



CABEE

A Peer to Peer Ride-Hailing
Platform for North Cyprus



By Harun Mohamed



Problem

The current taxi industry in North Cyprus is just not working!

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Problem 1

Unfair and unpredictable pricing model for taxi rides that does not favour riders.

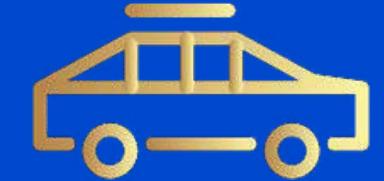
Problem 2

Riders have to wait at least 10 minutes after calling a taxi.

Problem 3

Inconsistent service times, language barrier and a lack of other payment options.





Solution

CABEE is a one-click mobile platform that allows you to hail a cab nearest to you

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Solution 1

CABEE establishes ride prices using the Price Estimation Algorithm(PEA). This ensures riders are charged fairly and also incentivizes drivers to drive more

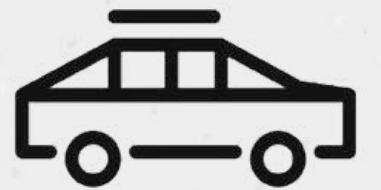
Solution 2

CABEE links you with the closest driver in your location reducing the estimated time of arrival of the driver to less than 5 minutes

Solution 3

CABEE includes language preference settings for rider and drivers and cashless payment methods





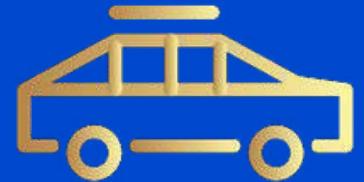
Price Estimation Algorithm

What is the Price Estimation Algorithm(PEA) you might ask?



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PEA

The Price Estimation Algorithm is a formula to determining ride prices based on 2 factors; duration (X) and distance (Y) of the ride

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I. Determine distance and ride duration

X and Y

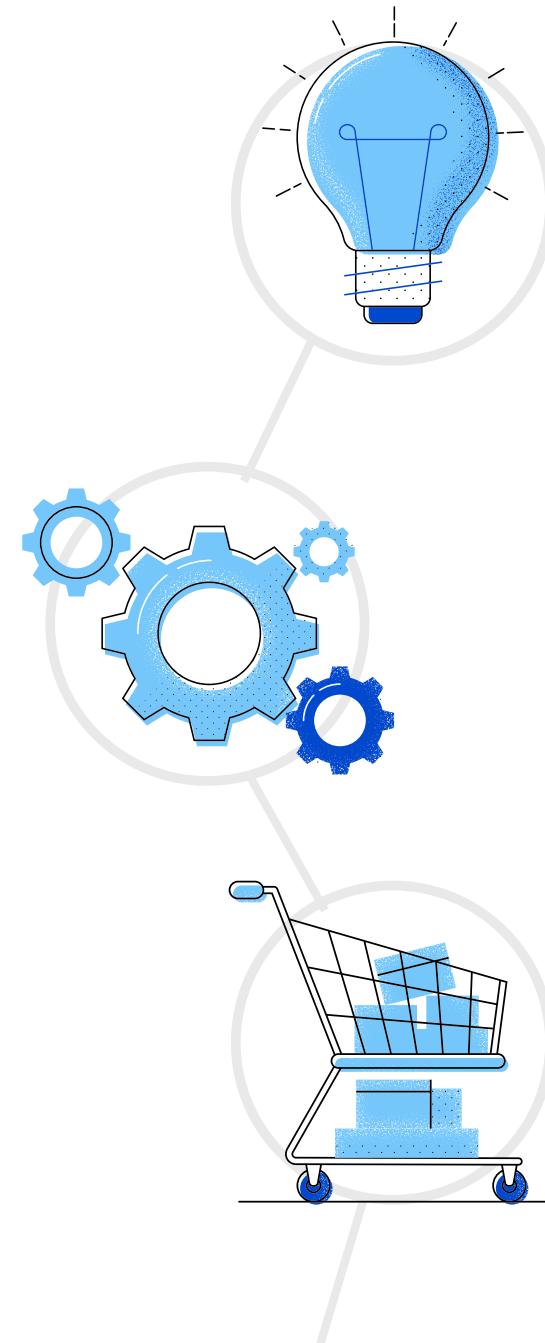
II. Plug X and Y into PEA and multiply with respective coefficients

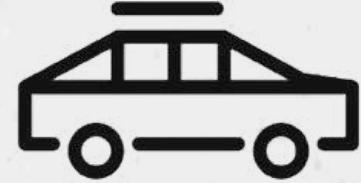
aX + bY

III. Total Ride Price

$P(X,Y) = aX + bY$

Next steps



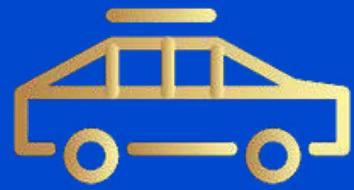


Current Pricing Model

I analyzed twelve routes and determined the price per kilometer for each ride. There is a pricing bias towards shorter riders which could go to as much as 5.55TL per kilometer

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FROM	TO	PRICE	MINUTES	KILOMETERS	PRICE/KM
NEU	CITY CENTER	30	11	8.4	3.57
NEU	GONYELI	30	8	5.4	5.55
NEU	CHINA BAZAAR	30	9	6.5	4.62
NEU	ERCAN AIRPORT	120	27	24.6	4.88
NEU	GIRNE	150	20	22.3	6.73
GONYELI	MAGUSA	250	49	57.5	4.35
LEFKOSA	LEFKE	180	75	66.9	2.70
CIU	LEFKOSA	60	38	22.2	2.70
GONYELI	KUCUK KAYMAKLI	40	14	9	4.44
GONYELI	HAMITKOY	40	14	9.3	4.30
HAMITKOY	ORTAKOY	35	12	6.4	5.47
LEFKE	GIRNE	300	66	73.7	4.07
		$\Sigma = 1265$		$\Sigma = 312.2$	$\Sigma = 4.45$

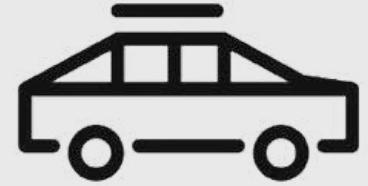


Proposed Pricing using PEA

The Price Estimation Algorithm solves the pricing problem hence makes rides more affordable for riders. Moreover, in the 12 rides analyzed, the total earning for the driver remains fairly constant thus incentivizing drivers to drive more and still generate sustainable income

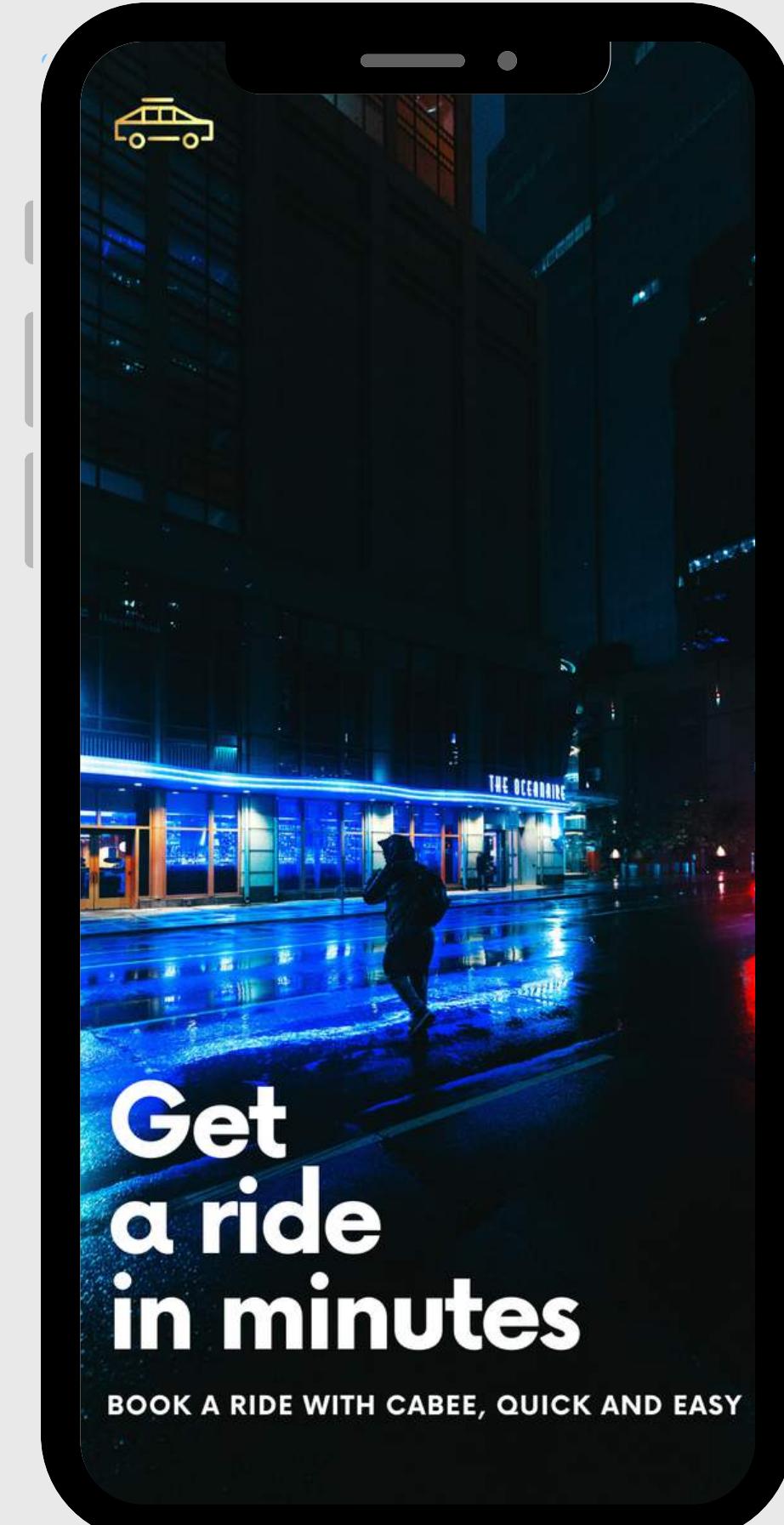
FROM	TO	DISTANCE IN KM	OLD PRICE	PEA PRICE
NEU	CITY CENTER	8.4	30	34.84
NEU	GONYELI	5.4	30	22.90
NEU	CHINA BAZAAR	6.5	30	27.22
NEU	ERCAN AIRPORT	24.6	120	99.20
NEU	GIRNE	22.3	150	87.51
GONYELI	MAGUSA	57.5	250	224.26
LEFKOSA	LEFKE	66.9	180	270.64
CIU	LEFKOSA	22.2	60	96.89
GONYELI	KUCUK KAYMAKLI	9	40	38.52
GONYELI	HAMITKOY	9.3	40	39.55
HAMITKOY	ORTAKOY	6.4	35	28.50
LEFKE	GIRNE	73.7	300	289.17
			$\Sigma = 1265$	$\Sigma = 1,259.2$

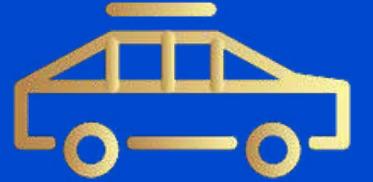




How it Works

The rider requests a cab on the rider's app and sets the destination. The pickup location is set to their current location by default. The request is sent to the nearest driver who can then accept the ride request. The ride price is quoted on the rider's screen and also sent to the driver

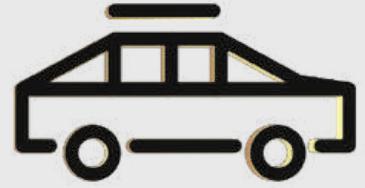




Driver's App

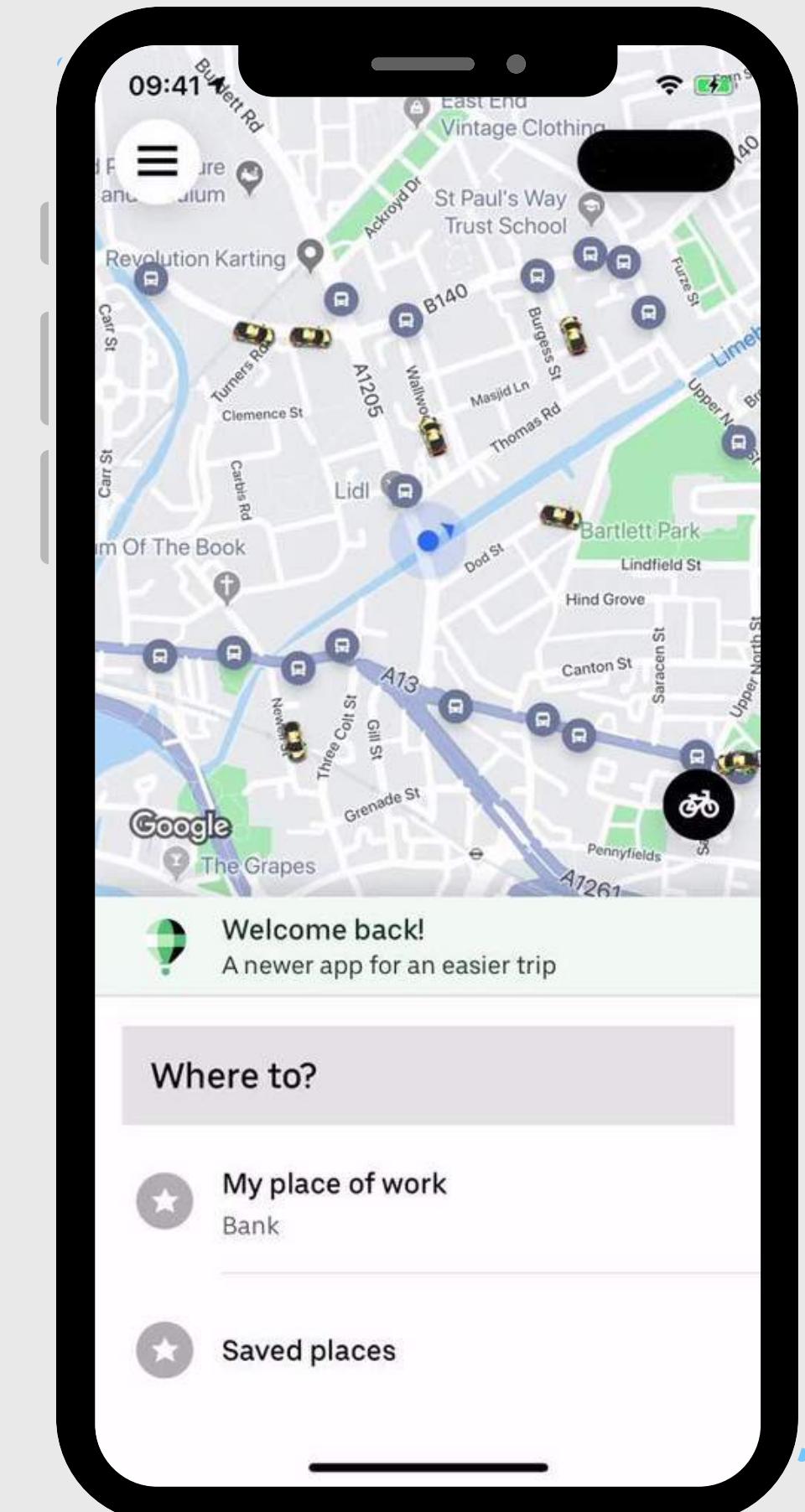
When the rider requests a cab, the nearest driver is notified and can then accept or reject the ride. The ride price is quoted too. Once the driver accepts the ride, the platform determines the Estimated Time of Arrival of the driver (ETA) and notifies the rider.





Ride Duration

The ride only starts when the rider meets the driver. Billing of the ride then starts and is based on the distance and duration of the ride as estimated by Maps API with regard to terrain and traffic. Once the trip is over, the rider can choose to pay using cash or card on the app. The rider and driver can then anonymously rate their experience





Use Cases: Who is using CABEE?



Angela Yu

Missed the Near East University bus. Calls a CABEE!

Charles Babatunde

Has a football match in Lefkosa with the boys. Calls a CABEE!

Mehmet Ozdemir

Wants to go to hang out with friends in Girne. Calls a CABEE!



Niche Market

CABEE primarily intends to serve University students in North Cyprus who make up 6% of the population

875,000

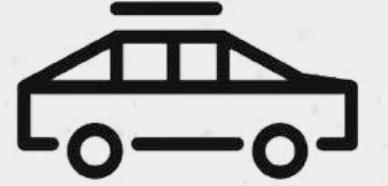
TOTAL POPULATION OF NORTH CYPRUS

50,000

TOTAL NICHE MARKET

6%

TOTAL NICHE PERCENTAGE(%)



Adoption Prospects

How likely are the 50,000 university students in North Cyprus likely to adopt CABEE? Let's take a look.

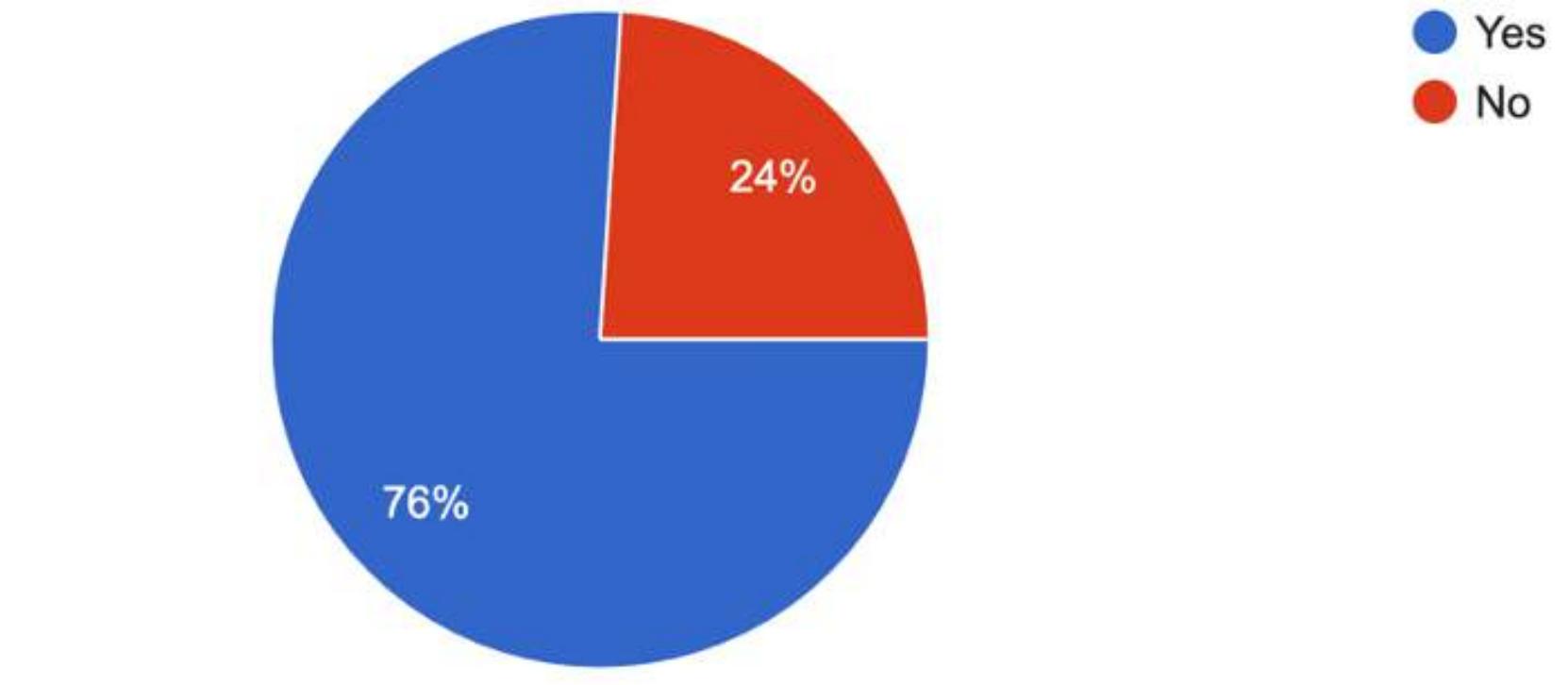
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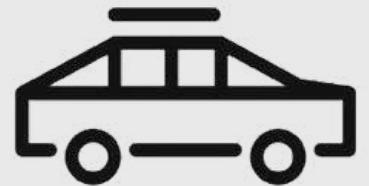
User Survey

To establish user education on ride-hailing platforms, I surveyed 51 random students from Near East University. Of the 51 respondents, 76% have ever used a ride-hailing app like Uber before



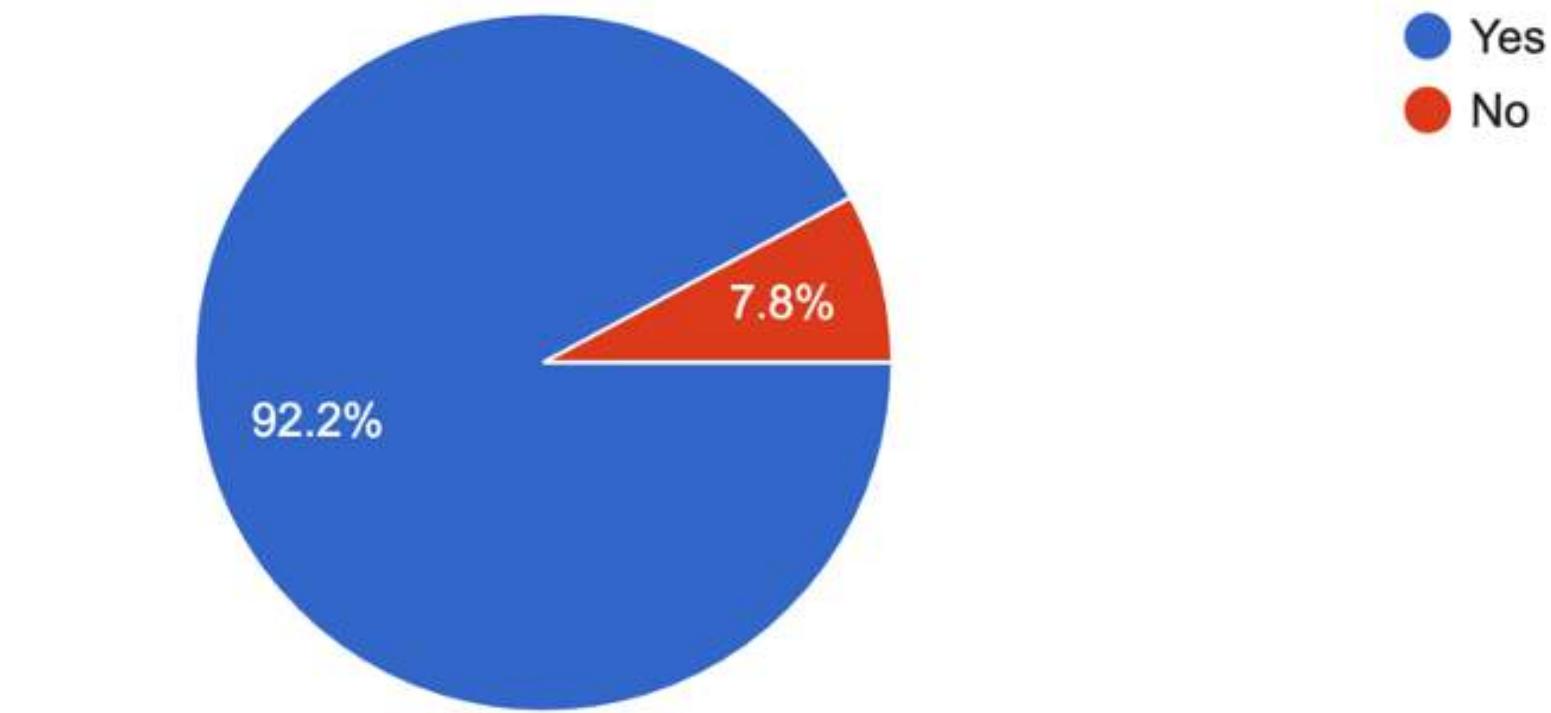
Ever used a ride hailing app before?





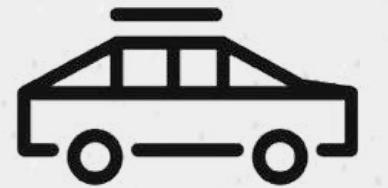
Platform Desirability

I asked the 51 surveyed students if they would ever want to use a ride-hailing platform like Uber in North Cyprus. 92.2% responded affirmatively which cements the grounds for this project



Would you want to use a ride hailing app in North Cyprus?





CABEE Tech Stack

What technologies powers CABEE?

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CABEE is build using Flutter Framework by Google. Flutter is used. to build the beautiful user experience for both the Android and IOS applications



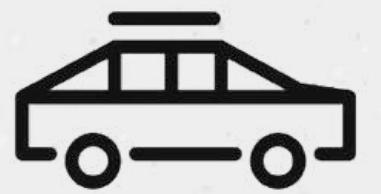
Dart programming language is used to handle all the logic for the application



CABEE heavily relies on Google Maps like Direction and Geolocation routine, calculating ETA and price using PEA

Tech Stack



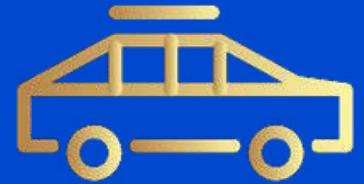


Initial Service Area

As I continue developing and refining CABEE, I will launch the beta Android and IOS apps for testing in Lefkosa and Girne only for the purposes of data collection and feedback implementation

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Key Differentiators

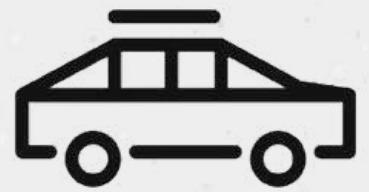
What makes CABEE different from regular taxis?



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CABEE differentiates itself from regular taxis in the following ways;

- a. It provides one-click ride-hailing and location tracking. A user can request and get a ride in less than 5 minutes.
- b. CABEE prices are algorithmically computed and hence fair for both parties. Moreover, users can add their card details to the app and their cards will be debited upon ride completion
- c. CABEE is fully peer-to-peer without a middleman hence what the rider pays for the ride, the driver gets!



Operating Principles

What principles govern the operation of CABEE as a platform?



The following principles will govern the operation of CABEE as a platform ;

- a. Best user experience possible
- b. Customer-focused, computer-coordinated
- c. Statistically optimized response times
- d. Cashless billing system eventually
- e. Profitable by design for both entities



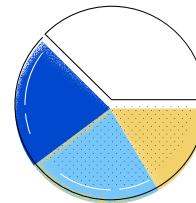
Future Optimizations

What can be improved future versions of CABEE



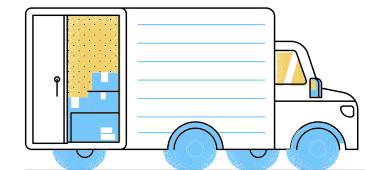
Step 1

More accurate GPS tech



Step 2

Analytics dashboard



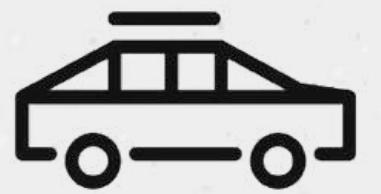
Step 3

Onboarding more drivers



Step 4

Dynamic pricing



Thank you!

Please feel free to reach out to me
for further inquiries regarding
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