Scenarios

• Airport
  – Getting from one flight to the next
    • Walking to Customs: ~20-30 minutes
      (Incheon, HK, London, Chicago, Tokyo, Toronto)
  – Getting from the gate to the sidewalk

• College Campus
  – Getting from the T to your dorm
    • Walking: ~30 minutes

Proposed Solution

An electric scooter with a suitcase attached to it
Sketch Model

- Weight
- Steering
- Folding
# Results – Weight

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Scooter</td>
<td>10lbs</td>
</tr>
<tr>
<td>Standard Suitcase</td>
<td>10lbs</td>
</tr>
<tr>
<td>Motor (100W – 200W)</td>
<td>• Add. 3-6lbs</td>
</tr>
<tr>
<td></td>
<td>(for Li-ion battery &amp; motor)</td>
</tr>
<tr>
<td>Battery (1/2 hr – 1hr range)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23-26lbs</td>
</tr>
</tbody>
</table>
Results – Steering

• Empty
  – Smooth

• With 18lb weight
  – Gain momentum
  – Similar to riding a bike with groceries on the handlebars
Results – Foldability

- Feasible
- Raises issues about placement of components
## Benchmarking – Existing Product Concepts

<table>
<thead>
<tr>
<th></th>
<th>Samsonite Suitcase</th>
<th>Yanko Design: Titan High-Roller Suitcase</th>
<th>Micro Samsonite Suitcase Scooter</th>
<th>Us</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong></td>
<td>$110</td>
<td>N/A (concept)</td>
<td>~$400</td>
<td></td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td>No scooter</td>
<td>Kick scooter</td>
<td>Kick scooter</td>
<td>Electric scooter</td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td>20.5 x 14 x 8 inches</td>
<td>Unknown</td>
<td>1 cubic foot</td>
<td>TBD...</td>
</tr>
</tbody>
</table>

Note: Carry-on size: 22 x 14 x 9 inches
Current Market – Luggage

- Primary use
  - In airports
    - Connecting between flights
    - Getting to baggage claim

- $711 million spent on luggage US in 2011

Data from IBIS World Handbag, Luggage and Accessory Stores Report (2011)
Conclusion

• Weight
  – A challenge

• Steering
  – Possible, needs work

• Foldability
  – Feasible
Current Market – Motorized Scooters

- $104.8 million
- Avg price: $210

**Typical User**
- Age group: 35-44 (16.2% of US Population)
- Male
- West Coast
- Household income: $100,000+

Data from National Sporting Goods Association (2006)