data

hopper

team members tony poor | kim dowd | chinmay garde | sanchit gupta | daniel wu
course designing for mobile services at carnegie mellon university
instructors john zimmerman | james morris
presentation may 2, 2011

50,000,000 foreign visitors each year

cvilly Craig Villamor
We all live in the future, except when we want to cross international borders with our phones, then we go back to 1988. #internot
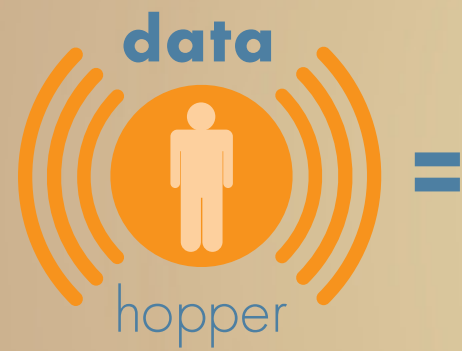2 Apr ⭐ Unfavorite ↻ Retweet ↩ Reply

What is DataHopper?

Our Solution

is a service that provides inexpensive short–term Internet access to international travelers.

Think "Redbox for data."

Service Diagram

data hopper =

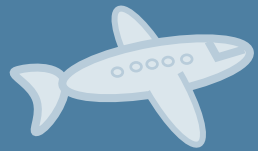| Convenient access	Simple billing	Easy setup	Affordable
	credit card John Smith 4565 8743 4521 4567 2134		**$10 activation fee** **$3 daily rental fee**

video sketch

Detailed Service Diagram

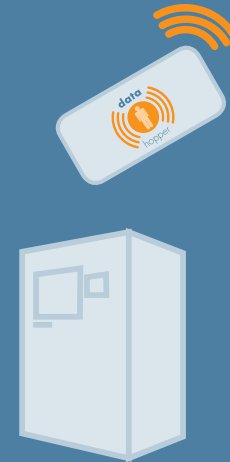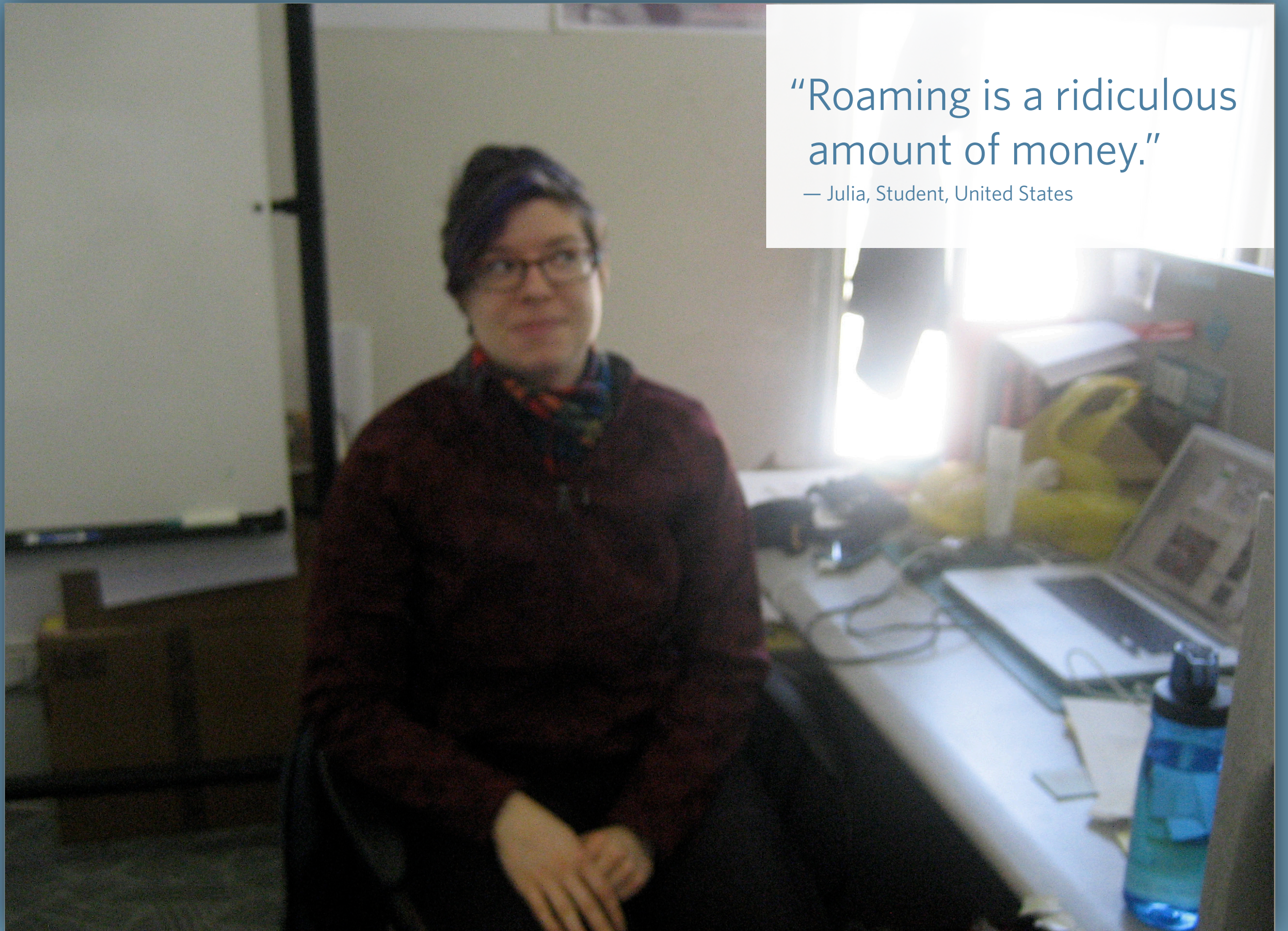| Arrive at airport in US | Rent DataHopper at vending machine | Connect phones & laptops | Use data on the go to research food, maps, things to do and connect with new friends. | Return DataHopper at a vending machine in airport. |

Research
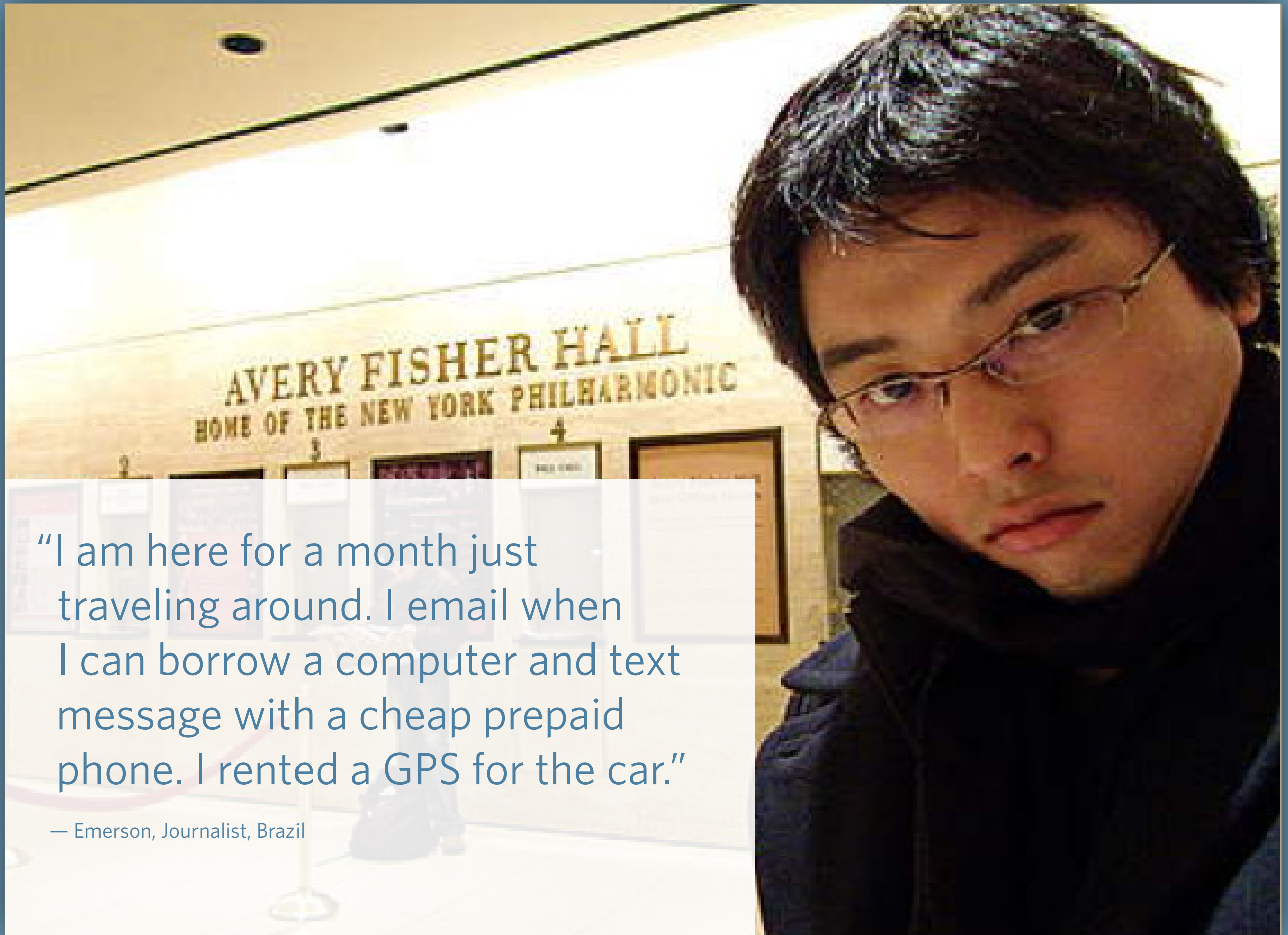
directed storytelling with
12 international travelers

"Roaming is a ridiculous amount of money."

— Julia, Student, United States

"Oh, that (data) would have been amazing. We could have accessed Yelp, CouchSurfing & maps."
—Terry, Engineer, France

"I am here for a month just traveling around. I email when I can borrow a computer and text message with a cheap prepaid phone. I rented a GPS for the car."
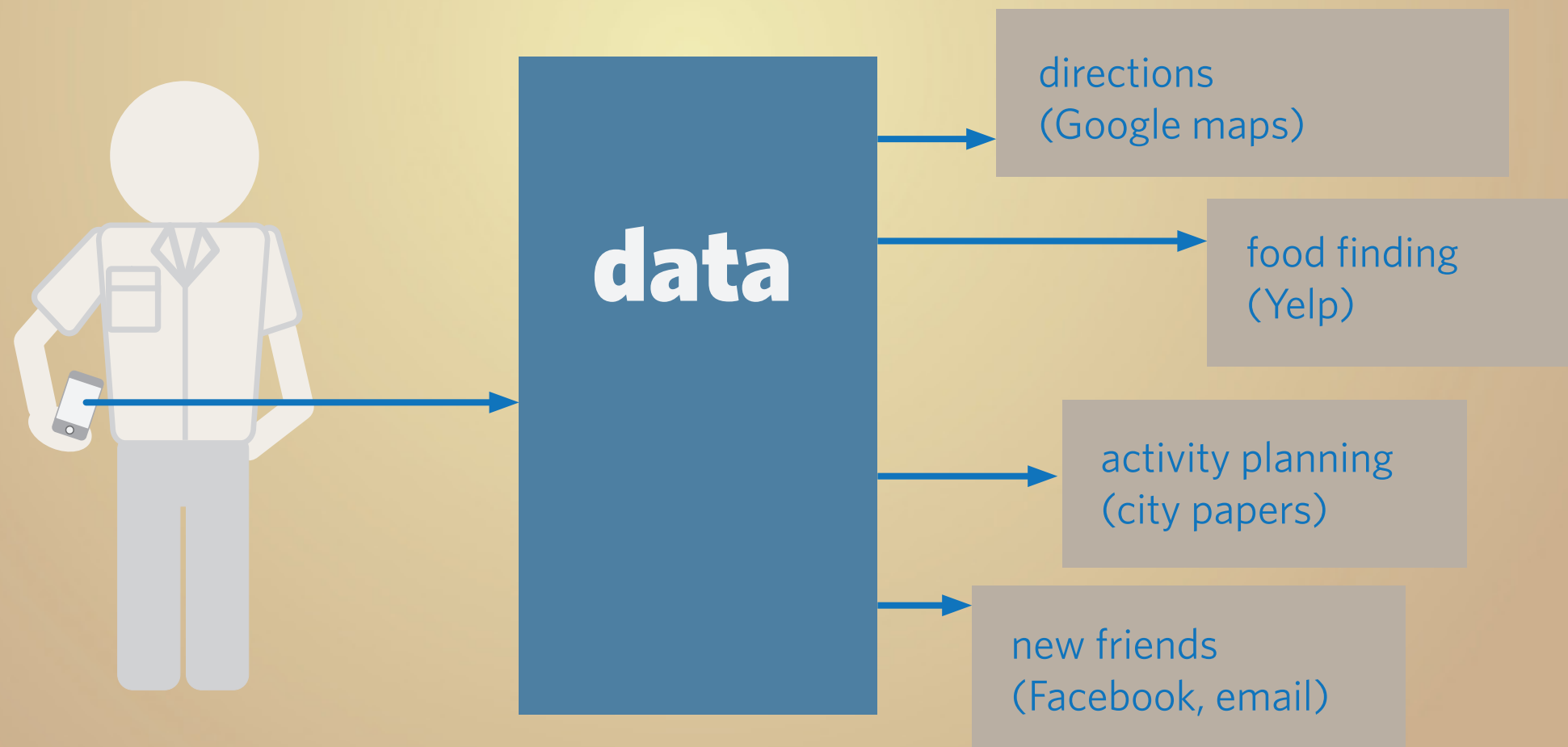
— Emerson, Journalist, Brazil

"Meeting new people in a new city is the best part. Can we take your picture? And be Facebook friends? Pittsburgh is just like my city in Mexico."

-Juan, Engineer, Mexico

Findings

Foreign travelers need **data** to help them with navigation, finding food, checking email, finding things to do, and meeting new people.

data

directions
(Google maps)

food finding
(Yelp)

activity planning
(city papers)

new friends
(Facebook, email)

DataHopper

avoids the cost of...

| hotel wifi $10 a day | GPS rental $16 a day | XCOM rental $17 a day $30 shipping | roaming 20 mb for $20 then $15 a gig |

DataHopper

avoids the cost of...

hotel wifi $10 a day	GPS rental $16 a day	XCOM rental $17 a day $30 shipping	roaming 20 mb for $20 then $15 a gig

serves the needs of...

using familiar services while traveling	staying in contact with new friends while traveling	feeling independent

DataHopper

avoids the cost of...

| hotel wifi $10 a day | GPS rental $16 a day | XCOM rental $17 a day $30 shipping | roaming 20 mb for $20 then $15 a gig |

serves the needs of...

using familiar services while traveling

staying in contact with new friends while traveling

feeling independent

and prevents the hassle of...

borrowing laptops & phones

searching for free wifi hot-spots

searching for paid wifi hotspots

Technology

Technological Feasibility

Routers & Data Network

Become mobile data reseller
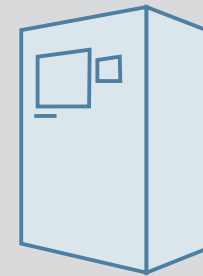
Build payment & access gateway

Technological Feasibility

Routers & Data Network

Become mobile data reseller

Build payment & access gateway

Vending Machine

Outsource design to ZoomSystems

Physical requirements (ZoomSystems):
up to 225 routers
credit card sweeper
touch screen
printing of receipts

Tech requirements (Us):
creation of wifi hotspot in airport
access to back-end
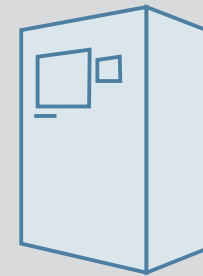built-in diagnostics to check routers

Technological Feasibility

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built-in diagnostics to check routers

Website

Account creation

Reservation system

Access to billing history

Building of service access portal

Feedback

"It is technically feasible to implement this service."

"Rate negotiations with service providers will go better if guaranteed consistent bandwidth usage. Service providers hate bursty data."

"Data-only Mobile Virtual Network Operators (MVNO) can be setup."

"There are no foreseeable regulatory land-mines in the USA."

Wendy Fong

Senior Strategic Program Manager

Carnegie Mellon Silicon Valley

Worked for HP, Microsoft, Java Standardization

Juggs Ravalia

Vice President, Strategic Alliances at SPB Software

Worked on Windows Mobile and Windows CE at Microsoft

Cambridge Gates Scholar

Business Plan

Every year, approximately **21,500,000** travelers arrive at **JFK** on international flights.

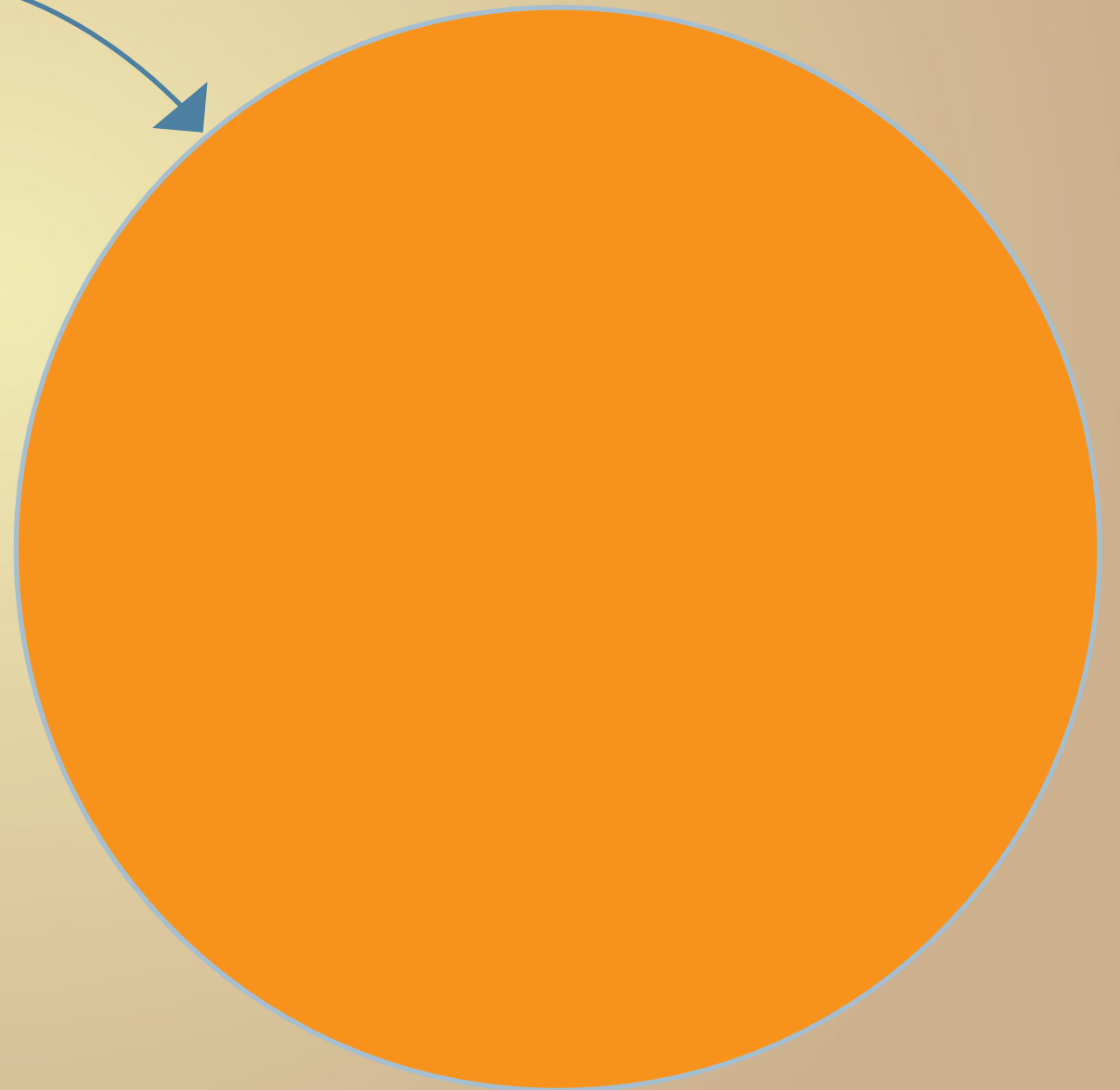|	
16,800,000	**LAX**
15,500,000	**MIA**
11,500,000	**ORD**
10,500,000	**EWR**

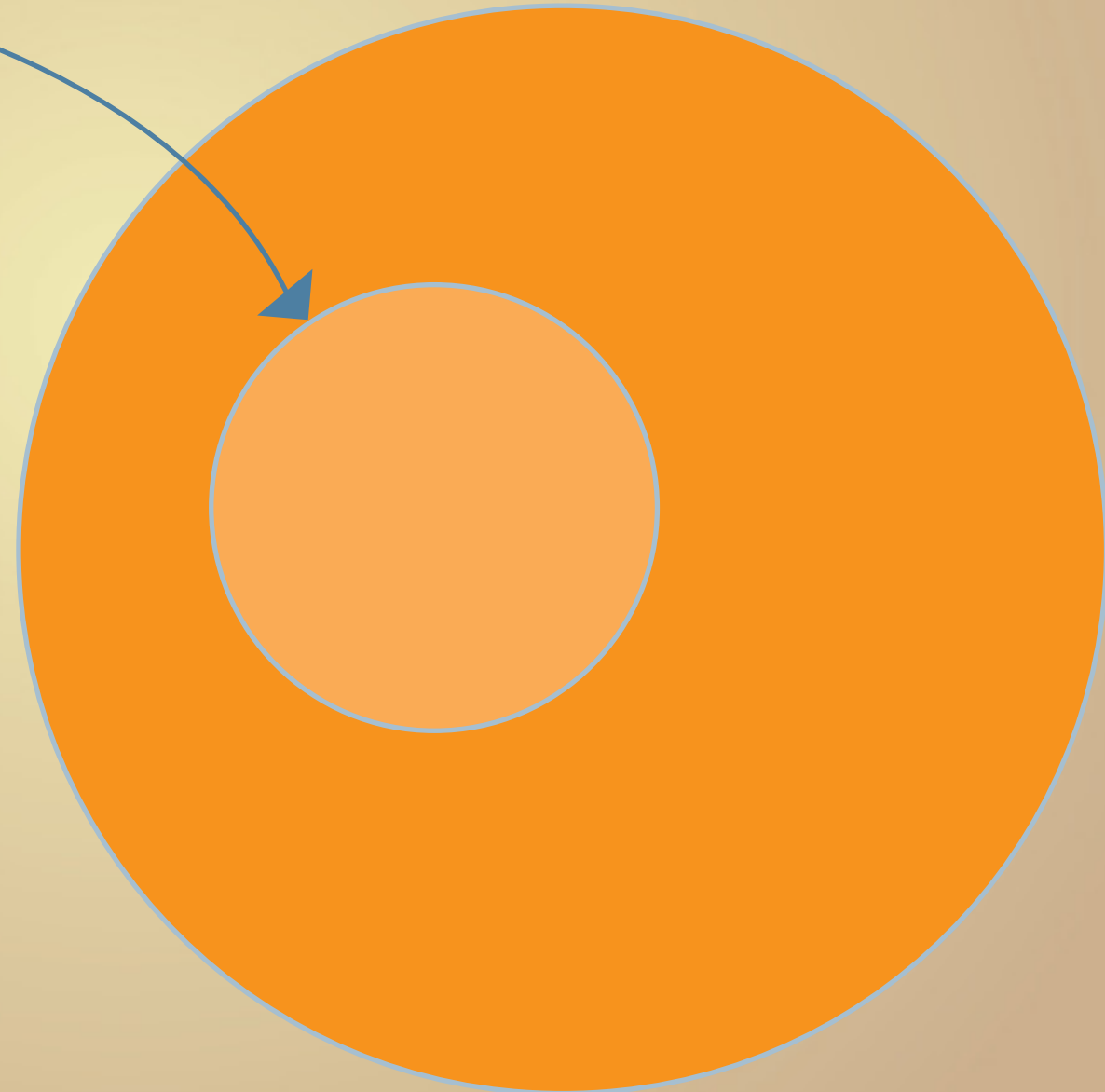**75,800,000**

Approximately **8,800,000** are international tourists.
6,900,000
6,300,000
4,700,000
4,300,000
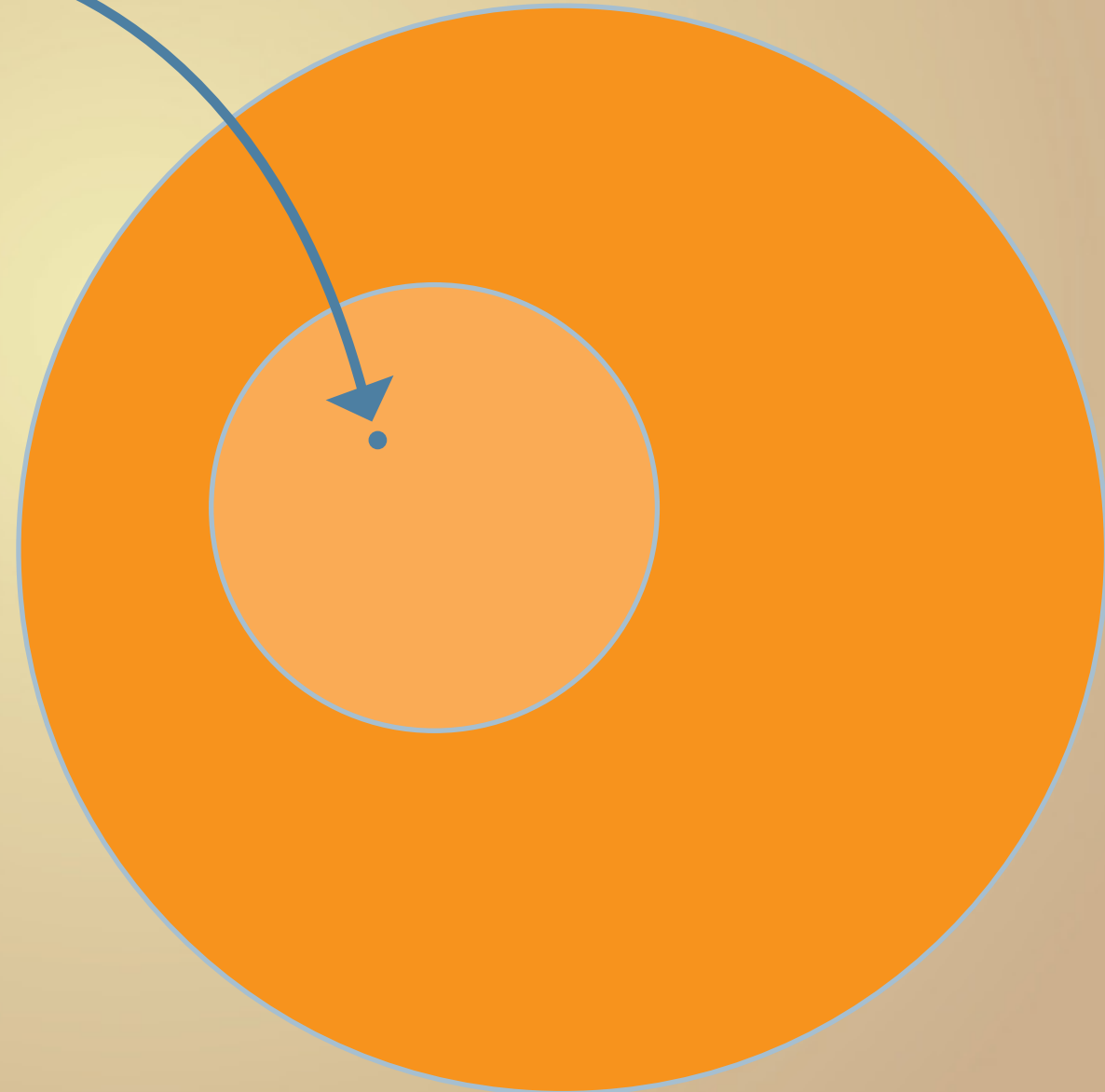
31,000,000

We expect **1.9%** per year of them to use a DataHopper.

602,000

Each user will pay a **$10** activation fee and a **$3** a day rental fee and use it for **8** days. We will make **$34** per user.

$34

With **602,000** users per year we will collect **$20,400,000** per year.

Gross Income per year

$34

$.4

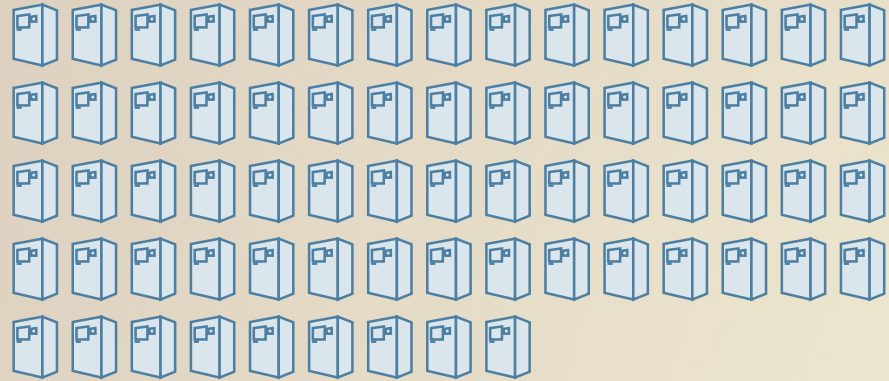| $1 mil | $1 mil |
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil

Our operating costs are...

10 employees
$125,000 per month

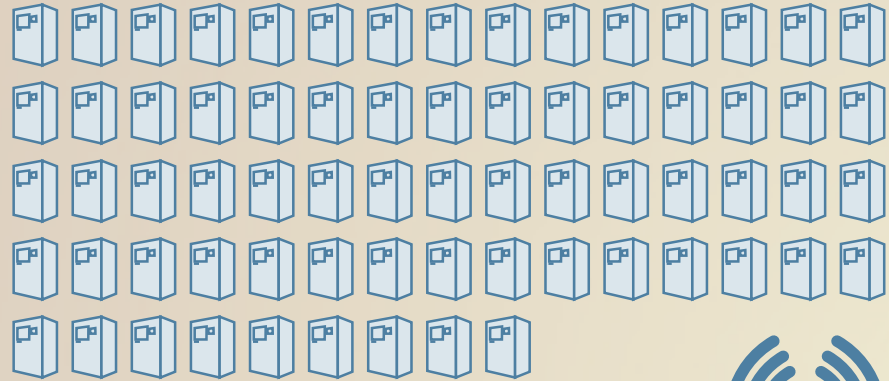## Our operating costs are...

10 employees
$125,000 per month

rental space for 70
vending machines at airports
$490,000 per month

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10 employees
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rental space for 70
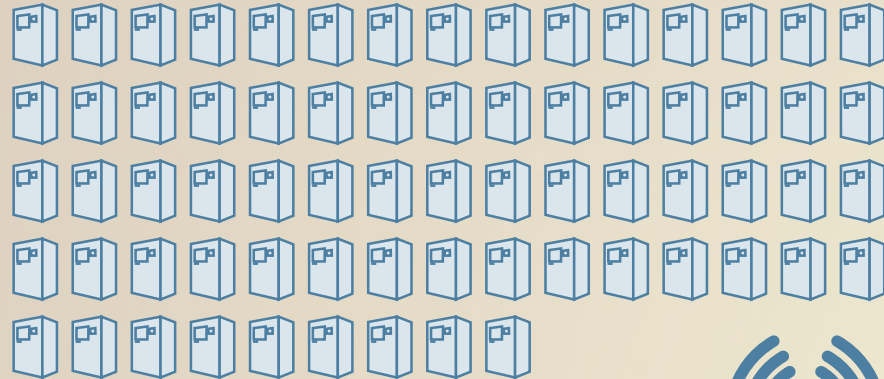vending machines at airports
$490,000 per month

data rental from mobile carriers
$100,000 per month

Our operating costs are...

10 employees
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rental space for 70
vending machines at airports
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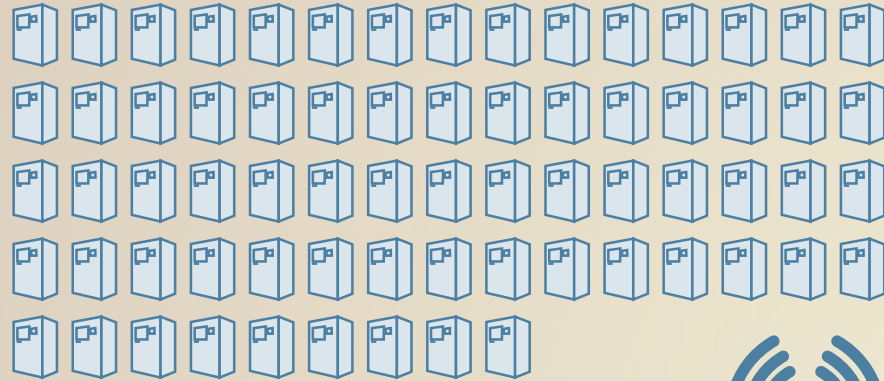
data rental from mobile carriers
$100,000 per month

maintenance of 3G routers
$3,000 per month

Our operating costs are...

10 employees
$125,000 per month

rental space for 70
vending machines at airports
$490,000 per month

data rental from mobile carriers
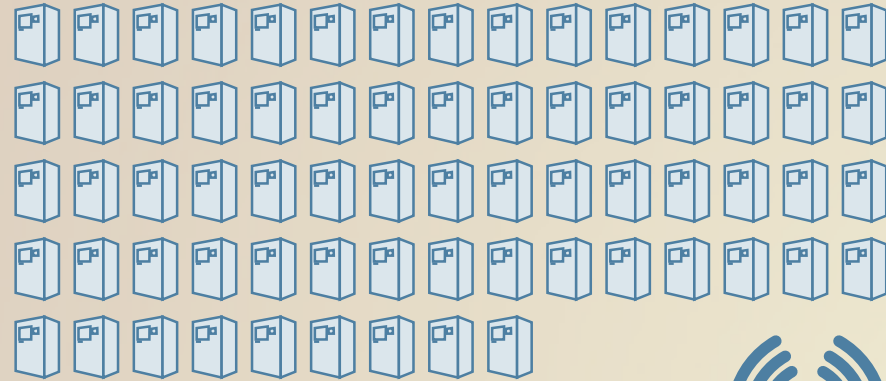**$100,000 per month**

maintenance of website
$600 per month

maintenance of 3G routers
$3,000 per month

Our operating costs are...

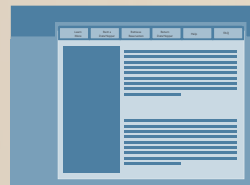10 employees
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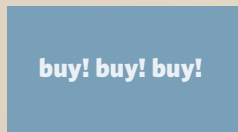data rental from mobile carriers
$100,000 per month

maintenance of website
$600 per month

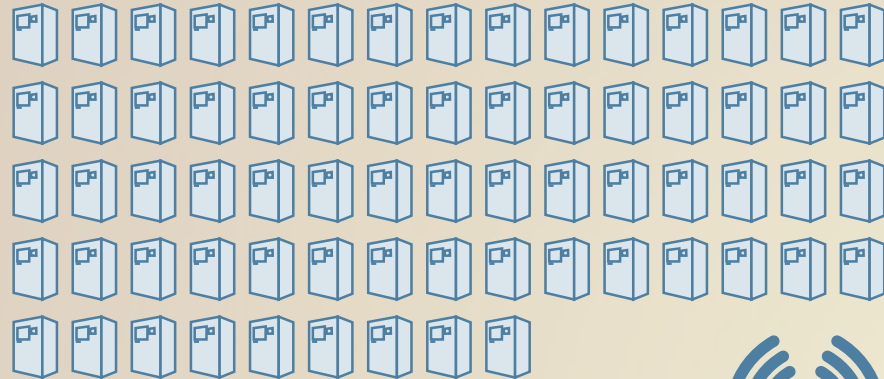maintenance of 3G routers
$3,000 per month

buy! buy! buy!

advertising (online & in airports)
$20,000 per month

$ 735,000 per month

Our operating costs are... **$8,800,000 per year**

10 employees
$125,000 per month

rental space for 70
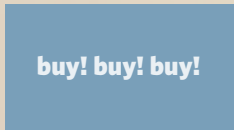vending machines at airports
$490,000 per month

data rental from mobile carriers
$100,000 per month

maintenance of website
$600 per month

maintenance of 3G routers
$3,000 per month

buy! buy! buy!

advertising (online & in airports)
$20,000 per month

	$.8
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil

Business Summary

Yearly Income
$20.4 mil

minus

Yearly Operating Costs
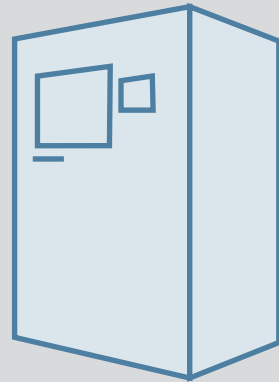**$8.8 mil**

yields

Yearly Profit
$11.6 mil

	$.4
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil

	$.8
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil

$1 mil	$.6
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil
$1 mil	$1 mil

Our yearly profit will be **$11,600,000**

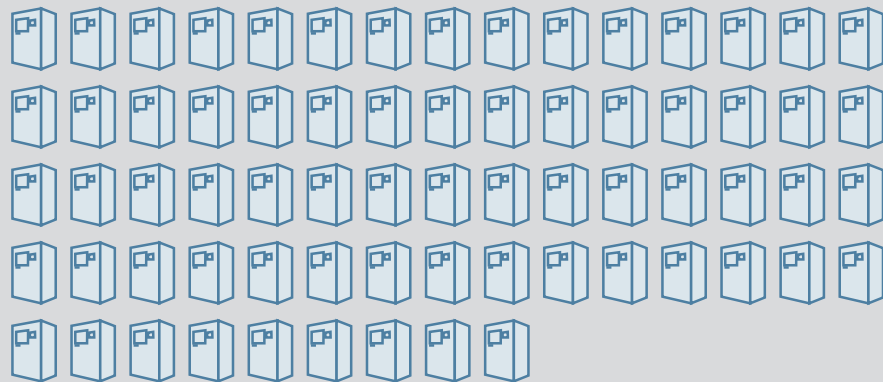To get from where we are to fully operational, our **startup costs** will be... **$3,100,000**

vending machine design
$1,000,000

purchasing of 16,000 4G routers
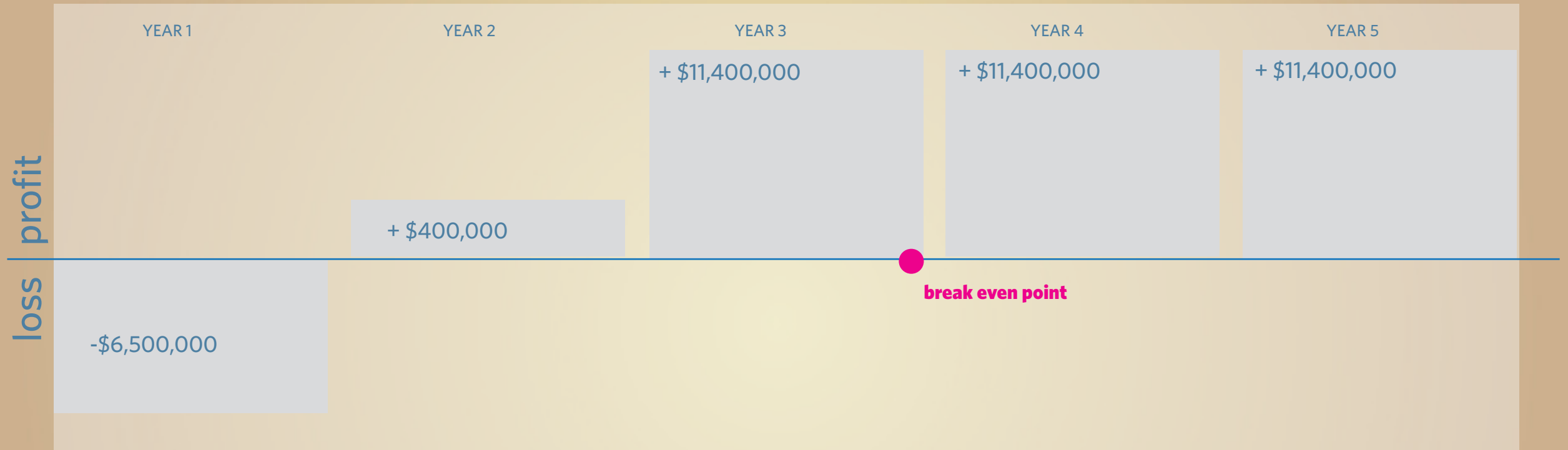**$1,900,000**

buy! buy! buy!

marketing
$25,000

production of 70 vending machines
$210,000

Based upon start-up and operations costs we expect to break even at 3 years.

After 5 years, we expect to have made $28,300,000 in profit.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
profit			+ $11,400,000	+ $11,400,000	+ $11,400,000
		+ $400,000			
loss	-$6,500,000				

break even point

Why DataHopper will succeed

1 Established business model.

2 Product is more easily accessible to customers than the competition's.

3 Strong need proven through research.

4 The technology is newly available.

Thank you!