Julian Ceipek
Laurence Toal
Brett Rowley
Pati Martin Vicente

# Nietzsche

## Humanizing MBTA Transit
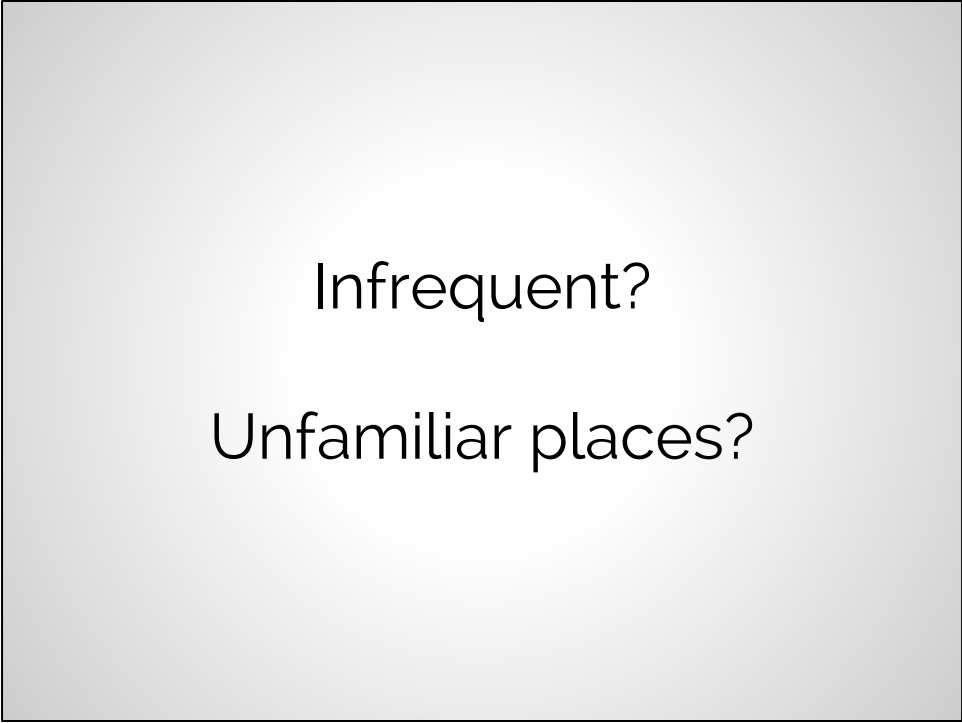
<JULIAN>

[Introductions]

Hi, I'm Julian, and this is .....

We are Team Nietzsche: humanizing MBTA transit

# Infrequent?

# Unfamiliar places?

<JULIAN>

Raise your hand if you have ever used Boston's public transportation system, the MBTA.

Put your hand down if you feel like an expert - you never have to look up directions or times when you go anywhere in Boston.

Design a mobile app to help
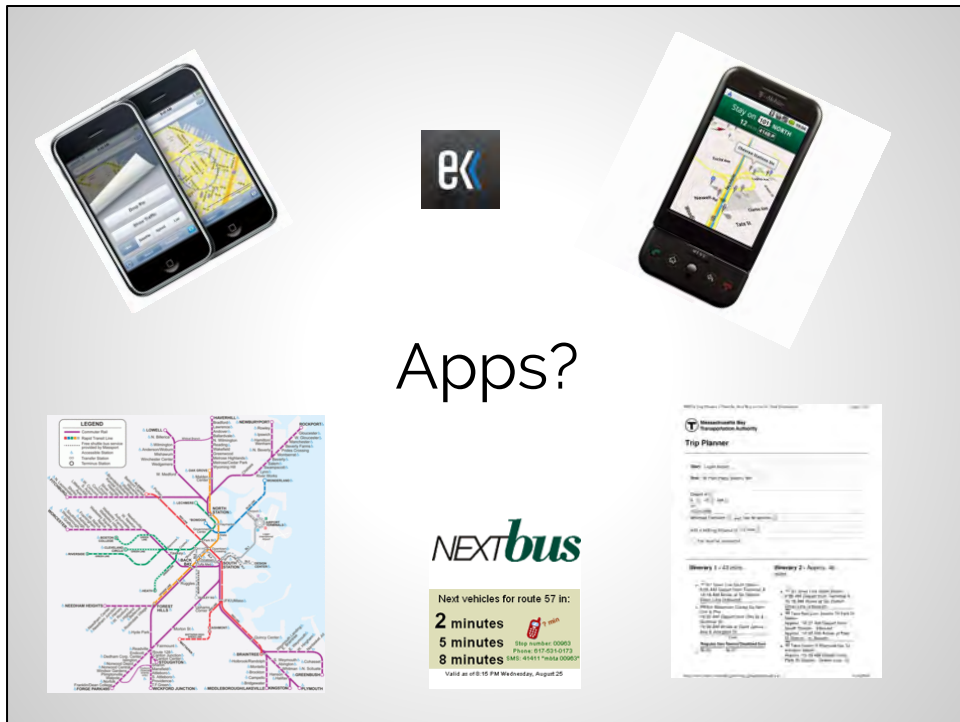inexperienced or infrequent MBTA users
get from A to B

<JULIAN>

We decided to help people like you, by designing a mobile app that helps you get from A to B.

Why?

<JULIAN>

Why would we want to do this?

# Apps?

<JULIAN>

There's already an app for that, right?

Do any of these look familiar?

Google Maps?
The online MBTA trip planner?
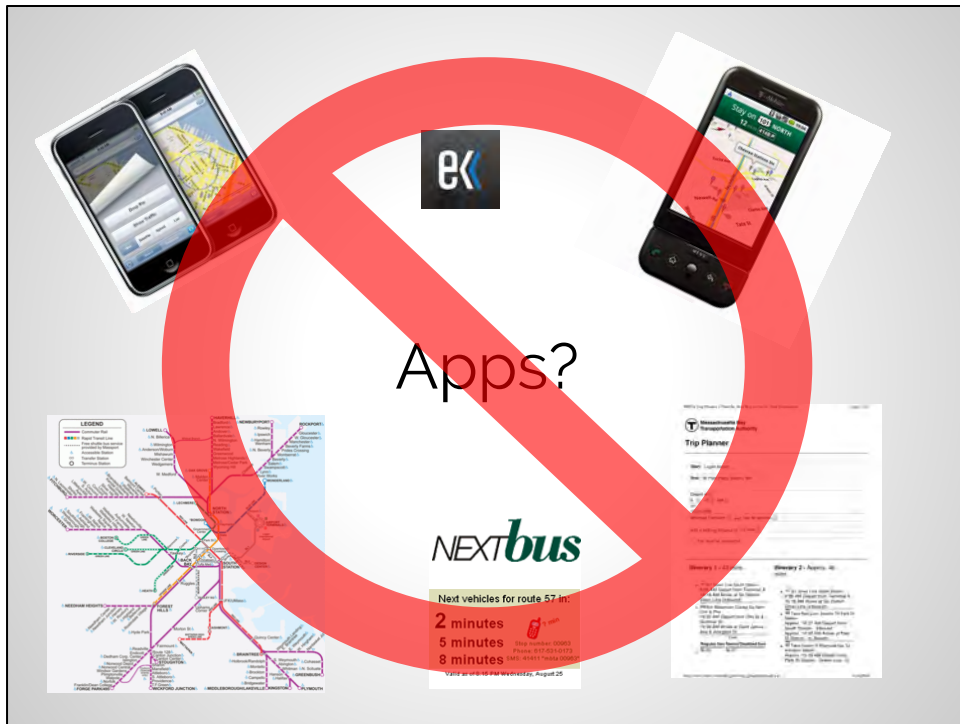Embark?

<JULIAN>

We went into Boston...

<JULIAN>

... and looked at how people are using the MBTA to get around. And we made an important realization.

- What do I need to know?

- Which route is best for me?

- What do I do if something goes wrong?

<JULIAN>

Information design is all about answering questions
and we realized that there are some fundamental questions that public transportation users have...

Apps?

<JULIAN>

... these apps aren't answering those questions.

<JULIAN>

They just aren't good enough.

<JULIAN>

So we decided to change things.

Demo.

<JULIAN>

How do _we_ use information design to answer these questions?

Welcome... to Nietzsche Transit.

# What do **I** need to know?



<Brett>
Peter is a recent graduate of the Harvard Business School working at a well-known company in the Financial District. Punctuality is his middle name - being late if simply out of the question. That's what he hates about using public transportation to get to work everyday - it's a lot cheaper and easier than driving, but the variability means he has to waste time arriving at stations early. And if there's anything Peter hates more than being late, it's wasting time. Peter wants to know when he needs to get to the station and when he's going to arrive at his destination.

Today Peter is going to visit his friend Bob after work.

So he opens up Nietzsche, types in B...o...there it is!

# Which route is best for me?

<LAURENCE>
Samantha is a single mother of two young children, aged 2 and 6. She lives in the suburbs and doesn't have much trouble getting around, but driving into Boston and dealing with the stress of traffic and parking is just too much on top of the stress of looking after her kids. Public transit isn't easy, but it's easier....sometimes. Leading a 2 year and a 6 year old through a crowded station can be really tough, let alone entertaining them while waiting for the train. Sam needs to be able to balance all of these factors when picking a route.

Sam wants to do some shopping on Newbury Street today, but she needs to give the kids some sort of incentive to keep their machetes at home . . . better promise them ice cream (it's a good motivator). So, while keeping an eye and a half on her kids on the jungle gym, she finds the easiest route to the kids' favorite Ben and Jerry's, quickly swipes over to the detailed directions screen to check how to get to the nearest station from the park, and prepares to rescue everyone else from the little monsters' latest plans for world domination.

# What do I do when something goes <span style="color:red">wrong</span>?

<PATI>
Lilah is a freshman at Northeastern University. This is her first time in a big city so she's new to this whole "public transportation" thing. She loves having this cheap way of getting all over the city and loves to go out with her friends, but she doesn't always put much thought into which train to take or when to leave. Getting lost can be fun and part of the adventure, but it would be nice to have a back-up plan.

Lilah just got a text from Josh - how soon can she be at that ice cream shop they went to.? It had a "Jerry" in the name, didn't it?
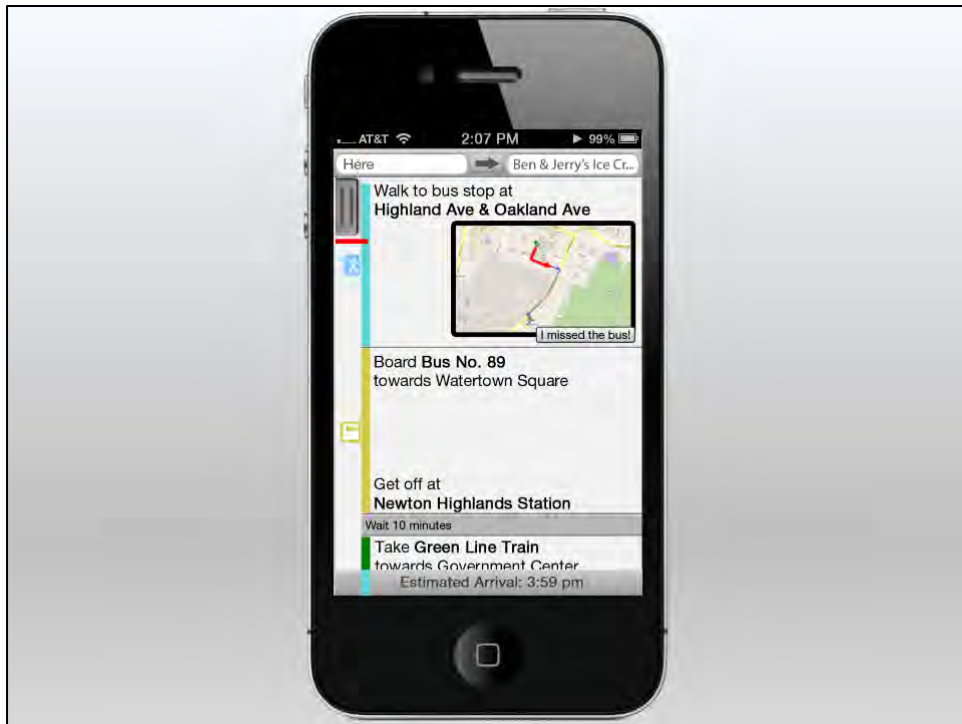
<PATI>

She opens Nietzsche Transit and looks for an ice cream shop called "...Jerry's"?
so she starts to type...
Oh! Ben and Jerry's!

<PATI>

She decides to choose the first option because she figures out that one is the best one
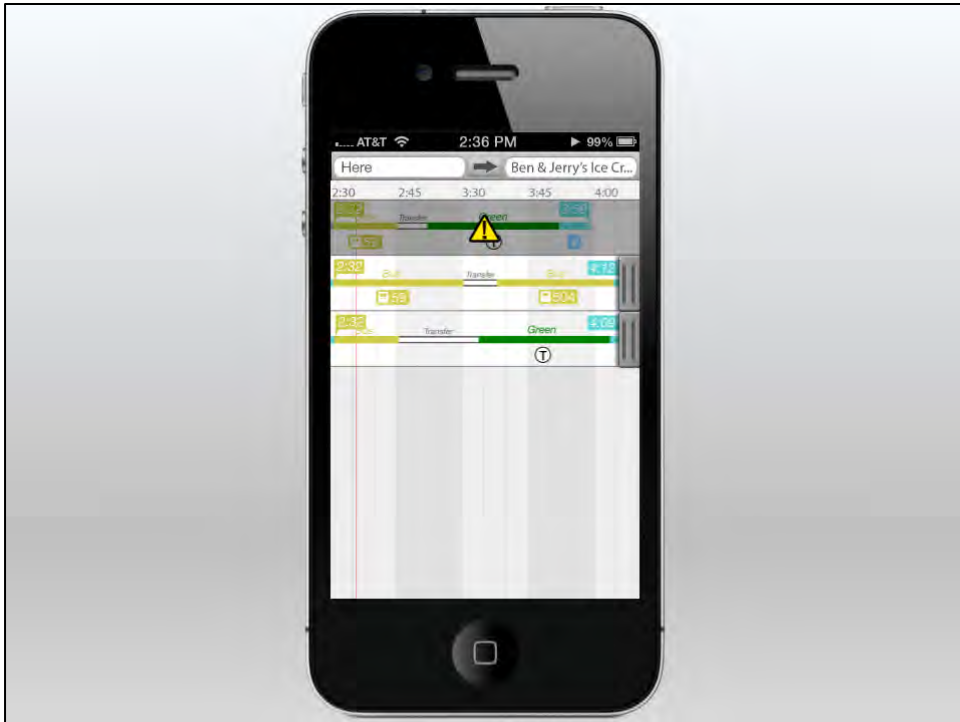
<PATI>

She opens Nietzsche Transit again in order to text him back...

<PATI>

...but apparently something has gone wrong during her journey

<PATI>

Now she can choose another route

<PATI>

Her new route is there and her new estimated arrival time has changed!

Afterwards, she can text Josh back and tell him she will be there at 4:09pm

Details.

<BRETT>

Information design is about answering questions, but the details of _how_ to answer them aren't always obvious...

It's the details of how users process information that make or break a good design.

You might be asking why our final design looks the way it does, so let's talk about how our design changed and why we made the decisions we did.

Edward Tufte, a pioneer of information visualization, has a golden rule of information design: (1) Show the data

We had two prototypes for how to show the data: a text-based view that explicitly showed more data (walking distance, number of connections, how frequently the route repeats) and a graphical view that doesn't explicitly show more data, but was a concept we thought had a lot of potential.

Tufte has a second rule: (2) Show the comparisons

And this is where the users came in. We're trying to help our users pick a route, so making comparisons is critical. We thought that the textual view with its extra details would help users make better decisions. But let's dig into those details.

When thinking about walking, our users said that 0.3 miles and 0.6 miles don't mean as much as 5 minutes and 10 minutes.
When thinking about connections, it turns out users aren't really worried about having to make 3 connections as long as none of them involve a bus.
When making comparisons, our users prefer qualitative comparisons like "shorter" or "quicker" than quantitative comparisons with lots of numbers.

So it became obvious that the graphical view was the one to pursue, although there were still plenty of questions that needed answering as we developed the final

Une of the biggest problems we saw in existing applications was information overload. Think of the last time you printed Google Maps directions - do you ever read half of the words there? Or just the bolded ones?

That's why our directions screen hasn't fundamentally changed: it's always been focused on providing the relevant information and nothing else. We've had to think about some tricky details: can we scale steps by duration, how do we show maps, how do we word directions and make sure everything maps to the physical world occupied by our users, and how to navigate back to other parts of the interface. But the most interesting question we've had to deal with is helping people when something goes wrong.

How many of you plan your trip to Boston and then make a back-up plan in case something is running late? (hopefully none) So if you don't plan for a delay, where would you expect to see a button that makes that plan for you? At the beginning? The end? The middle? Nowhere?

Our users loved the *concept* of a feature that re-routes them in the case of delays. But when we put a button on a prototype, some users think it's a status display, some think it's an error notification, and no one really knows what it's going to *do* when they press it. *You all* know what this button does - remember Lilah's trip to Ben and Jerry's? How her bus was late so she had to pick a new route? This button manually invokes that, but our users don't *expect* to see it because they're not *expecting* an error. So in the final version the button is hidden until an "appropriate" time, whereÁ æ]]¦[]¦ãœ^Áſ¼Áå^]^}æ}o{}ÁÕÚÙÁæ}åÁãªÁ¸*Áˤæœ&Á@œÁˆ^Áſ}Ô^@œ^¼ÁÁ^o@Áˤ¦¦[]Þ&åÀ

<PATI>
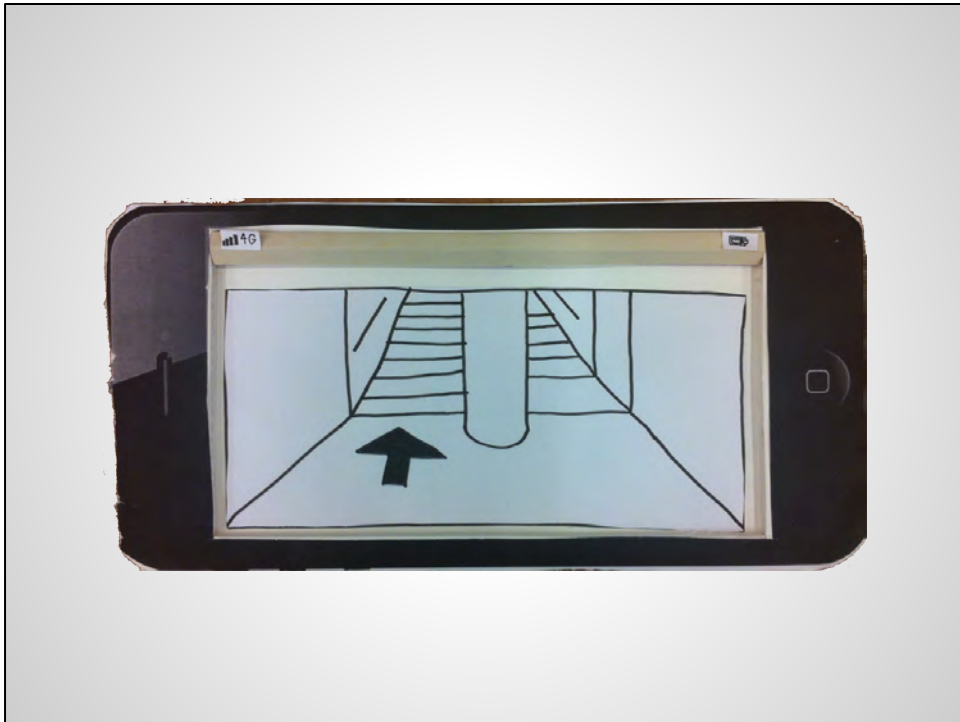
We used to have a fourth screen that provided a "street-view" level of the directions, giving our users a step-by-step picture-book of their route, but decided to remove it because, in the spirit of Tufte, it was a poor visualization of data. It was novel, but users felt uncomfortable about having to hold their phone and spin around the station trying to line the picture up with the real world. It was no faster and no easier than just looking for signs.

## Lessons Learned

- The Devil in the Details

- People aren't blank slates

- It's easier to point to something real

<BRETT>

So what have we learned from this experience?

Well, the Devil is in the Details. Whether it be the difference between using miles or minutes or where you put the "I missed the train" button, details play a huge role in the usability of a design. The *vision* of our design didn't change much, but our *understanding* of how it really worked was constantly challenged during testing. We showed the data and showed the comparisons like Tufte said, but it wasn't quite that simple.

# Lessons Learned

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- It's easier to point to something real

<BRETT>

The reason it wasn't that simple is because we made a mistake. We assumed that because our users were inexperienced using the MBTA, they wouldn't have any firm expectations for what an MBTA tool might look like. That may be true, but they *definitely* have expectations and preferences for how data is displayed. Again, miles versus minutes. The number of connections versus the number of bus-connections.

Our initial testing confirmed that we had a good sense of the tasks our users needed to accomplish and the information they needed to make decisions. But we totally missed the details of how they expected that interaction to work.

# Lessons Learned

- The Devil in the Details

- People aren't blank slates

- It's easier to point to something real

<BRETT>

And part of the reason is that saying "this is how I expect to interact with a design" is a lot harder than saying "I don't like this". If we had the chance to do this project over again, we wouldn't just ask users what tools or apps they use, but give them something to actually interact with and point at. Hearing complaints about where a button is might seem trivial when thinking about the big picture for a persona, but it can actually provide some real insight into how a user expects to interact with information.

Once you have those *details*, you can start to make real progress helping people get from A to B.

## Questions

- Where's your fourth persona?

- Were there any challenges in implementing this?

- Did your heuristic evaluators agree with your users?

<BRETT>

There's a lot more we would love to talk about, but unfortunately we're just about of time. Here are some prompts you might want to ask us, but we'd love to answer any questions you have for us.

Thank you.

# Personas

**Peter**

*"The T is a tool. It's your responsibility to learn how to use it and how to compensate for its problems."*

**Samantha**

*"Yeah, maybe the T's not ideal with the kids, but you try finding parking at the Aquarium after sitting in traffic for an hour."*

**Lilah**

*"I never realized how easy public transportation is before! It's sooo much better than paying for gas every week!*

**Henry & Elise**

*"We're in Boston because we want to spend time seeing the world. We don't want to get lost and look like fools."*

"So who are the users we keep talking about? Let's introduce you to our personas."

Peter is is actually a fairly regular user of the MBTA, but only the one route that goes from his apartment to his work. He doesn't know anything about the other lines, but he wants to make sure that arrives on time for every meeting. As a someone confident in his own abilities, Peter essentially wants a way to check and see when the next train or bus will arrive.

Samantha is a single mother of two young children, aged 2 and 6. Sometimes it's a lot easier to use public transportation than to sit in traffic, find a parking spot, pay for for parking and gas, etc. etc. Managing her kids is a full-time job, so she needs to be able to look up public transit directions and see what her next step is as quickly as possible.

Lilah is a college freshman from Dayton, Ohio. She's never used public transportation before and is loving how much cheaper and easier it is than owning a car in somewhere like Boston. With that said, her lack of experience means it's easy to make mistakes and get lost, so an application that helps her avoid making mistakes would be a big confidence boost.

Our last persona is Henry and Elise, a retired couple on vacation to New England from old England. Like Lilah, they have no experience with the MBTA system. They're on vacation, so time isn't a big issue: their goal is to simply figure out what station they need to be at and which train they need to catch."