of exploratory data analysis (EDA), we could really use your help with coding and prepping the data. During your interview, you mentioned that you worked with Python in your Google certificate program. You can draw on your Python skills for this task.

Chidi Ga (cc'd above) started a Jupyter notebook with the relevant dataset (imported). Right now, Chidi is busy finishing up a previous project. I'm sure he could use your assistance in completing the coding and setting up the notebook for the user churn project.

Chidi, do you mind sharing the details?

Best,

May Santner

Data Analysis Manager

Waze

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Email from Chidi Ga, Senior Data Analyst

Subject: RE: Help with coding notebook?

From: "Chidi Ga," Chidi@waze

Cc: "May Santner," May@waze

Nice to meet you (virtually)!

Hope you've enjoyed your first few weeks at Waze!

The project proposal you helped prepare covered the major points of this project, so I'll get right to how you can assist the team. Right now, a number of us are busy making adjustments to the machine learning model for another project, so your help is greatly appreciated!

Until we finish our previous project, there is no need to do a full EDA on our new user data. We'll get to that soon. Meanwhile, do you mind reviewing the imported data for the team? It would be fantastic if you could include a summary of the data types for each variable, where missing values exist in the data, key descriptive statistics, and anything else code-related you think is worth sharing in the notebook. I haven't had a chance to explore the data, so I really appreciate you getting an early start on this.

Thanks,

Chidi Ga

Senior Data Analyst

Waze