



# MOTIV

A mobile solution

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# Defining the Future of Work

“Today, fewer and fewer people have jobs that involve going to an office, working full-time, for five or more years in the same company, with a team that also works in their hallway.”

From the above quote from the design prompt our team quickly narrowed down our focus into a very specific, but emerging user group, Mobile Employees.

Once our user was selected we began to craft personas (based on interviews) for possible Mobile Employees in an effort to discover issues to analyze and solve that would lead us to the future of work.

“How can our tools and services support new ways of working?”

## Employee on the fly

**Dave Reinhardsen Age 45**



### **About Dave**

Dave Reinhardsen is a frequent flyer. He must travel from site to site to fulfill his daily work requirements. He is constantly moving between hotels, airports, taxi's and business sites. He goes on week long trips, sometimes even a couple of weeks at a time. He has a family and likes to connect with them whenever they need.

### **Problem**

He likes going to new places and meeting and securing new clients. Problems arise when Dave arrives at a new location. Unlike a stationary employee his surroundings are constantly changing. New site locations, new airports, new people and new city. He needs to have access to his co-workers and families at all times. He often finds it difficult to find where resources for his laptop, cellphone or mobile devices are. Many hours of frustration are spent searching trying to locate these resources in these unfamiliar places.

# Kevin Kau

## 28



**Occupation**  
Student (ex-wedding photographer)

**Transportation**  
By car. Average time spent in car on a trip is 30-40 minutes. Trips can sometimes take 5-6 hours to drive there.

**Situation**  
Taking wedding photos in Utah, where the majority of couples are Mormon. Average time this can take is 4+ hours a wedding. Multiple weddings can and are scheduled in the same day. This results in a very long workday outside of the office.

**Preparation before leaving office/home**  
The night before equipment is packed and prepared with backups for everything. Food items  
The average bag he carries weighs around 20-30lbs.

**During work on the move**  
**Dead Time**  
A lot of time is spent waiting for the families to get ready  
During this "dead time" Kevin waits with other photographers and often chats and networks.  
This dead time is often used to take care of physical needs (re-hydration etc.) and plan logistics with co-workers (other photographers)

**Photography Time**  
Most of the time is spent standing with 20-30lbs of equipment and taking photos in various positions (standing, kneeling etc.). This can last for the whole wedding, once it starts there is no break.

**Running in between weddings**  
He must run back to the office to upload pictures (1 hour). Hard and soft copy are created. Memory is not enough in the camera.

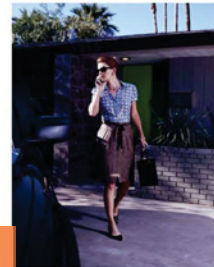
After wedding he returns to work in his cubicle.

Initial research like this helped reveal many problem areas but also unearthed the sheer variety of mobile employees.

- Physical discomfort from standing, carrying equipment
- Sorting through and deleting bad photos
- Equipment malfunctions
- Excessive baggage to carry (backups)
- Getting lost on the way to an unfamiliar destination
- Too much dead time

# Katrina Nelson

## 25



**Occupation**  
Interior Designer, and Consultant

**Income**  
75K Salary a year

**Marital Status**  
She enjoys the times as being a successful single professional upper class women and has no plans on settling down any time soon.

**Children**  
None

*"Oh my god I totally love my phone, my favorite thing about it is, oh wait I have to take this call"*

**Problem / Situation**  
No indication if her action in pushing the crosswalk button worked or not and is overtaken by impatience.

**Typical mode of transportation**  
My car, OMG i love my car but i hate parking in the city so drive as close as i can and walk the rest of the way.

**Frequency of use**  
Every day, as a business women, she spends most of her time in city dodging traffic.

**Experience goals**  
As a busy business women, she doesn't have time to wait for the lights to change and will use any advantage she can to cross when she wants.

**End goals**  
To know how long she has to wait before she is forced to j-walk.

# Daniel Drexler

25



*"Oh my god I totally love my job, but hate having to wait, and refuse to be late, so i will take any opportunity."*

## Occupation

UPS Delivery Personel and graduate student.

## Income

48K yearly with bonus.

## Marital Status

Single - his work requires him to spend much of his time constantly on the move and leaves him tired, combined with graduate school he is overwhelmed and has little time for socializing.

## Children

None - that he knows of...

## Problem / Situation

His delivery schedule and locations change day to day not being on a set route. Due to his inconsistency in deliveries, navigation, and package organization can be difficult.

Possible foreseeable problems -  
finding delivery locations - GPS?

customer availability - ???

leaving signature slip - leads to second and third visits

multiple drivers for return deliveries.

Easier method of package delivery control.

## Typical mode of transportation

UPS Brown truck.

## Frequency of use

Typical business hours - monday through friday.

## Experience goals

To have consistant delivery experiences.

Cohesive work experiences from internal job requirements to be successful and external customer satisfaction and efficiency.

## End goals

a new consistant method of package delivery, route scheduling and organization, real time customer availability and package updating, direct controlled dispatch with UPS HQ - offered through either a product or new organization method.

The idea of "delivery" had always been a point of interest in our group. It offered a very structured view of a mobile employee.

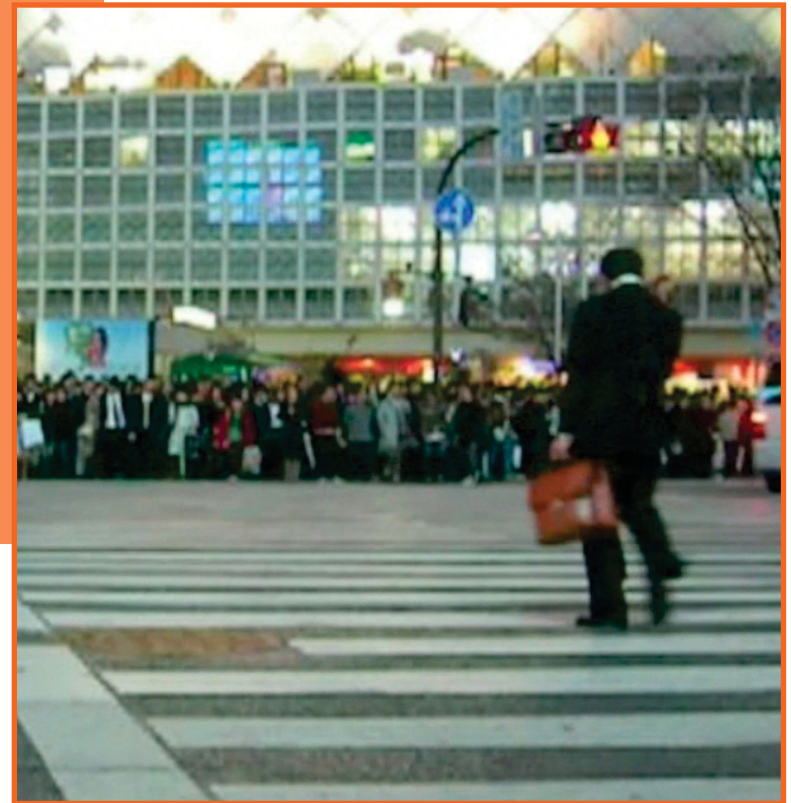
# Discovering Mobile Teleworkers

## Mobile Teleworkers

people who spend time travelling and/or work at different locations whose work involves some level of knowledge intensity and communication with others either internal and/or external to their organization.

As we put a video together of in-depth interviews we discovered a more formal term for “mobile employees”.

Mobile Teleworkers, we found are especially prevalent in small businesses. In a survey of 178 U.S. companies with between 20 and 99 employees, 79% had mobile teleworkers. And, as we discovered, many of the people we interviewed were from small companies, or did not belong to one at all.





**Mark Stribling**  
**Technical Installer and Trainer**

Mark is a standard teleworker. For his job he has travelled to 15 states and 4 Canadian provinces in the past year. In one 3 week period he was home for a total of 48 hours.

**Devices taken:**

- laptop, cell phones, hard drives, camera, projector

**Constraints:**

- access to wi-fi, ability to contact company and home, software compatibility

**Suggestions:**

- Standardization (world of usb hubs), decrease the amount of “wires” needed
- Ability to communicate on the move



**Ryan Collins**  
**Professional Poker Player**

Ryan is a more exotic breed of teleworker. He is not bound by a company, but is rather bound by where competitions occur. His schedule is flexible and he could head off to anywhere at any one time.

Items taken on trips:

- mostly communication devices (iphone, laptop, 60GB data stick)

Constraints:

- ability to text or type on the move

Suggestions:

- Better mass transit geared towards the individual.



## Rough Cuts

Clips and interviews that were not shown in our first movie, but did inform us more of the broad range of mobile teleworkers and the rich opportunities.



## Rob Willbourne

Troubleshooter for Snohomish County

We came back to Rob later in our project mainly because his vehicle is his office. Rob makes sure people have power during storms and other natural disasters. He services certain points where electricity is managed.

Devices taken:

- laptop, cell phones, note pad, pager,

Suggestions:

- GPS
- Smaller devices, handhelds
- Larger screens.



## Kevin Kau

Wedding Photographer

The needs of Kevin's profession are drastically different from those of Mark (the installer) or even Ryan (the poker player). However, like Rob (the troubleshooter) he works locally.

Devices taken:

- Camera, back-up camera, batteries, a variety of lenses, flash, back-up flash

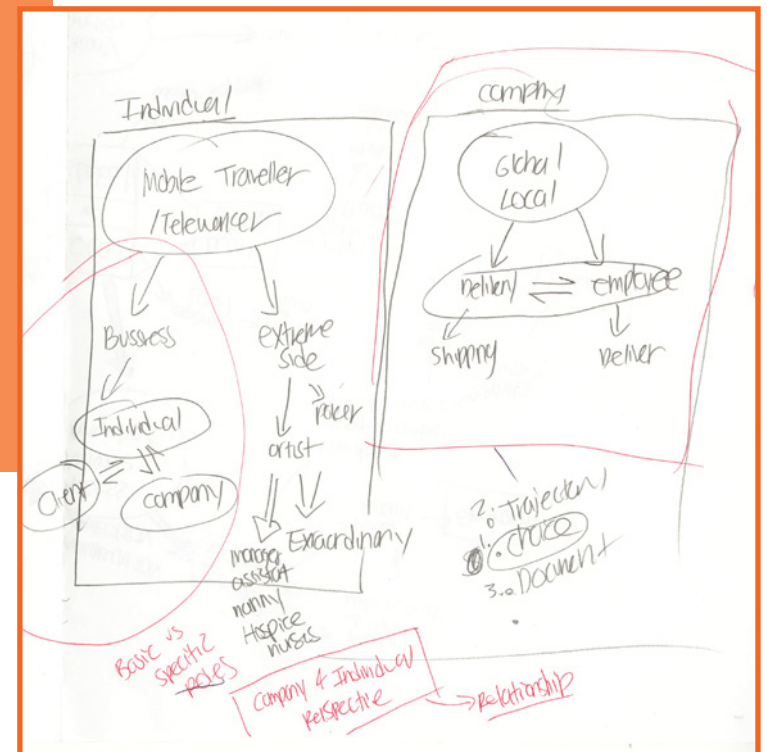
Suggestions:

- Better planning on the family's side
- Lighter equipment

# Project Proposal

As the world economy globalizes and mobile networks expand to offer greater information services, some workers will face new challenges of physical distance.

Whether the nature of a person's work is collaborative, communicative, or transportative, the design of a new technology/device's will affect a person's ability to succeed. Already today, access to some technology is integral to some delivery and traveling organizer jobs. Jobs involving some mobility are on the rise, and so there is a need to for successful mobile design



## ★ Challenges

- Maintaining Connectivity.
  - With co-workers
  - To networks
- Unpredictability.
  - Improvising w/ the unknown
- Tapping into the invisible data-world.
- Continuity
- Security

## ● World-Wide

- Supply Chains
- "Many Hands" aspect
- Sustainability
  - Interest in the details
- Responsibility

## ◆ Strategies

- Scout, Plan Ahead
  - Keep hard copies

# Brainstorms and C-Maps

Based on our research and interviews we derived our project proposal and began to map out which particular area to focus in.

## Mobile Tele Workers

- Fleets
- Packages
- Animals
- Qty.
- Inventory

## ● Jobs

- Delivery
- Merchandiser
- Salesman
- Reporter's
- TV Correspondants
- Armed Forces
- Prof. Poker Player

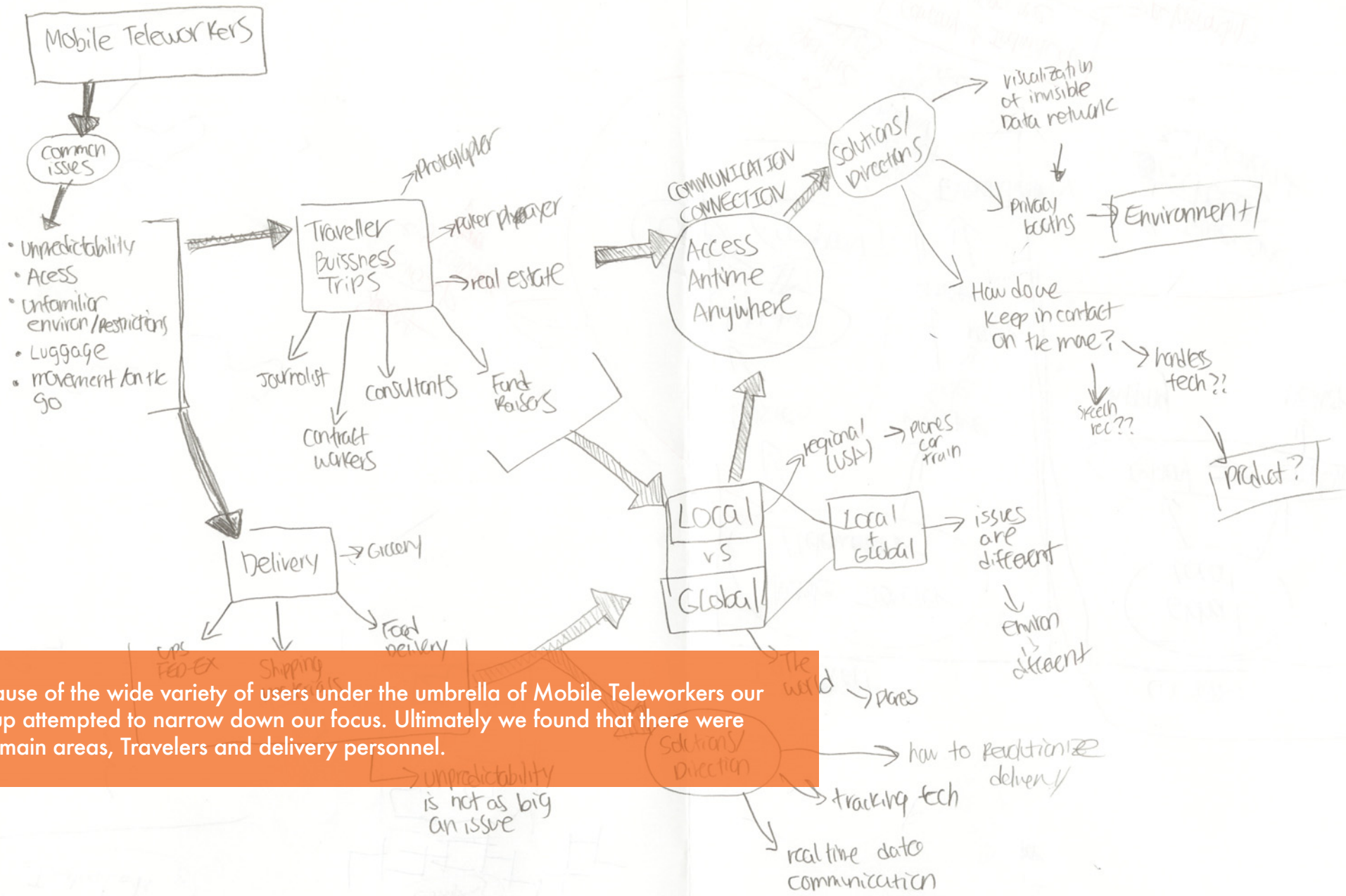
- Location/Aware Devices
- Location/Process Aware
- Traffic listeners
- Wireless/cellular signal "heart" maps

## ● Transportation

- Bus
- Plane
- Car
- Train
- Boat
- Taxis

## ● Devices

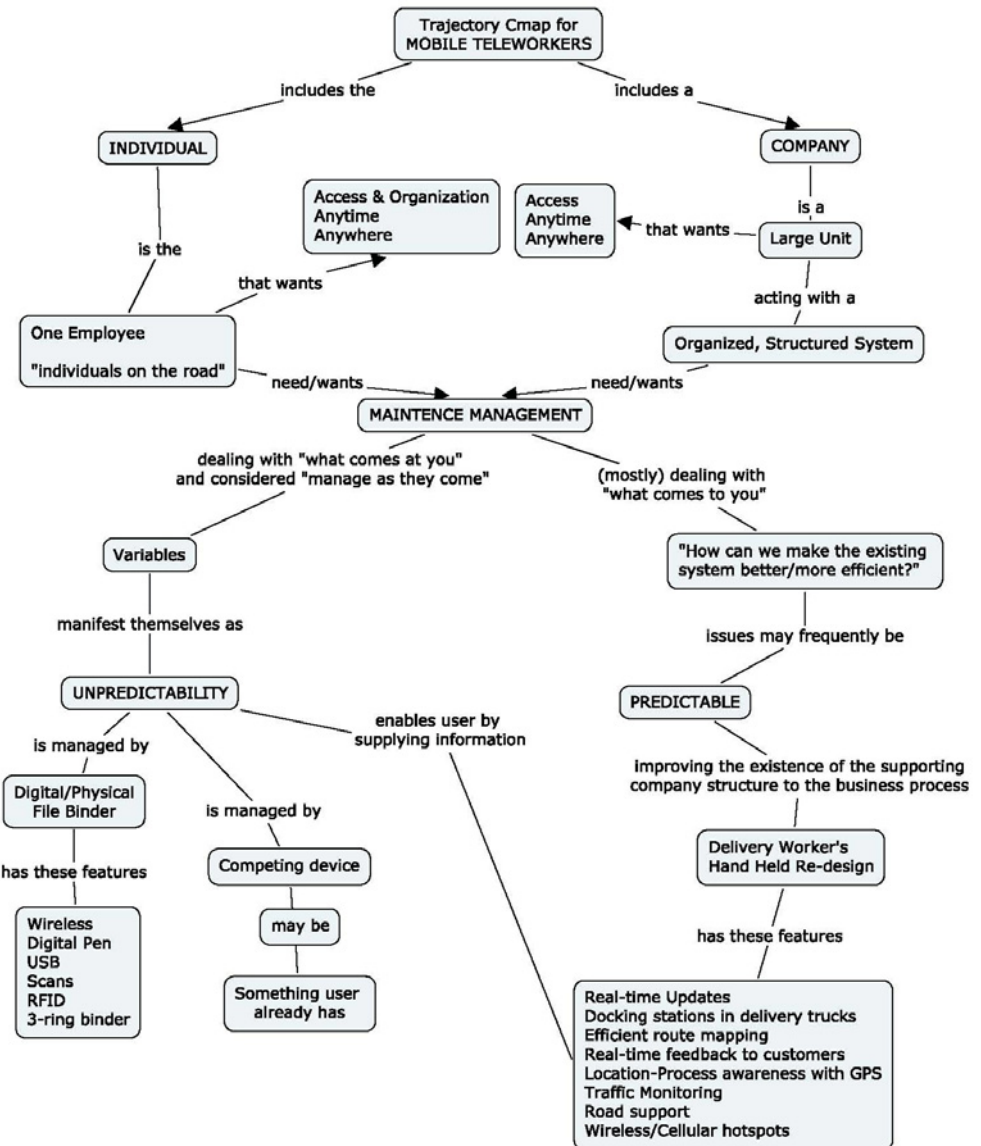
- Cell Phones
  - Push-to-talk
  - Text Msgs
- Apps
- Laptops
- Desktops/Servers
- PDA's
- Flash Drives
- Remote Access
- Remote Desktop
- File transfer



Because of the wide variety of users under the umbrella of Mobile Teleworkers our group attempted to narrow down our focus. Ultimately we found that there were two main areas, Travelers and delivery personnel.

unpredictability is not as big an issue

Solutions/Directions  
 → how to predict/deliver  
 → tracking tech  
 → real time data communication



We further narrowed down the field of Teleworkers into the Individual vs. the Company

**Decision reached:**

We will investigate the use of handhels by delivery personnel. Our hope is to position the leverage of the structure a company to support the employee acting in the business process.

# Refined Proposal

A redesign of organized structural system for major delivery companies delivery employees via a handheld device.

IE. UPS delivery truck drivers utilize a handheld device currently to manage customer deliveries and inventory management being its normal function.

Our focus would encompass today's device and improving it by involving the structure of the company and the processes that it serves. In addition, it would also manage routing information, GPS location, customer availability, delivery responsibilities and HQ contact (text and/or speech) in real time. The data would be integrated, and interactive within this device updating after every delivery, keeping employee and company in constant connectivity and up to date.

## Unlimited Incorporation

Can be incorporated into many different delivery systems whether it is internal or external, and/or regional or global, (i.e. – mass public transportation, transport management, small scale, multiple individual management, etc) it is not limited to simply package delivery.



# BOARD

- GPS
- Bluetooth
- Phone

- ① MASS DELIVERY TO SINGLE APT or Company
- ② GPS list  
↳ what for New people
- ③ Signature  
↳ what alternative

As we knew little about Delivery and the process we interviewed an employee from a well known delivery company.

- ④ size of the
- ⑤ Cell phone
- ⑥ Traffic

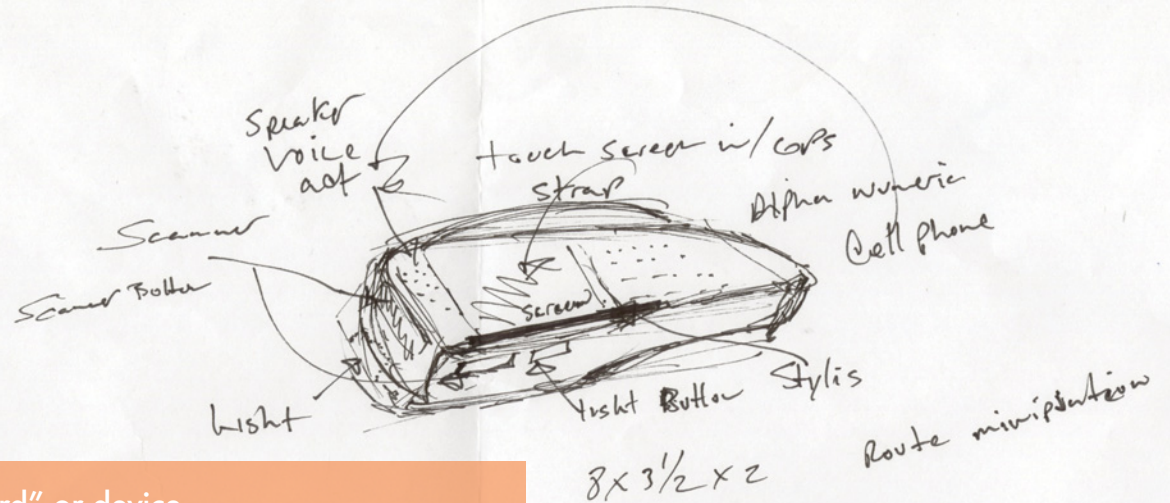
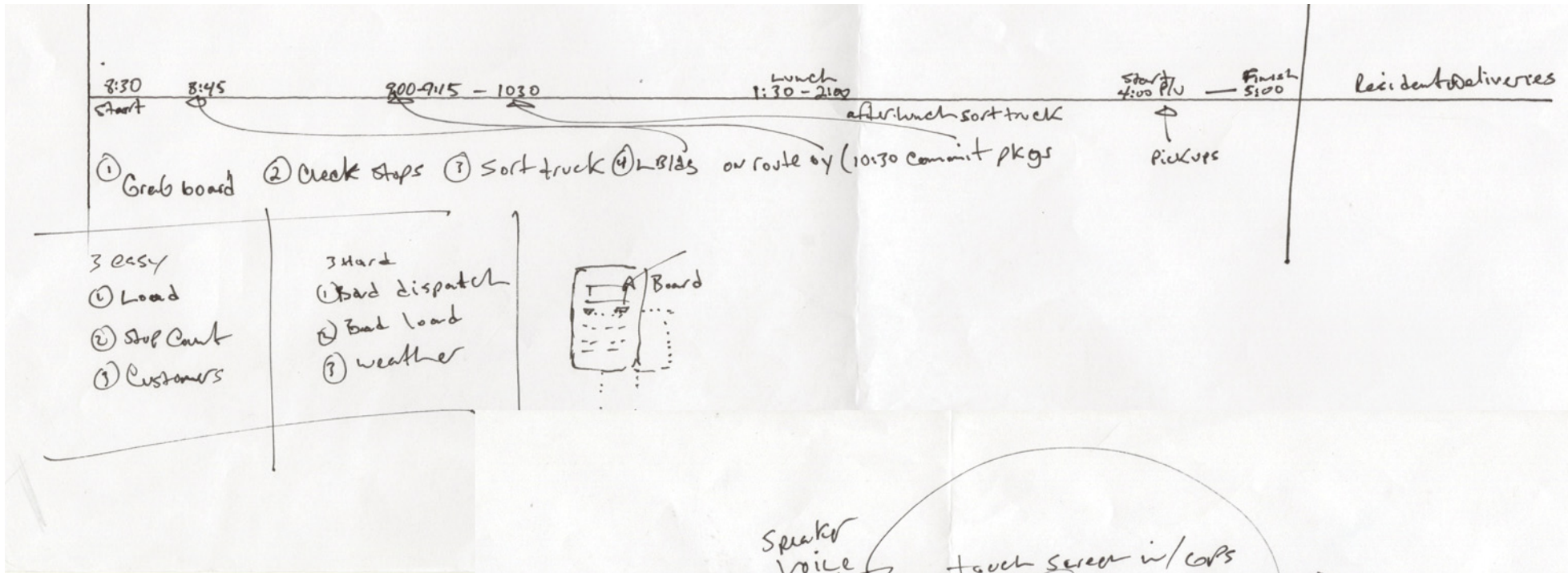
# Board

- Auto Barcode
- Voice activated / instead of signature
- Visual GPS in trucks and on board
- Have alpha & numeric button separate
- touch screen
- Smaller lighting

# office

- Power steering
- Bio diesel





He drew us what he wanted as his improved "board" or device.

# Crafting Wireframes

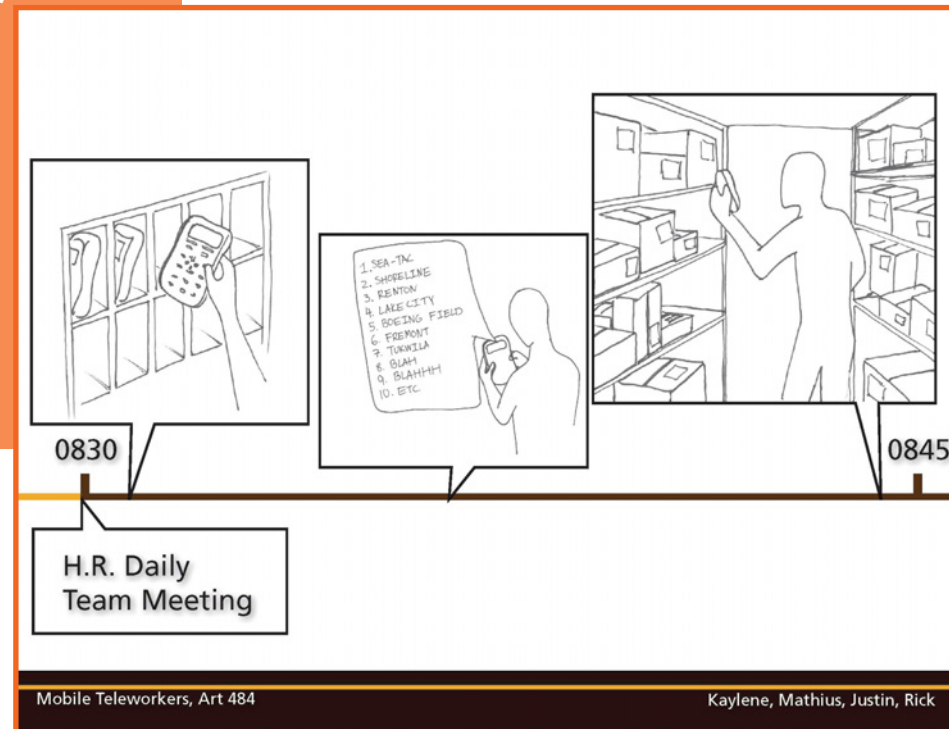
We first followed the Day in the Life of a Delivery Driver

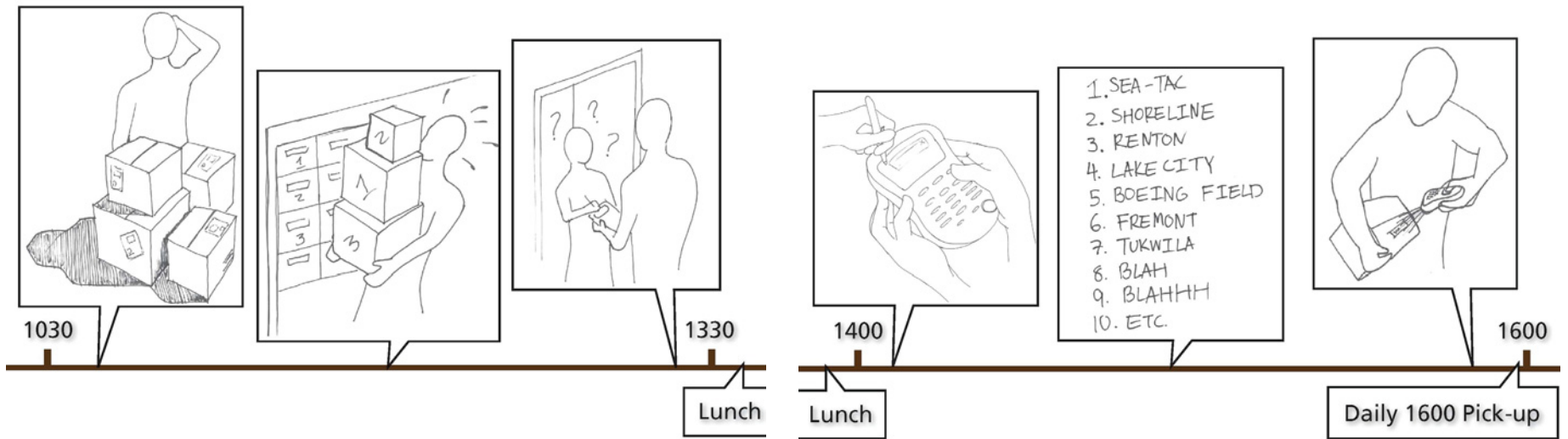
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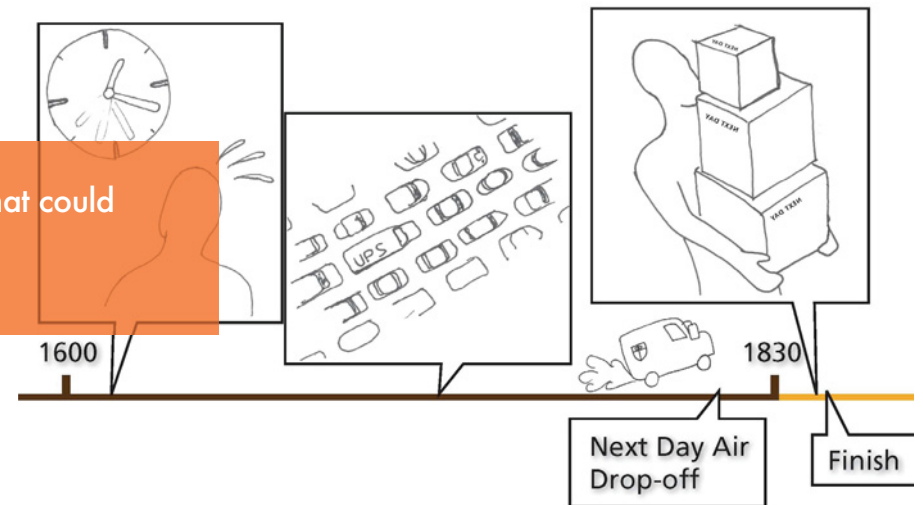
Mobile Teleworkers, Art 484

Kaylene, Mathius, Justin, Rick

Mobile Teleworkers, Art 484

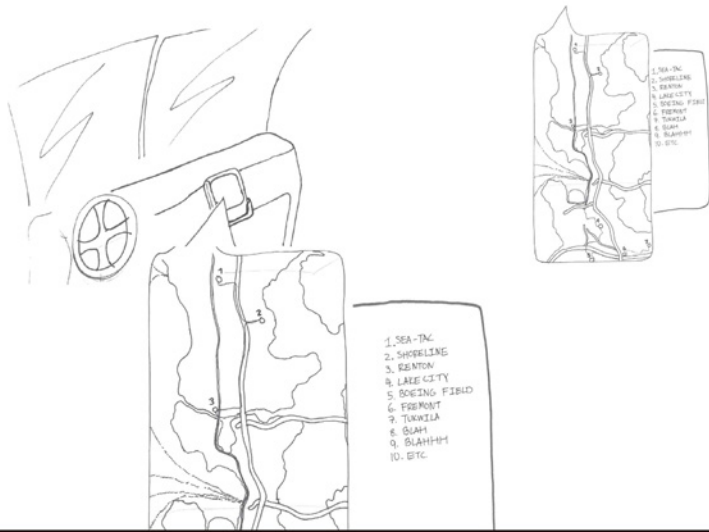
Kaylene, Mathius, Justin, Rick

By creating this "Day In the Life" we managed to uncover many issues that could make the delivery man's life much easier.



Mobile Teleworkers, Art 484

Kaylene, Mathius, Justin, Rick



Mobile Teleworkers, Art 484

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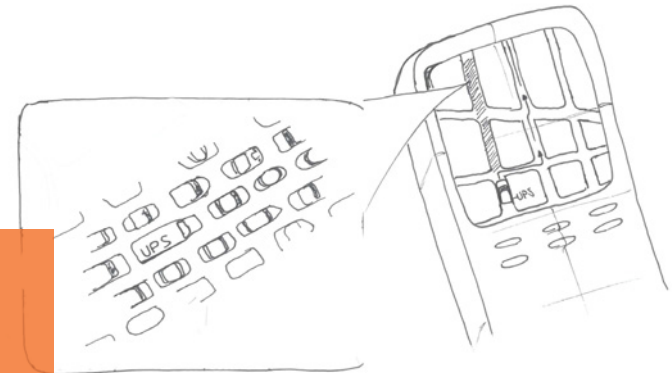
Mobile Teleworkers, Art 484

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Mobile Teleworkers, Art 484

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Mobile Teleworkers, Art 484

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Shown here are the first rendition of ideas we had to streamline the drivers day.

# MOTIV

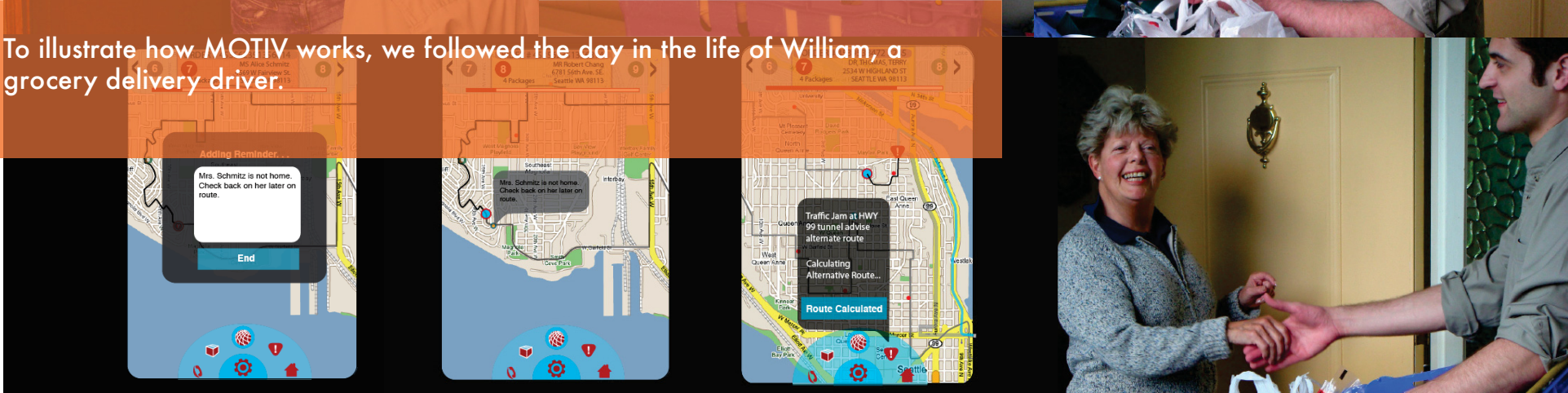
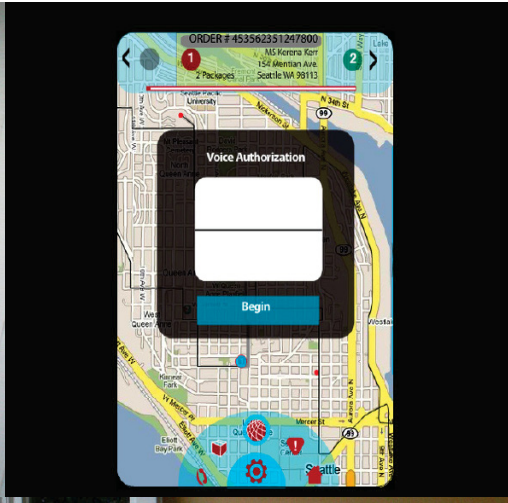
As we received feedback from our presentation of the "Day in the Life" it was suggested we create a software that could be applied onto a broad range of devices.

For that purpose, we decided to create MOTIV, a mobile software that would run on any smart device. This solutions allows even smaller companies, with limited budgets to purchase and use MOTIV. MOTIV allows for smaller companies to leverage Mobile Teleworkers into a strength instead of a challenge.

MOTIV is a tool that maintains internal continuity, while allowing mobile teleworkers to maintain work efficiency.

MOTIV allows small companies to utilize the support structure of a large business, offering individual teleworkers job specific support by integrating location awareness with content management.





MOTIV