# Texxi

**Search Application for Transit**
**Improving the productivity of taxi transport systems**

# Texxi defined

## Texxi =

Transit Exchange + Linear Optimisation + Social Networking + Reputation Mask/Credit System + Credit Contagion Mapping + Automatic Dependent Surveillance (Broadcast) + Predictive Placement

# What is Texxi

- Texxi is a system that groups people "on-the-fly" who have texted in to request a taxi to go somewhere.

- People who share similar destinations are sent details of a place to go and meet a shared taxi, where they will pay a lower fare if they consent to sharing with others going in their direction.

- This makes the whole taxi fleet far more efficient and far more green, while reducing congestion, waiting times and fuel use.

- **Texxi makes money in the same way as travel companies make money – it takes a cut of brokered trips.**

# An "operating system" for Transit / Transport

- Texxi is a transport operating system which is designed to increase the productivity of any vehicle transport system (taxis, buses, ferries, planes, emergency and military assets ) all while reducing energy usage.

- It is macroeconomic in scope if adopted on a large enough scale, since it will effectively remove the gap in mobility radius (and hence economic productivity) between between owners of cars and users of public transport.

- People will thus be able to take jobs, which were previously unobtainable if they have the transport options available.

# How it was invented

- **The Texxi system evolved from a series of research projects over a 12 year period.**

  1) The first project was an electricity supply project where demand for electrical power is managed using a database of meteorological conditions to increase the throughput of the electricity transmission system.  Thus we used ambient conditions to plan for how to route power.

  2) The second project was a trip to examine the "Role of Computers in Transportation Technology" in the United States, where I visited CALTRANS, two NASA bases and ACM SIGGRAPH 95 in Los Angeles. This was funded by the Royal Academy of Engineering and the Royal Aeronautical Society.

# How it was invented

- 3) A project undertaken at Ecole Centrale De Lyon in 1996-1997 was a groupware database system to enable campus ridesharing for students.

  4) A project undertaken for a US based Hedge fund specialising in capital structure arbitrage.

- **Texxi is a Demand Responsive Transit (DRT) Exchange.**

- It resembles an agricultural commodity exchange but for taxi drivers.

- We consider taxi drivers to be like smallholders who have produce to sell.

- We wanted to create a mechanism to link buyers and sellers transparently and with ratings.

- SMS and computers allow this. Their costs dropped low enough in 2004 – 2005 to make this viable.

# How it was invented

- **In summary**

- **1992 - 1993 :     National Grid Technology and Science Laboratories, Overhead Lines Division, Plant Technology.**

- **1995 :                Sponsored summer project ("The Role of Computers in Transportation Technology") - Royal Academy of Engineering / Royal Aeronautical Society.**

- **1997 :                Ecole Centrale De Lyon project on RideSharing using groupware technologies, Professeur Christian Vial, oversaw. We dubbed it Project Lugh, after the Celtic deity for whom Lyon is named.**

- **1998 - 2003 :     Various exposures to financial systems front-office, back-office and middle office computer systems at investment banks and multinational firms**

- **2003 - 2004 :     Project at Xaraf LLC / Paloma Partners (was the basis of my H1-B job offer). Credit Default Swap / Convertible Bond trading and Capital Structure Arbitrage trading strategies. It is here I came up with my credit contagion ideas which turned out to be so prescient.**

- **2004 - Present : Texxi**

# Deployments & results to date

- **Where has it been deployed**
  Liverpool, UK
  March 2006 - September 2006 (135)

- Ryde, Isle of Wight, UK
  July 2008 - Dec 2008 (700)

- Bournemouth, UK
  Nov 2008 - Dec 2008 (20)

# What were the key issues in deployment?

- Liverpool 2006 - Banners, Billboards, Flyers, Radio, "Buzz"

- Moving target

- Invalid assumptions

- Wrong marketing strategy in Liverpool for the target customer

- Low Signal to Noise ratio

- **This proved to be a disastrous strategy.**

# Key Issues

- Isle of Wight; July 2008 - December 2008.

- This time we invested in a large set of promotion teams. We produced higher quality handout collateral and we restricted its distribution to people who had become customers, i.e. actually followed the sign-up process and travelled. We incentivised the "Street Teams" to land more customers. We ran some local PR in the newspapers and on the radio.

  We moved 5 times as many people (700) for 1/10th the cost as in Liverpool in an area whose "potential" was far less. We never used billboards or flyers. We got one mention on the radio. In Liverpool we ran on Friday and Saturday nights. In Ryde, only on Friday.

# Lessons Learned 1

- Take time to develop cordial relations with taxi firms.

- Learn the local history and politics of an area.

- Do not rush this: This is a crucial rate determining step which does not respect Gantt charts or business plans.

- The respect of the local taxi firms is paramount. It must also be mutual.

- Taxi firms know their business in their area better than anyone.

- Find the biggest, toughest taxi firm. This will afford necessary protection from the inevitable threats of (and actual) violence.

- Have other access to cash and use pay-as-you-go credit cards.

# Lessons Learned 2

- Ignore conventional marketing approaches

- Expect to spend up to 18 "impacts" with customers before the new behaviour is set.

- "Demand" for shared trips will increase as knowledge spreads that such a service exists and (most importantly) can be relied upon. This means that the **behaviours** of customers completely changes within a very short timescale.

- We caused a depression in normal taxi trip prices in Ryde within 3 - 6 weeks, so much so that we had threats of violence from other firms within the 6 month deployment. This makes historical data of limited use in predicting what will happen once uptake happens.

# Future Plans

- We will roll-out Texxi systems across the UK, Canada, Australia, USA, France and Singapore.

- We have spent the last 14 months upgrading all of our transit operating systems and acquiring new road system data.

- The road system data allows us to see how many miles each passenger has travelled and calculate fuel / carbon savings.

- Once we have a certain critical mass of travel requests in the system, we can leave the system on fully automatic.

- In Ryde, it took 10 weeks to get to a situation where we felt the system could auto-manage.

- Most taxi dispatch systems (Auriga, Mercury) have a "launch-and-learn" warm-up period.

# Taxi booking
## 德士预约

Taxi

| Company | Phone Booking Hotline 预约电话热线 |
|---|---|
| CityCab 城市德士 | 6552 2222 |
| Yellow Top Taxi | 6293 5545 |
| TRANS 德达德士 | 6555 3333 |
| SMRT | 6555 8888 |
| CAB 康福德士 | 6552 1111 |
| SMART Cab 市区德士 | 6485 7777 |
| Comfort 康福德士 | 6552 1111 |
| Silvercab | 6363 6888 |

**How to book a Taxi**
1. Call the hotline
2. Inform operator you are at:
3. Note Taxi number given by operator
4. When Taxi arrives, confirm it's Taxi and its booking and destination. A call booking surcharge is applicable.

如何预约德士

# Example TouchScreen Application

- **Enable intuitive, language-barrier free real-time transit fulfillment. Select a destination and go.**

No language barrier, no negotiation

| Select Destination | → | Touch Screen | → | Mobile phone |

CLICK!

Store the itinerary

Kyoto!
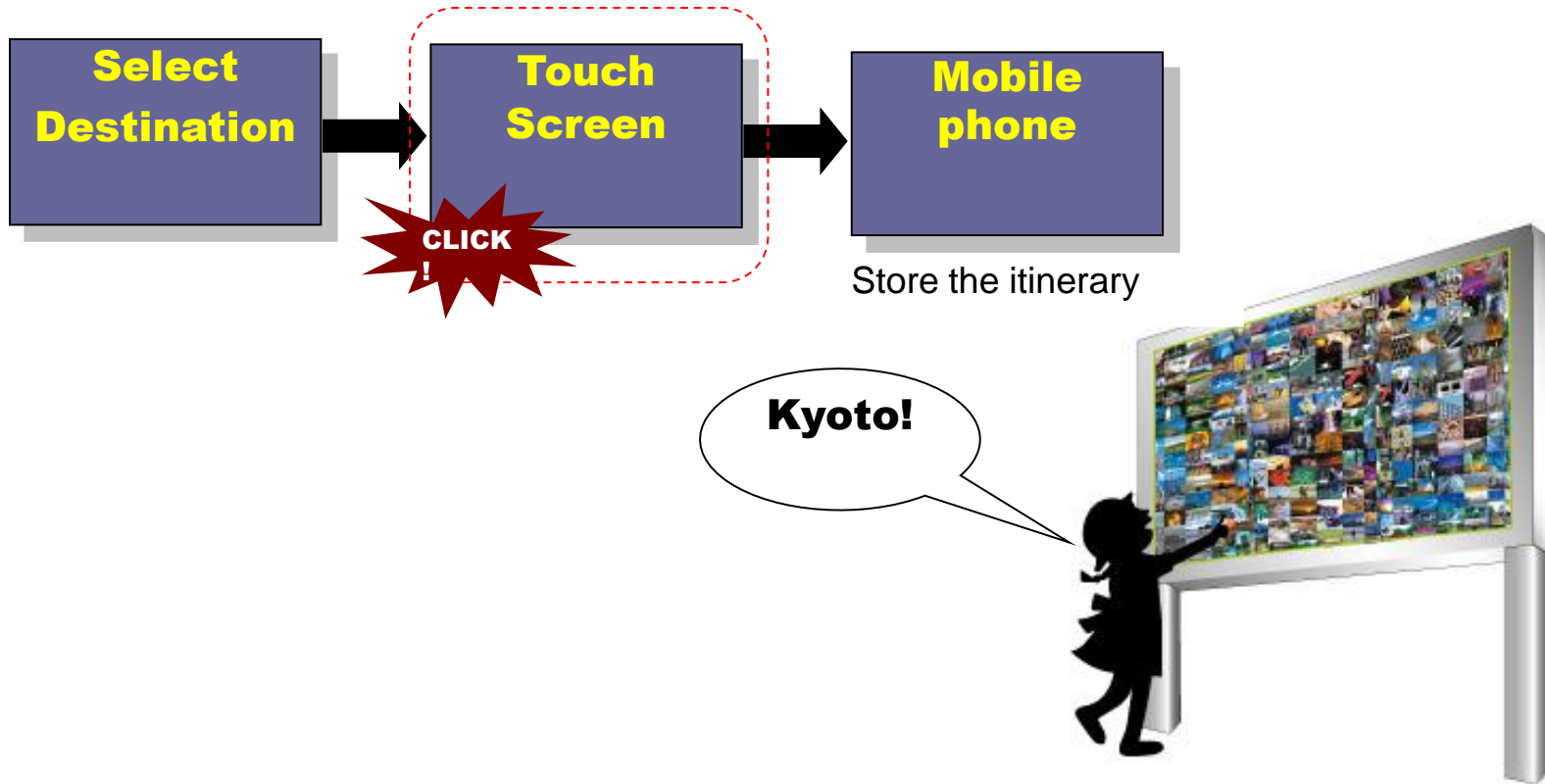
# What does the system cost?

- For each deployment we will require the taxi firm involved to sign a contract with strict terms and agree to operate under our franchise rules for a minimum of 15 months.

- Ultimately, we have to protect the perception of the brand and we have to be somewhat draconian in how we operate and with whom.

- A minimum of £20,000 cash non-refundable deposit is required for a very small town/village. This is to ensure the taxi firm / speculator remains committed to making the system work.

- A small city (e.g. Bournemouth, Dorset, UK) would require around £250,000 contribution.

- We would share the Texxi "cut" (12.5% to Texxi , 12.5% to the Liquidity Supplier) with the entity that stumps up the cash. The cash would be at risk and the supplier would sign a contract to signify that it understood the risk.

# Pump Priming

- The marketing for a Texxi scheme is not similar to marketing for any other type of taxi service. It is hard to convince advertisers of this. Billboards and flyers are almost entirely pointless in the initial phases.

- Rural areas are better targets of opportunity than cities. Residents there have fewer options and are likely to welcome any new initiatives. The power of the bus companies is less there also.

- Population alone is no sure guide to the "fecundity" of a target territory – microstructural interdependencies are as important.

- It is important to give taxi firms confidence that the exchange operators are prepared to go the whole 15 months. "Liquidity" has to be supplied by some party, either Texxi or a "speculator".