

# EVALUATING THE UX OF UBER FOR PEOPLE WITH VISUAL IMPAIRMENTS IN INDIA

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*Talk at Uber Inc., 2018*

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# Introduction

- Conducted research as a first year Ph.D. student (2017-2018)
- Research motivated by my understanding of India's public transportation landscape & prior research about ride-sharing services
- Collaborated with industry, academic researchers & Uber UX
- Uber UX team relatively unaware of the market for people with visual impairments in India & their experiences with Uber

# Objective

- Uncover potential market opportunity & provide an evaluative account of people with visual impairments' experiences with Uber in India

# Context

- People with disabilities struggle with social & economic participation
- Transportation facilitates independent access to resources & inclusion

# Indian Market

- ~63 million people with visual impairments
- <50% live in cities
- >20% of people in cities have access to a steady income
- Rich transportation landscape
  - buses, trains, auto-rickshaws, cabs



नारंडा सेटा ४  
Towards Noi



निकास  
Exit

3, 4

गेट नं०

मिंटो रोड, बाराखम्बा रोड  
Gate No. Minto Road, Barakhamba Road



Towards Noida





UP 8QAX  
9967

# Methods

- 30 interviews with people with visual impairments
  - snowball sample from online groups
  - semi-structured, ~60-80 minutes long
  - included conceptual & scenario-based questions
  - capture in-depth narratives of peoples' experiences with Uber



# Methods

## ➤ 8 observations of people using Uber

- subset of interviewees
- accompanied people from time of booking till they reached destination
- study moment-to-moment experience, identify quick wins for Uber
- collected detailed field notes, videos & photos



# Data Analysis

- Interviews till data saturation & observations as secondary data to expand on interview data
- Collaborative brainstorming for analysis
  - weekly data sessions with industry researcher to develop & refine codes/themes (using Google docs)
  - monthly share outs with Uber UX (PPT's + emails) to gauge findings of interest
  - codes & higher-level themes generated from the ground-up (for e.g., the code finding the cab was organized under the cab-related challenges theme)

# Participant Demographics

- Recruited 24 men & 6 women who identified as totally blind
- Participants were between the ages of 24 & 53 years old
- Belonged to 8 metropolitan cities in India
- Mostly used Android phones

# Findings

❯ Impact on independence

❯ Service design

❯ App accessibility

# Independence

## Positive impact on independence

“We have to take sighted assistance, most of the times it was normal travelers who helped us take a taxi [...] But when this service is available, it is really very, very much freedom (sic) for us because we can do what we want, we can avail anything, we can go anywhere, we don’t need to take sighted assistance [...] it unveils a new door, a new world for us, the world of independence”



# Impact on Independence

## Flexibility

“I may have to go quickly to my office or I have to come back home immediately. In that case I cannot use walking stick, go to bus stop – ask people about bus numbers, those things will not be possible if I have to travel in a hurry [...] or if I have to go to the places where buses won’t go easily [...] very very small streets [...] So these are the conditions I take Uber [...]”

## Emotional work

“The saving of the time when we go out and bargain with the driver [...] These types of things we don’t have to do and to save your energy, saves your time, saves you you know; gets upset due to the fact that you are not getting any transportation. So [...] it has become quite easy”

# Independence

## Paying for independence

“With Uber it’s equal – maybe monetarily, it might pinch a little extra compared to others but that’s fine – you are paying for the service. You are having that independence [...] For you, the value is that you are not crossing the road, that thing is coming inside, and anyway, value is benefit minus cost, so for me the benefit of that has increased.”



# Independence

## Paying for independence

“And mostly the drivers is really not like a sensitive so, if you are like a visually challenged. So, when I just ask the pickup [...] just come to my hostel so like they ask me [...] please come to the main gate. [...] So I have to like walk 1 km and then I have to catch this cab thing. So, it's horrible.”



# Service Design

UberPOOL was difficult to use  
Finding the cab was challenging

“I just ask the driver mostly because that way it is easier [...] I am a blind person, I am wearing such and such color of shirt- can you see me I ask the driver [...] Mostly they have cooperated but there have been some cases where the drivers have been sort of little rude, because first of all if you are travelling in a shared taxi the driver also has time issues.”



# Service Design

## ➤ Driver training

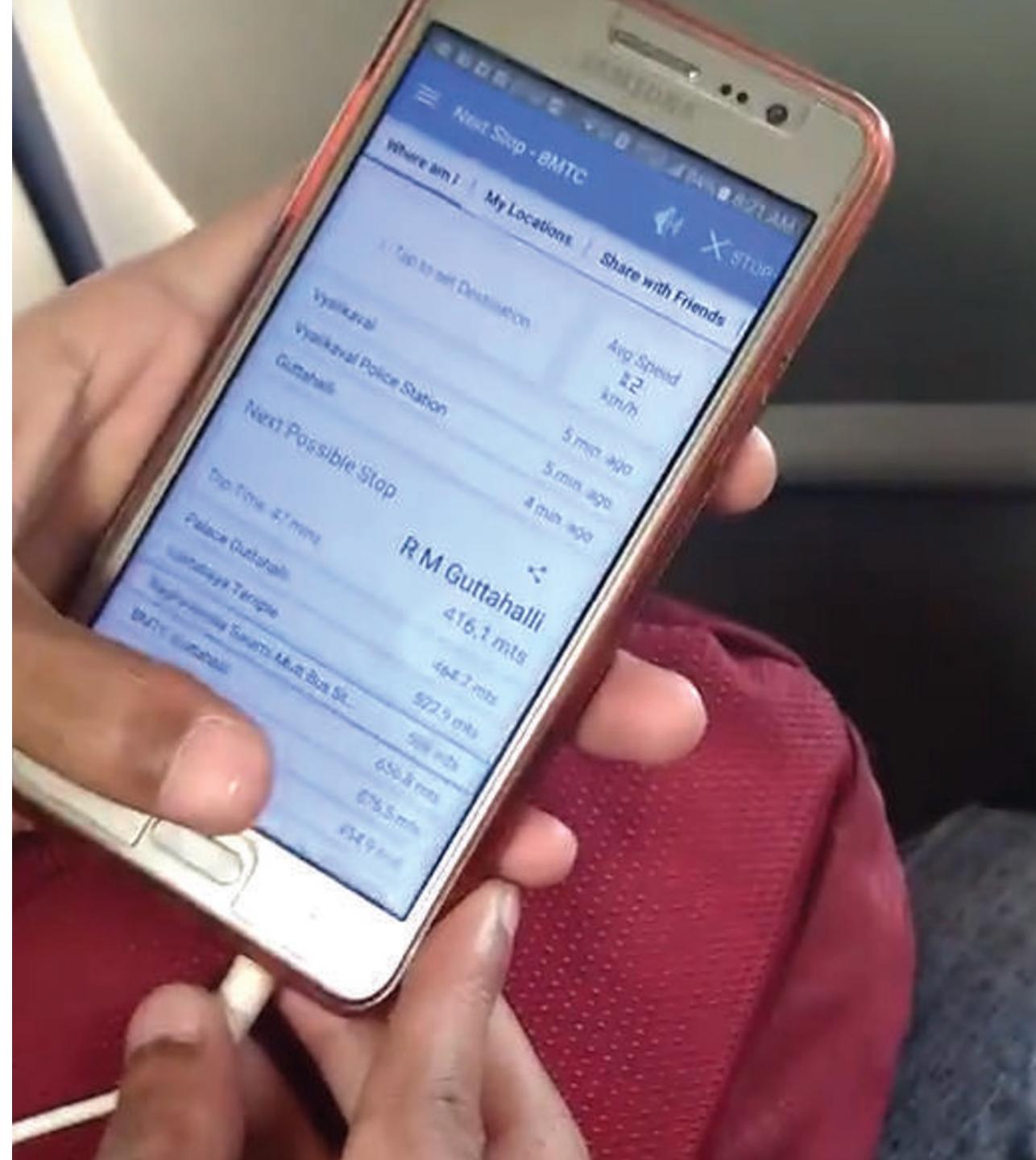
- helping people should be part of driver's jobs

## ➤ Policy design

- providing flexibility to accommodate people with disabilities (PWD)

## ➤ Disability disclosure via app

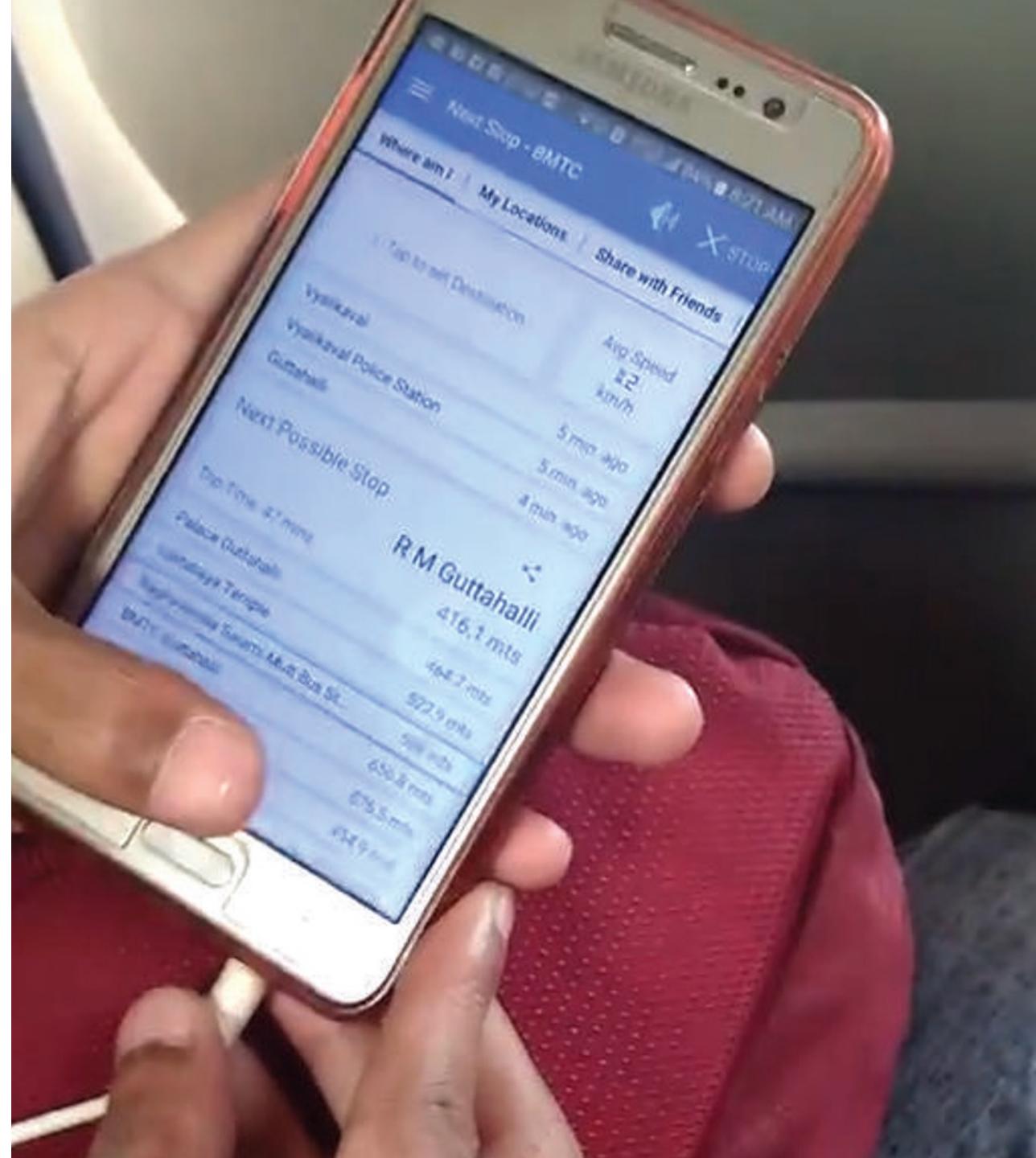
- making disclosure of disability easier
- however, drivers could avoid PWD



# App Accessibility

Updates caused uncertainty  
Map & cab location inaccessible

“the more pathetic part is whenever the app is going to update [...] they will not straightforward tell what is new [...] I get quite afraid of updating [...] because after updating, sometimes the apps become inaccessible, and there is no way we can revert back [...] then we will have to compromise with that even if there are issues.”



# App Accessibility

- Providing workflow, navigation & accessibility-related changes on updates
- Checking for unlabeled buttons

# Uber UX Discussions

## ➤ Disability disclosure on app

- *Ubers preference:* one time disclosure
- *Pushback:* provide ability to switch between disclosure & non-disclosure as driver interactions are not always positive

## ➤ Specialized cab service

- *Ubers preference:* specialized assistive cab service with trained drivers for people with disabilities
- *Pushback:* train existing drivers as specialized services will likely be too expensive & eliminate a key benefit i.e., being able to use a service like others

# Accessibility-first for Uber UX

- Mainstream people with disabilities
- Strengthen academic collaborations
- Expand & incentivize beta-testing community

# Key Takeaways

- ❯ Uber has a positive impact on people's sense of independence
- ❯ Service design recommendations
  - *Challenges:* UberPOOL inflexibility, finding the cab on arrival
  - *Recommendations:* driver training, disclosure of disability via app (has pros & cons), policy design changes
- ❯ App accessibility recommendations
  - *Challenges:* uncertainty over software updates, inaccessibility of visuals
  - *Recommendations:* info about changes on updates, testing