EMORY GOIZUETA BUSINESS SCHOOL | Master of Science in Business Analytics MSBA

Ready Package One

Gamifying the tracking system for customer satisfaction

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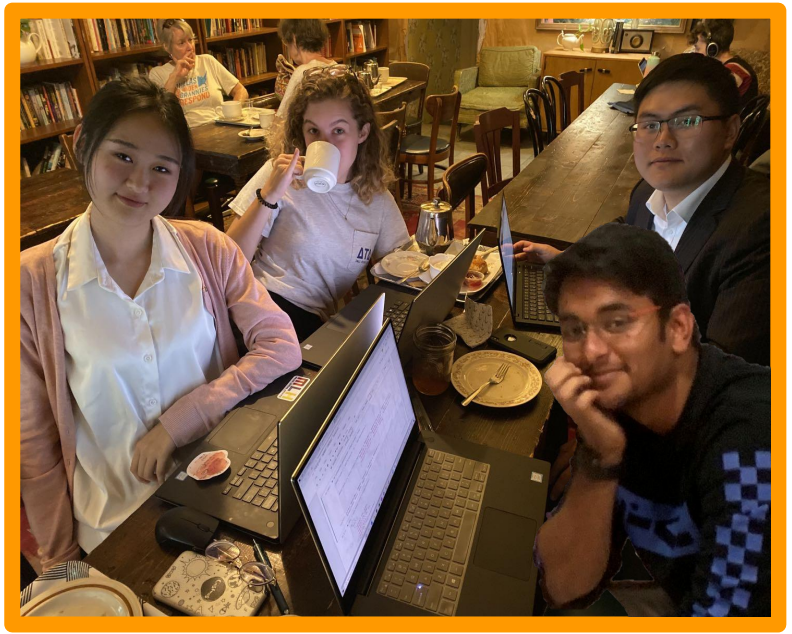
FedEx®

HELLO!

We are team 6, comprised of:

- Carl Xi
- Yaping Zhang
- Mayur Kumar
- Allegra Noto

We are here to share with you our vision for **the future of customer parcel tracking.**



Overview

Inspiration → Old vs New → Map & Time → GPS & Model

International → Domestic → Cost & ROI → Conclusion

FedEx's Top 4 Strategic Growth Areas

International Shipping

Make the international shipping experience simple, easy, and intuitive.

Customer Recipient

Provide reliable services and flexible choices from cart to door consistently.

Visibility

Provide accurate, reliable, meaningful, and consistent information on customer's channel of choice

Problem Resolution

Resolve problems with best customer experience. Be consistent across channels and gain customer confidence.

Our Focus

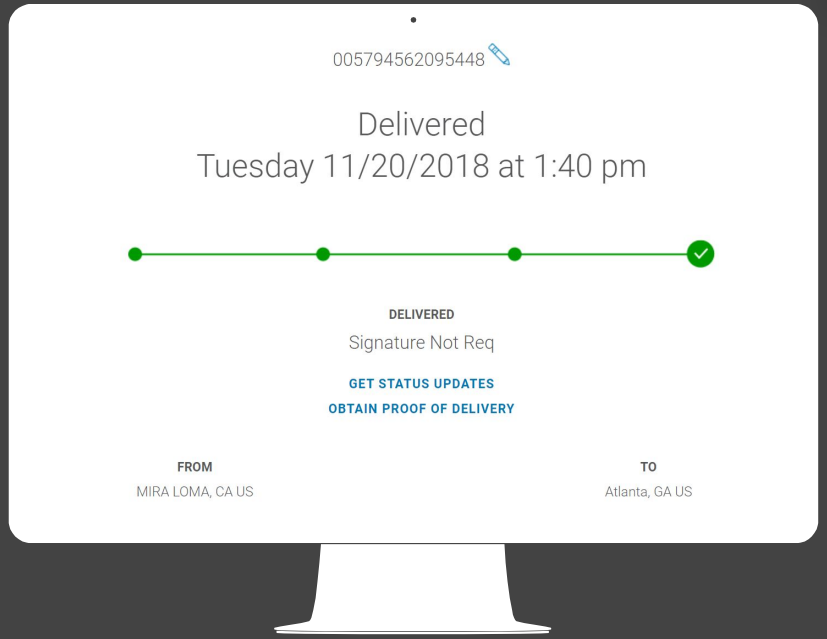
Customer Recipient

- **B2C** is the new industry focus
- Customers demand more **individualized** services
- Biggest increase in **customer satisfaction** stems from more sense of **control and information flow**

Visibility

- The explosion of e-commerce brought along an **upheaval of expectations** from customers
- New rising standards of **visibility** must be met with in terms of understanding our process.
- We will draw inspiration from companies at the forefront of product visibility, including **Uber and Taobao.**

Current Model

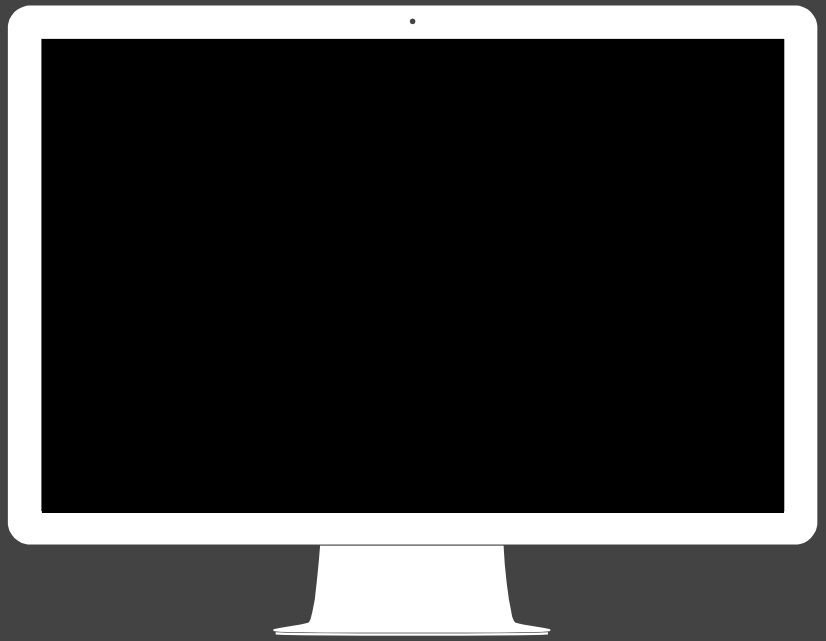


Currently, FedEx tracks packages through four steps:

1. Initiated
2. Received
3. In Transit
4. Delivered

We propose a vast **expansion** of this model, increasing the **information provided** and using **mapping** to give a more visual depictions of progress.

Proposed Tracking System



We propose a gamified step-by-step tracking system with interactive elements:

1. Ground Vehicle Tracking
2. Facility Time Estimation
3. Plane Tracking
4. Customs Duration Prediction

Customers can see **exactly** where their package is at any given time on an **interactive map**, as well as time **predictions** for **how long** the current step will take.

Using GPS to Predict Duration in Facility

Allows the user to **understand the whole process** of a delivery from receipt to transfer and delivery

Providing **service details** and **key time node information** in the service process, can evoke user **empathy** and strengthen customer **trust**

Helps to **reduce** user **misunderstanding and dissatisfaction**

Extract GPS information from trucks and planes to plot points on a map showing customer origin and destination

Using GPS to Predict Duration in Facility

Old System

- Each parcel already has a unique tracking number and barcode
- Each parcel is scanned when it departs a facility
- Each parcel is scanned again when it arrives at its intended destination
- This process repeats if multiple facilities are along the route
- **Problem**: We do not know what happens during transit

New System

- Each parcel is scanned when it departs a facility, but the scanning point is moved to right before vehicle loading, or **vehicle ID is encoded when outbound parcel** is scanned at facility

  [Each parcel is **associated with a vehicle** and share its **GPS location** while onboard]

- **Problem solved**: We now know exactly where the package is during transport, while only changing the first step of the process

Comparative Example: Uber Eats

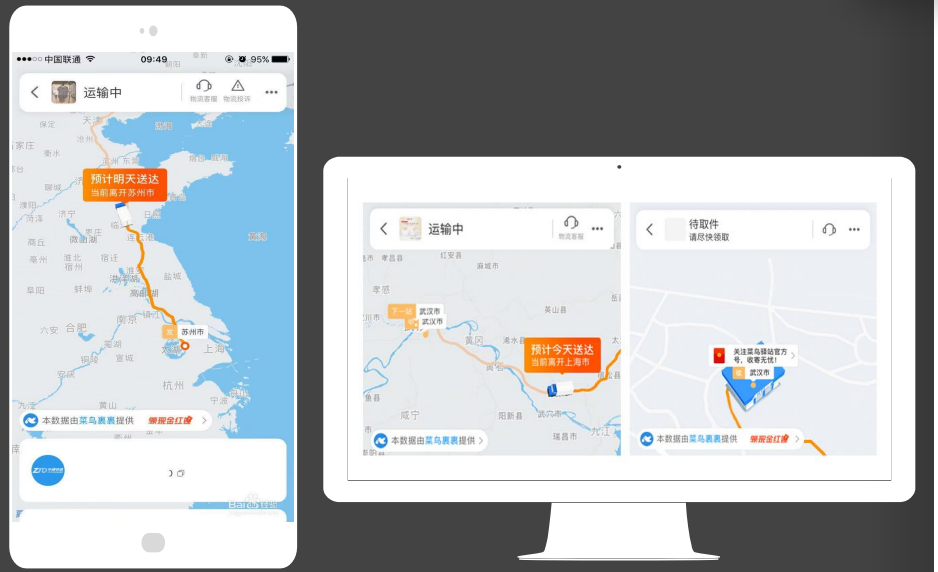
Uber has dominated the field of visibility in the food delivery service.

Customers are able to monitor the entire process, including:

1. Order **preparation**
2. Courier's **route** to pickup
3. Courier **delivery** to drop off location

Customers are able to **simultaneously monitor** the driver and restaurant who work together to deliver food. They generate incredible trust in their customers through their ability to provide reliable information surrounding order progress.

Comparative Example: Taobao



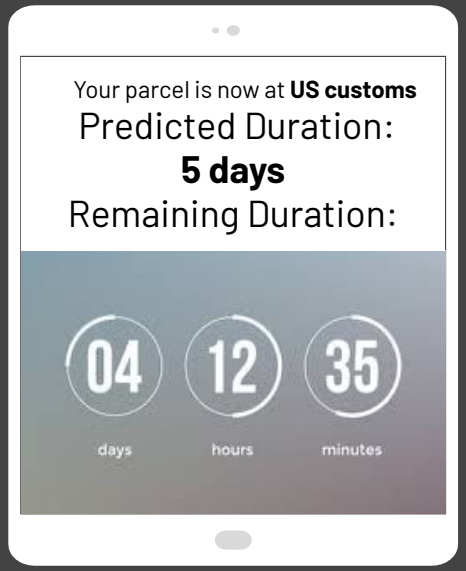
While less robust and complicated than Uber, Taobao provides a model more similar to the needs of FedEx customers.

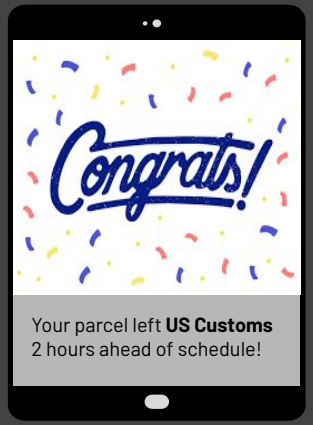
This Chinese online retailer upgraded their previous text based tracking system to a **map**.

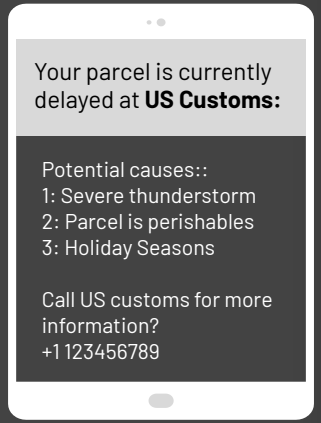
Using this system, customers can more **intuitively query their shipping information** through the map, and the tracking experience has been significantly improved.

Using Modeling to Predict Duration in Facility

- We propose incorporating **predictive models** for **estimating time** at **each significant node** (e.g. warehouses and customs) onto the interactive map
- Models will be **updated regularly** to take into consideration new developments in package information
- In today's world of **visibility**, providing **some information** is better than providing **none**
- While we understand the **complicated** and **unpredictable** nature of customs, we hope to give **best estimates** based on variables such as **package size**, **value**, **category**, **weight**, **origin**, **destination**, and **customer type**
  - This allows FedEx to clearly visualize when delays are out of their control
- This system will provide **detailed timing information** to the customer, which will further reinforce **mutual understanding and trust**, as well as brand image







Countdown Project

- We propose a **countdown clock** to show the estimated time at significant nodes.
- Shows **predicted time** for a parcel to leave customs or warehouses.
- System congratulates customer when their package is **ahead of schedule**.
- System lists tailored potential causes when a package is **behind schedule**

International Example: **Tokyo – SF**

Customer delivers package to FedEx

FedEx Office

GPS on Vehicle

FedEx Facility

Modeling

GPS on Vehicle

Tokyo Airport Facility

Modeling

Tokyo Customs

Predictive Modeling

GPS on Vehicle

SF Customs

Predictive Modeling

SF Airport Facility

Modeling

GPS on Vehicle

FedEx Facility

Modeling

GPS on Vehicle

Domestic Example: **ATL – SF**

Customer delivers package to FedEx

FedEx Office

GPS on Vehicle

FedEx Facility

Modeling

GPS on Vehicle

ATL Airport Facility

Modeling

GPS on Vehicle

SF Airport Facility

Modeling

GPS on Vehicle

FedEx Facility

Modeling

GPS on Vehicle

Cost Benefit Analysis

Effect

- This level of **visibility** will put FedEx at the top of the logistics industry
- With rising consumer expectations, FedEx will become the go-to shipping company for many consumers who want control and a **high level of involvement** in the process

Cost

- Very little cost for **extracting GPS tracking data** from current vehicles, as most vehicles have existing GPS systems
- Creation and deployment of **predictive models** for major nodes in the transportation network
  - FedEx may have existing models for predicting parcel duration at facilities

Conclusion

- We propose a **multifaceted tracking system** for FedEx packaging system that will further the field of courier delivery services to an incredible degree.
- Using **mapping** and **predictive modelling**, we hope to create an unmatched level of **visibility** to give FedEx an important competitive edge in the changing and expanding world of delivery and e-commerce.

Further Considerations

Privacy Concerns

- FedEx must deliberate upon the value of the privacy of the vehicle drivers, and whether giving customers detailed tracking information may cause safety concerns
  - This can be mitigated by only using nodes on **major roads** and **intersections**, or any other limitation of nonstop tracking
  - We can also mitigate this by **anonymizing** the trucks **license plates**, **driver names** and **plane callsigns** with **randomly generated unique identifiers**

Limitation

- Our proposed system may represent the **current technological limit** for parcel tracking. FedEx may lose its **competitive advantage** once competitors catch up, with not a lot of room for further improvement

THANKS!

Any questions?

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Sources:

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