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Doordash Stats Web Application
Independent Learning Assignment for Software Engineering II

Web Application Name - **Dasher Stats**

GitHub Repository Link - https://github.com/NGreski/doordash-stats.git

Firebase hosted link - https://doordash-stats.web.app/
(please do not upload pictures, just look)

Presentation Video Link - https://youtu.be/5GxrGfca3iU
Presentation Slides Link
-https://docs.google.com/presentation/d/1m7Xg__KqIE54JUHW514aN789HwEMYKGsPpyKZrBTraM/edit?usp=sharing
presentation is a shortened & visual version of the PROJECT REPORT

REPORT:
report is to go in depth on this application and all its information

Introduction

Dasher Stats is a web application that allows users to track their DoorDash Driver Delivery stats to gain insight and maximize profits. This web application is a somewhat extension of the *Dasher* App that is an employment platform that allows its users to make food deliveries for money.

A little on *DoorDash* and the *Dasher* Apps. The *DoorDash* App allows users to order food from restaurants and it will be delivered to their house. The *Dasher* App allows users to be the delivery driver and generate income by doing food deliveries. The app I created, *Dasher Stats,* is for the “dashers” or delivery drivers to look more into their stats and track them. I am a DoorDash driver myself.

Dasher Stats works by taking screenshots of deliveries (orders) and pulling this data into a database. Then this database summarizes the drivers stats and creates plots based on them to give the driver a better insight on how they are doing as a driver.

Motivations

There are a few motivations for the creation of the web application *Dasher Stats*. First, I am a DoorDash driver (dasher) myself. Creating this allows an extension of the built in statistics in the *Dasher* App, to gain more insight on how I personally am doing as a dasher. Stats like dollars per hour, total profit and time under expected delivery time.

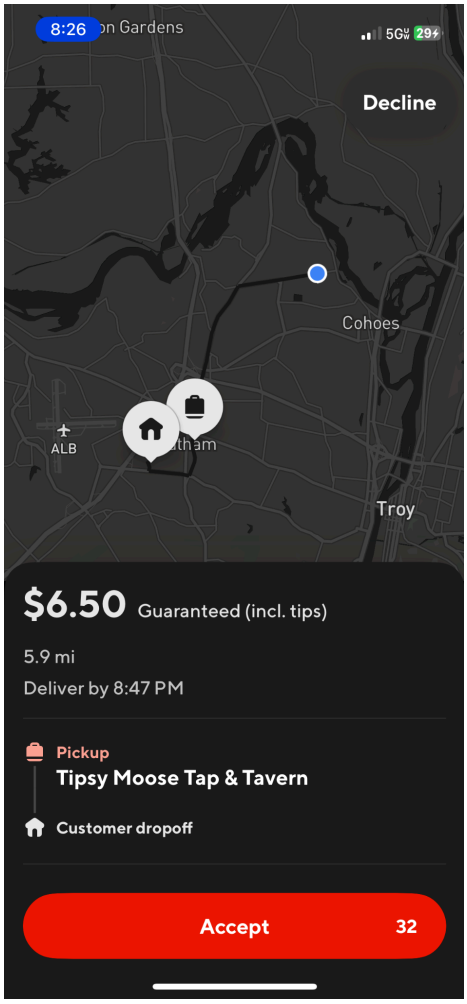
I am personally interested in these stats as they would help me better understand how to become a better driver, and just fun and interesting to know! I have been working as a dasher for several months now and these insights are things I was always calculating myself anyways, so I created a way to store and automate it. Also in my opinion being a dasher is a fun and interesting job, it makes for a lot of good stories.

Another motivation was that I was a part of a project of collecting DoorDash driver data for my friend Tyler Greene. We both started dashing around the same time and he needed a project so we both collected data for his project. This gave me the idea for mine, his project was more on the logistics of the statistics of the data, mine is more functionality to collect the data. More on his project will be explained in Results & Insights. This web app was not used in the data collection process but was a direct result of collecting this data. As we both plan to continue to dash, this application is useful for both of us and others.

How it Works

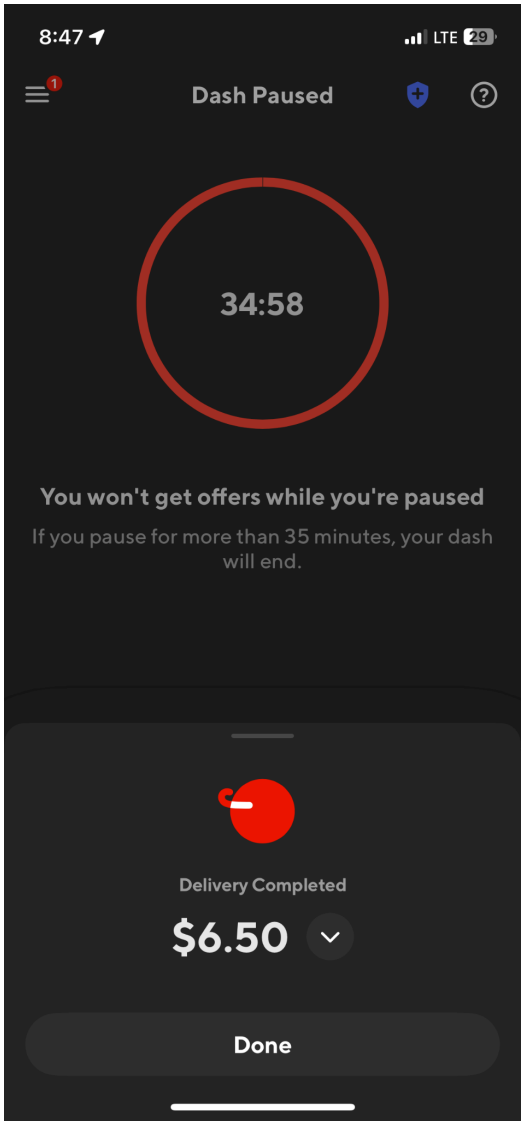
Dasher Stats is a somewhat simple web app. The first step is getting two screenshots from your doordash orders. First screenshot is directly before you accept an order. The second screenshot is directly after you complete an order. *Dasher* pops up with orders you can accept with several fields on it, this is done on your phone. You accept an order, go to the restaurant, pick up the food, then deliver to the customer's location (usually a house). The first screenshot shows the time on your phone, the delivery by time, the miles and the dollar amount.

First screenshot example:



The second screenshot has the time on your phone as well.

Second screenshot example:



This application works by extracting the text from the screenshots and storing this data into a cloud database. The data from the first screenshot is the amount (money), miles, time (top left) and the delivery by time. The second screenshot gets you the time in the top left. Then 4 fields are calculated/gathered; money, miles, expected delivery time (minutes) and actual delivery time. The money and miles are directly taken from the screenshot and stored in the database. The actual and expected times are calculated using the times from the screenshots.

Expected Time = Delivery by Time - Start Time
Actual Time = End Time - Start Time.

These values are then stored in a database with those 4 fields.

Once these values are stored in the database they are then sent back to the web application. Using these values the delivery stats dashboard is displayed.

How the Dashboard Works

Average Summary

The app looks at all your saved delivery data. It adds up your total money, miles, and time spent, then uses simple math to get the averages:

Dollars per Hour is calculated by dividing total money by total time (in hours).

Total Miles adds up all miles in the database.

Total Profit (costs & no costs): after costs subtracts $0.30 for every mile driven from your total earnings.

Average Time Difference compares the expected time (from the first screenshot) with the actual time (from the second screenshot), then averages all of those differences.

Expected vs Actual Delivery Times
Each delivery has an expected time (calculated as "Delivery By Time - Start Time") and an actual time ("End Time - Start Time"). The app saves both for every delivery. When it builds the chart, it lines up each delivery and shows two bars: one for expected, one for actual. The code behind it just loops through each delivery and draws the bars using that saved time data.

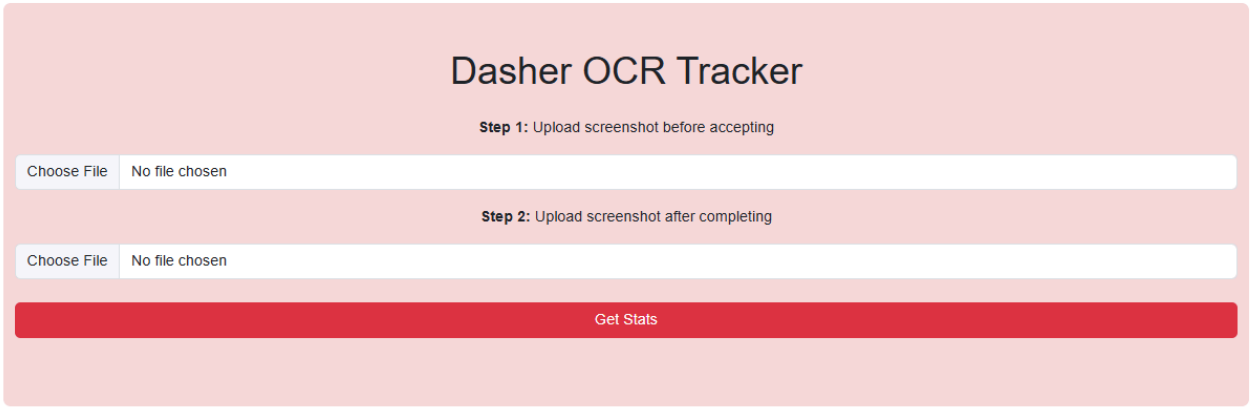
Rolling Average ($/Hour)
The app sorts all deliveries by date and goes through them one by one. For each delivery (after the first few), it takes that delivery and the 4 before it, calculates the dollars per hour for those 5, and plots the average. This gives you a moving or “rolling” average that updates as you add more deliveries.

Money Earned per Mile
For every delivery, the app divides the money earned by the number of miles for that delivery. These values are stored and then drawn as bars or points on a chart. The logic is simple math: money / miles.

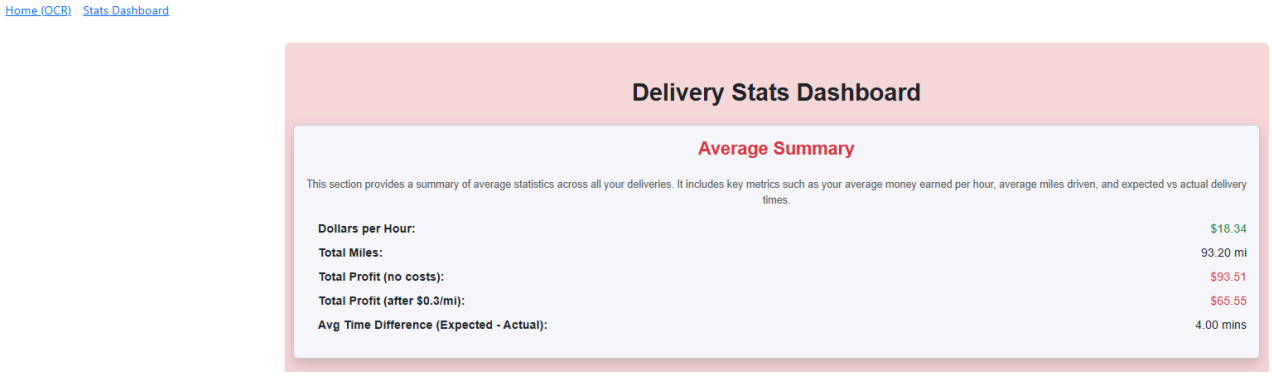
How to Use

The app is very simple and easy to use. Take a screenshot of your doordash order before accepting and right after the order is completed!

Then paste those screenshots on the homepage of the web app.



Hit get stats, then in the top left hit the nav bar, “Stats Dashboard” this will bring you to the page where it shows your stats!



That’s all! (More is displayed when scrolling down on the Delivery Stats Dashboard when on the actual web app).

How to Use DEMOS
(included in presentation as well)

Web App Walkthrough DEMO

https://youtu.be/-Uno6HoR1ww

How to Use DEMO (in real life)

https://youtu.be/pOFE8OGLAjU

Technical Aspects

OCR (Optical Character Recognition)

OCR is used to extract text from images. Dasher Stats uses Tesseract.js, a JavaScript OCR library, to read screenshots taken before and after a DoorDash delivery. From these images, the app extracts values like the delivery offer time, expected delivery time, mileage, and payment. This data is then used to calculate delivery statistics.

React

React is a front-end JavaScript framework for building dynamic web applications. The entire Dasher Stats app is built using React. It manages user interactions such as uploading screenshots, running the OCR process, displaying results, and rendering data visualizations. React's component-based structure helps organize the app's interface and logic cleanly.

Firebase (Firestore, Analytics)

Firebase is used for backend services. Dasher Stats uses Firestore as a cloud-hosted NoSQL database to store extracted delivery data including miles, money, expected time, and actual time. Firebase Analytics is included to allow for future tracking of user engagement. This setup enables centralized data storage and access for the stats dashboard. Firebase also hosts the application.

Bootstrap

Bootstrap is a front-end CSS framework for designing responsive web interfaces. Dasher Stats includes Bootstrap to quickly apply clean styling to the user interface, such as buttons, forms, spacing, and layout, without writing custom CSS.

GitHub

GitHub is used for version control and collaboration. The codebase for Dasher Stats is hosted on GitHub to track development progress, manage updates, and maintain backups of the project.

Tech DEMO

https://youtu.be/6OcyNtA1tyg

Visual Studio Code (VS Code)

VS Code is the code editor used for developing Dasher Stats. It provides a development environment for writing React components, connecting to Firebase, running the app locally, and integrating with Git for version control.

Recharts

Recharts is a charting library built on top of React. Dasher Stats uses Recharts to visualize delivery statistics, such as earnings per hour, expected vs. actual delivery time, and money per mile. These visualizations help summarize trends and performance over time.

Why it's Useful

Dasher Stats helps DoorDash drivers like me better understand how we're doing on deliveries. The official Dasher app gives some stats, but not enough detail. My app shows more useful info, like how much money you make per hour, how far you're driving, and if you're delivering on time. It saves all your delivery data in one place and creates charts to help you see trends over time.

Instead of trying to figure out these numbers on your own, Dasher Stats does the work for you. This can help you earn more money, use less gas, and be a more efficient driver. It's simple, helpful, and made by a real dasher for other dashers.

Results & Insights

Dasher Stats helps drivers understand how they're doing by keeping track of things like how much money they make, how far they drive, and how long each delivery takes. After using the app for a while, you can see helpful patterns, like:

- Do longer drives make more money?
- Are faster deliveries better for my earnings?
- How much am I really making per hour?

This idea came from a project done by my friend Tyler Greene, who also drove for DoorDash. In his class project, he looked at a bunch of delivery data to see what affected how much money you make. He found two things that really mattered:

- More miles usually meant a little more money.
- More delivery time usually meant a little less money.

He even made a math formula that showed how miles and time affect pay. But overall, he noticed that no matter what type of delivery it was, most drivers earned around the same amount per hour. This might be because DoorDash balances it out behind the scenes.

Dasher Stats makes it super easy to collect the kind of data Tyler used in his project. The app takes info from screenshots and stores it in a database. Then it makes graphs and charts so drivers can see their own patterns, like how far they usually drive, how long deliveries take, and how much they're making.

Tyler and I did not use this app during his project, as we both manually entered the data into a spreadsheet, then his calculations were done using R. This web app makes life easier for future work to be done on his side of the project.

With enough data, drivers can even do their own little experiments. For example, they could figure out the best times or areas to dash to make the most money. Dasher Stats turns all that delivery work into useful info that helps you earn smarter, not harder.

Limitations

1. Tips Can't Be Tracked
Right now, the app can’t pull tip amounts from the screenshots. This is because tips often show up separately after the delivery is complete, and they’re not always included in the original order info. That means the earnings shown in Dasher Stats may not reflect your full pay.

2. Manual Screenshot Process
To get the data into the app, drivers still need to take two screenshots for each delivery, one before accepting the order and one after completing it. This has to be done every time, and if a screenshot is missed or blurry, that delivery might not be recorded properly.

3. Data Accuracy Depends on OCR
The app uses OCR (Optical Character Recognition) to read text from screenshots. This works well most of the time, but sometimes numbers or words can be misread, especially if the image is blurry, dark, or cropped oddly. This could lead to small errors in the stats.

4. Limited to What’s on the Screen
Since the app pulls data from screenshots, it can only capture what’s actually shown. If DoorDash changes how the app looks or hides key info in future updates, Dasher Stats might miss important details unless it's updated to handle those changes.

5. No Real-Time Sync
Unlike the official Dasher App, this tool doesn’t sync in real time or connect directly to your DoorDash account. That means it can’t automatically pull your history or stats, you need to collect the data yourself over time.

Conclusions & Future Work

Dasher Stats has been a helpful and personal project. It gives DoorDash drivers (like me) a better way to understand how we're doing on deliveries. The app takes screenshots and turns them into useful stats like money earned, time taken, and miles driven. It helps drivers track their progress and make smarter choices while working.

But there are still many ways to make the app better in the future:

1. Add Location Info
In the future, I want the app to track where each delivery happens. This would help drivers see which areas have the best-paying or fastest orders. It could also help avoid slow zones or areas with long wait times.

2. Include Tip Amounts
Right now, the app doesn't show tips, which are a big part of a dasher's earnings. If we can find a way to get tip info, maybe from another screenshot or typing it in, it would make the earnings data more complete and useful.

3. Connect Directly to DoorDash
One big improvement would be to connect straight to the DoorDash app. This way, delivery data could be added automatically, without taking screenshots or entering info manually. That would save time and make the app easier to use.

4. Make the App Easier to Use
Right now, drivers have to take two screenshots and upload them. In the future, I'd like to make this easier, maybe with a phone app or something that reads screenshots automatically.

5. Add Other Delivery Apps
A lot of people deliver for more than one app, like Uber Eats or Grubhub. I'd like to add support for those too, so drivers can see all their stats in one place.

6. Smart Reminders and Tips
The app could also send helpful tips, like: "Your best hours were 5–8 PM last Friday," or "You made less money this week, try shorter deliveries." These small alerts could help drivers improve even more.

References

Tyler Greene (Motivation for the project)
& his report on doordash
full version of his report must be requested through Noah Greski

Luke Tkaczyk (Introduced me to DoorDash)

Dr. Cotler

Professor Chaudhari

DoorDash