

26/June/2013

# Class 4 – Real-Win-Worth it Analysis

*Summer 2013*

Accelerating Information Technology Innovation





# A few class reminders:

## 1 How did last nights homework go?

By today 5pm you will be expected to have submitted 2 ideas to Darwinator.

Prize for most submissions

Please see Phillip or Myself if you are having any troubles uploading your opportunities to Darwinator

Please try and be here on time



# Homework for tonight

- The Darwinator system will allow us to rate the opportunities submitted by the class.
- Return to our Darwinator tournament and rate at least 30 opportunities.
- This will ensure that every opportunity receives at least 15 ratings. Plan to spend a couple of hours completing this assignment, perhaps in two sittings. You may continue to rate as many opportunities as you like.
- After compiling the results, we will announce the top 8 opportunities based on your ratings, and we will assign small groups to explore these opportunities tomorrow.



18. Click on this tab for evaluations.



MyDarwin    Intro    Submit    Discuss    Evaluate    Report

Tournament: | AITI/ASHESI GHANA 2013 - OPPORTUNITY TOURNAMENT 2013



# ASHESI GHANA 2013 Tournament

### Tournament Summary

Submit and evaluate new product opportunities. Top ideas will be explored in class.

### Tournament Description

Submit two project opportunities for new products -- consisting of a brief, descriptive project title (2-4 words) and a short description of the market opportunity by 11pm on Wednesday evening 6-Feb. Your description should include the following: description of the market need, shortcomings of existing competitive products, and definition of the target market and perhaps its size. Starting on Thursday, you should then review and rate a minimum of 50 of the project opportunities posted, by 11pm on Friday evening 8-Feb. Top opportunities will be explored by small groups the following week before the most promising ones are selected for PDD project teams to develop.

### Participation Parameters

#### Current Status

Submitting

#### Submissions:

- min 0, max 2

#### Discussion:

- View discussions one-by-one

#### Evaluation:

- min 50, max unlimited
- View evaluations one-by-one



MyDarwin Intro Submit Discuss Evaluate Report

Tournament: AITI/ASHESI GHANA 2013 - OPPORTUNITY TOURNAMENT 2013

### Submissions To Evaluate

Home water monitoring [Evaluate](#)



19. Click here to get started.

### Your existing evaluations

You have no existing evaluations for this tournament.



# Home water monitoring

While many companies are rushing to develop devices to monitor home energy consumption, there is still not a convenient way for people to monitor and understand the amount of water they use. It is estimated that most people use between 80 and 100 gallons of water per day, with much of that wasted during tooth brushing and showering. Currently, the only way to know your water consumption is to use your main house water meter, which shows only aggregate usage (and is often located in an inconvenient location) and provides no information to people in apartment complexes with shared water mains. The target market for a home water monitor that is similar to home energy monitor would be all U.S. households with an income of over \$75,000 (about 30,000,000 households).

Date submitted: 2013-01-29 13:45:07

Water Meter



Water Tracking Integration



20. Evaluate Idea

How would you rate this proposal?

terrible idea
  1
  2
  3
  4
  5
  6
  7
  8
  9
  great idea

Add extra comments here

Save this evaluation

21. Save your evaluation.



MyDarwin   Intro   Submit   Discuss   Evaluate   Report


Tournament: AITI/ASHESI GHANA 2013 - OPPORTUNITY TOURNAMENT 2013

## Bike Cover

Lots of cyclists have to lock their bike outdoors. Bikes get wet and messy in the rain, snow, dust and grit. Let's design a cover that keeps our bicycles clean and easier to maintain.

Date submitted: 2013-01-28 11:32:49

This one looks pretty flimsy. There are many others too.



How would you rate this proposal?

\*  
 terrible idea    1    2    3    4    5    6    7    8    9    great idea

Add extra comments here

22. You may interrupt your evaluation of projects by clicking on any of these tabs.



23.. Your Progress will be tracked by Darwinator.  
You have until Thursday 11am to complete 30 evaluations

MyDarwin    Intro    Submit    Discuss    Evaluate    Report

Tournament: AITI/ASHESI GHANA 2013 - OPPORTUNITY TOURNAMENT 2013

### Submissions To Evaluate

Window AC Improvement [Evaluate](#)

### Your existing evaluations

You were asked: *How would you rate this proposal?*

Submission	Evaluated	Rating	
Virtual Baby&Kid Sitter	2013-01-29 22:03:16	9	<a href="#">Delete this evaluation</a>
Electric Distribution Unmanned Aerial Verification System	2013-01-29 22:03:50	8	<a href="#">Delete this evaluation</a>
Home water monitoring	2013-01-29 22:04:15	10	<a href="#">Delete this evaluation</a>
Kitchen Cleaner	2013-01-29 22:04:27	10	<a href="#">Delete this evaluation</a>





# Today's Agenda

- **Case-Study: Runkeeper**
- **Ideas competition**
- **Real-Win-Worth It Analysis**
  
- **Next Week Preview**

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Case Study 1



# RunKeeper

The Personal Trainer In Your Pocket



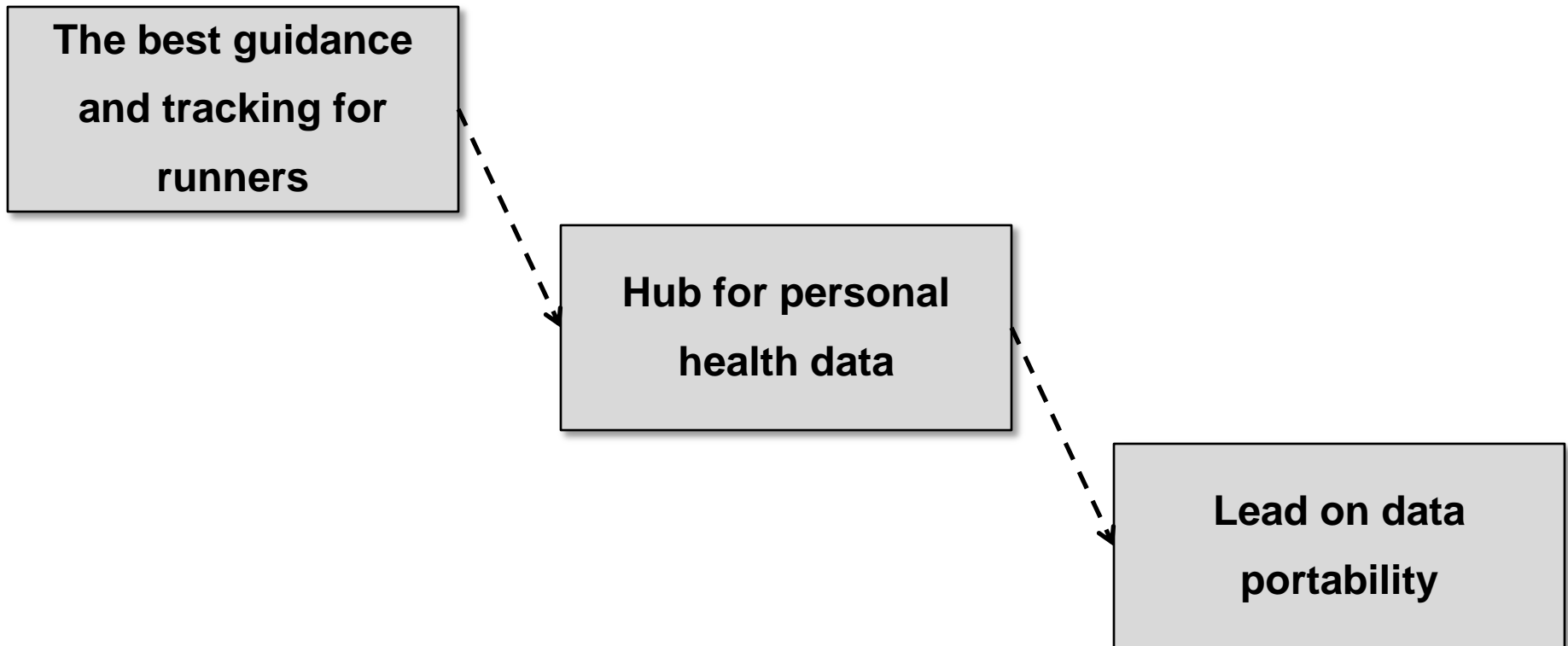
# About Runkeeper

- Founded by Jason Jacobs (CEO) in 2008
- One of the first 200 apps for the iPhone
- Category leader with 14m+ registered users on web, iOS, Android
- Raised a total of \$11.5m from Spark Capital,
- Revolution, OATV, other angel investors
- 38 employees



# Run Keeper Vision

Give everyone access to ongoing, personalized health and fitness guidance





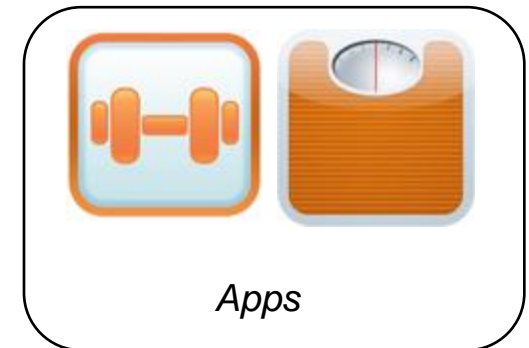
# Runkeeper – Key Functions

- Track your running, walking, and other activities using GPS on a smartphone for free
- Measure your progress over time in app and at [runkeeper.com](https://runkeeper.com)
- Improve your fitness with our training, guidance, and coaching
- Share, compete, and work together with friends and community

# An App and a Platform Ecosystem



*Devices*



*Apps*





# Strategic Questions

- How much should RK focus on revenue versus growth and engagement in 2013?
- Should RK focus on category leadership in running, or begin to move into broader health categories?
- If we broaden our focus beyond running, should it be via other consumer-facing apps in adjacent categories or focus on platform?

# Growing but Fragmented Market

- Nike+
- FitBit
- Jawbone
- BodyMedia
- Withings
- Wahoo
- etc etc etc etc

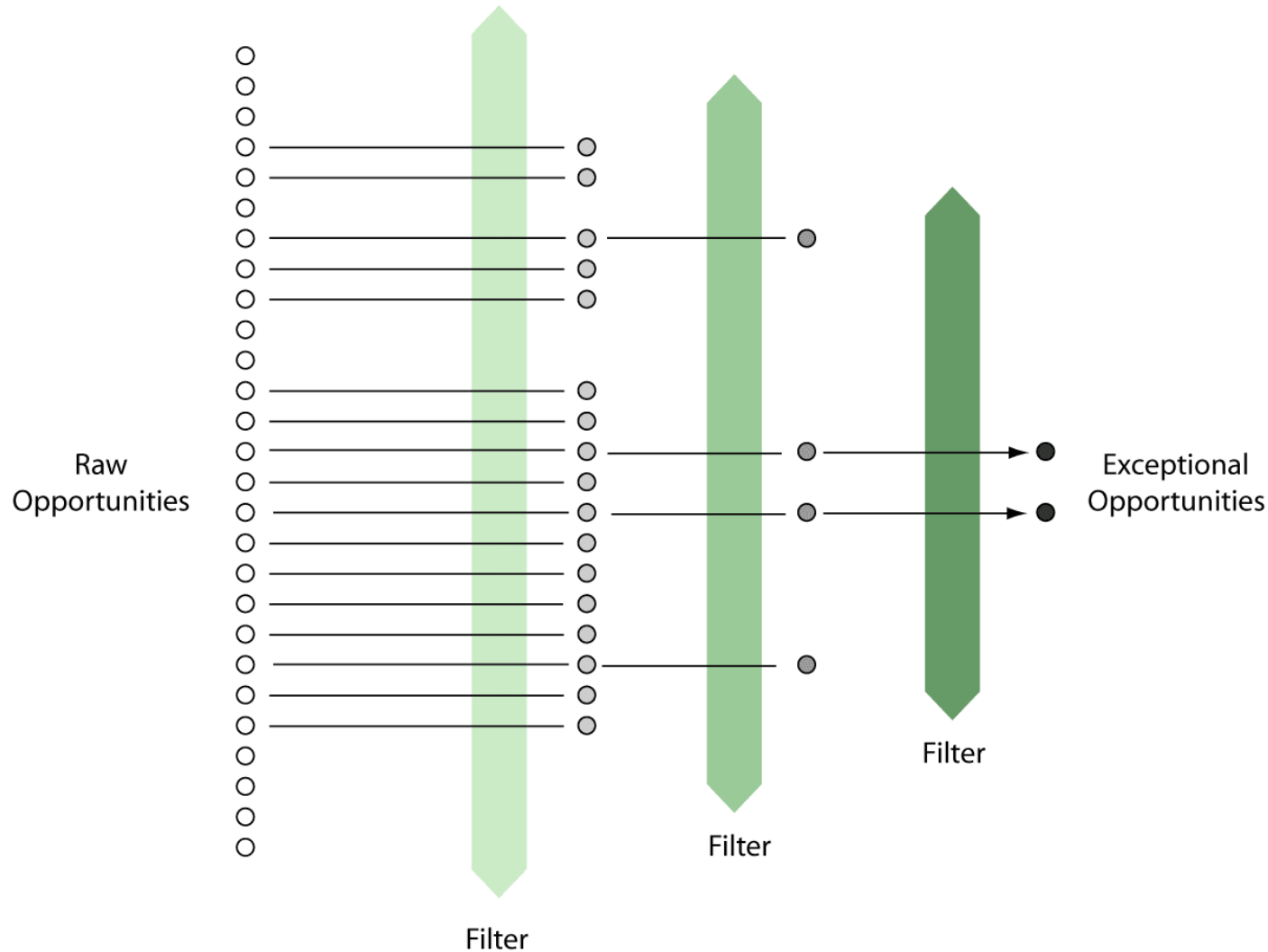




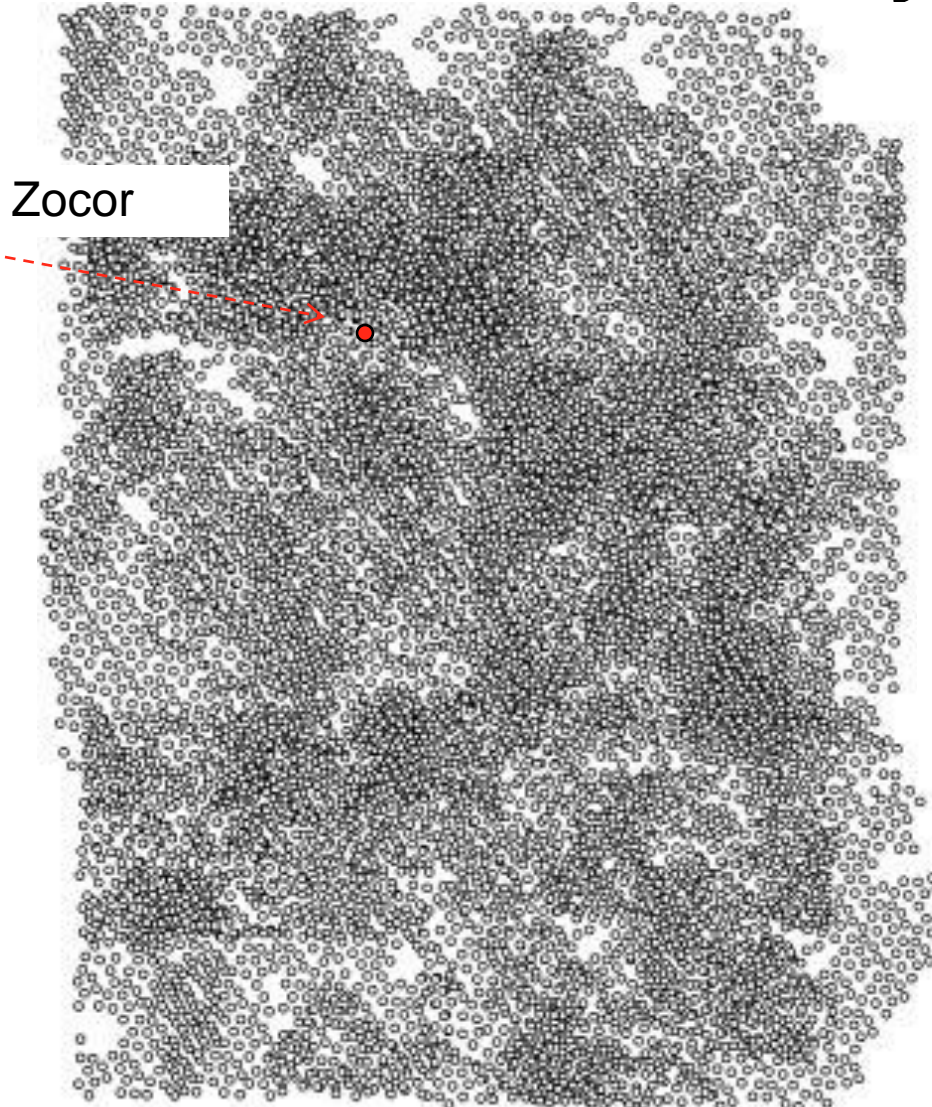
# Today's Agenda

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# Opportunity Tournament and Filtering Model



# Pharmaceutical Industry uses this models



10,000 newly discovered compounds

## Pharmaceutical Drug Development



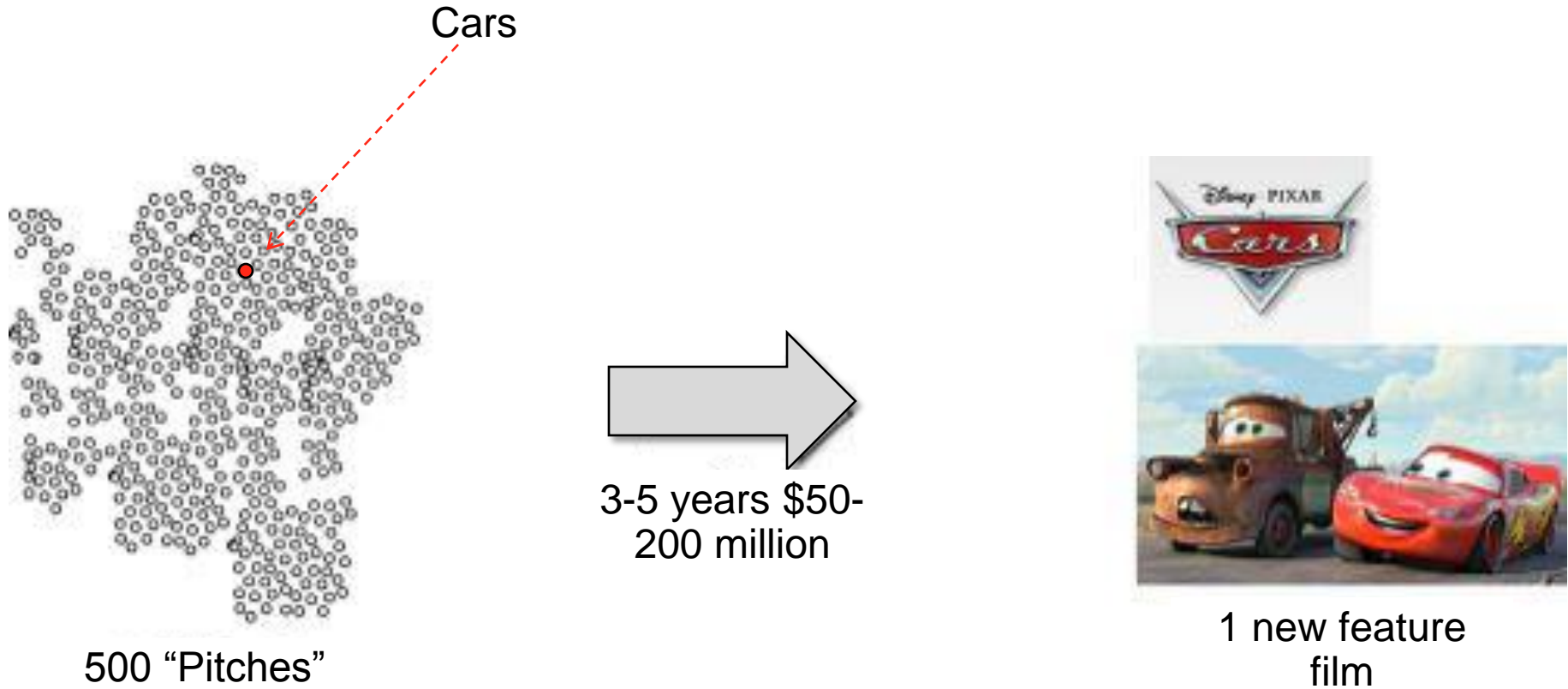
8-12 years  
\$500 - \$1 billion



1 new drug



# Hollywood Film Studios





# American Idol




Don't Miss The Results Tonight 8/7c!

HOME | CONTESTANTS | PHOTOS | VIDEOS | MYIDOL | RESULTS | DOWNLOADS | BEHIND THE SCENES | MOBILE | STYLE

600 SKEPTICS TOOK THE FUSION CHALLENGE. SEE HOW ONE DRIVE WON THEM OVER.

**Top 24 Contestants**

<p>Alaina Alexander</p>  <p>Age: 24 West Hollywood, CA Voted Off Mar. 1st</p>	<p>Amy Krebs</p>  <p>Age: 32 Federal Way, WA Voted Off Feb. 27th</p>	<p>AJ Tabardo</p>  <p>Age: 22 Santa Maria, CA Voted Off Mar. 1st</p>	<p>Blake Lewis</p>  <p>Age: 28 Bulmer, WA</p>
<p>Antonella Barba</p>  <p>Age: 28 Ford Pleasant, NJ</p>	<p>Gina Glocksen</p>  <p>Age: 22 Naperville, IL</p>	<p>Brandon Rogers</p>  <p>Age: 28 North Hollywood, CA</p>	<p>Chris Richardson</p>  <p>Age: 32 Chesapeake, VA</p>
<p>Haley Scarnato</p>  <p>Age: 24 San Antonio, TX</p>	<p>Jordin Sparks</p>  <p>Age: 17 Glendale, AZ</p>	<p>Chris Sligh</p>  <p>Age: 28 Opaeville, SC</p>	<p>Jared Cotter</p>  <p>Age: 25 Kew Gardens, NY</p>

600 SKEPTICS TOOK THE FUSION CHALLENGE. SEE HOW ONE DRIVE WON THEM OVER.

Click for audio

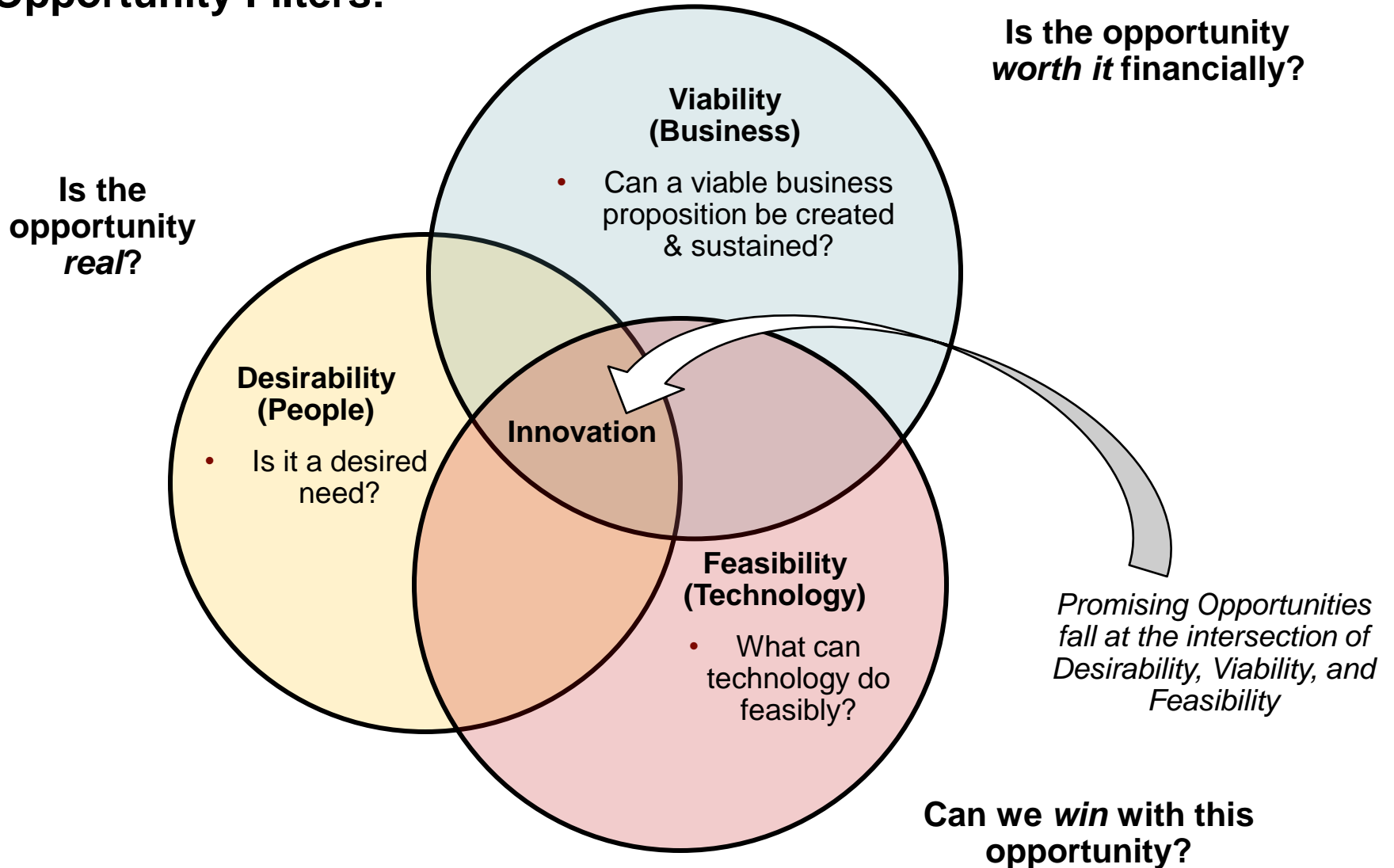




# Today's Agenda

- **Case-Study: Runkeeper**
- **Ideas competition**
- **Real-Win-Worth It Analysis**
- **Next Week Preview**

# Design Thinking Opportunity Filters:



# Real-Win-Worth It

## ■ Is the opportunity real?

- Is there a real market that we can serve with the product?
- Consider the market size, potential pricing, and availability of technology.

## ■ Can we win with this opportunity?

- Can we deliver the product in the required volume at the required cost?
- Can we establish a sustainable competitive advantage?
- Can we patent or brand the idea?

## ■ Are we more capable of executing it than competitors?

- Is the opportunity worth it financially?
- Do we have access to the necessary resources (financial, developmental, supply chain)?
- Will the investment be rewarded with appropriate returns?

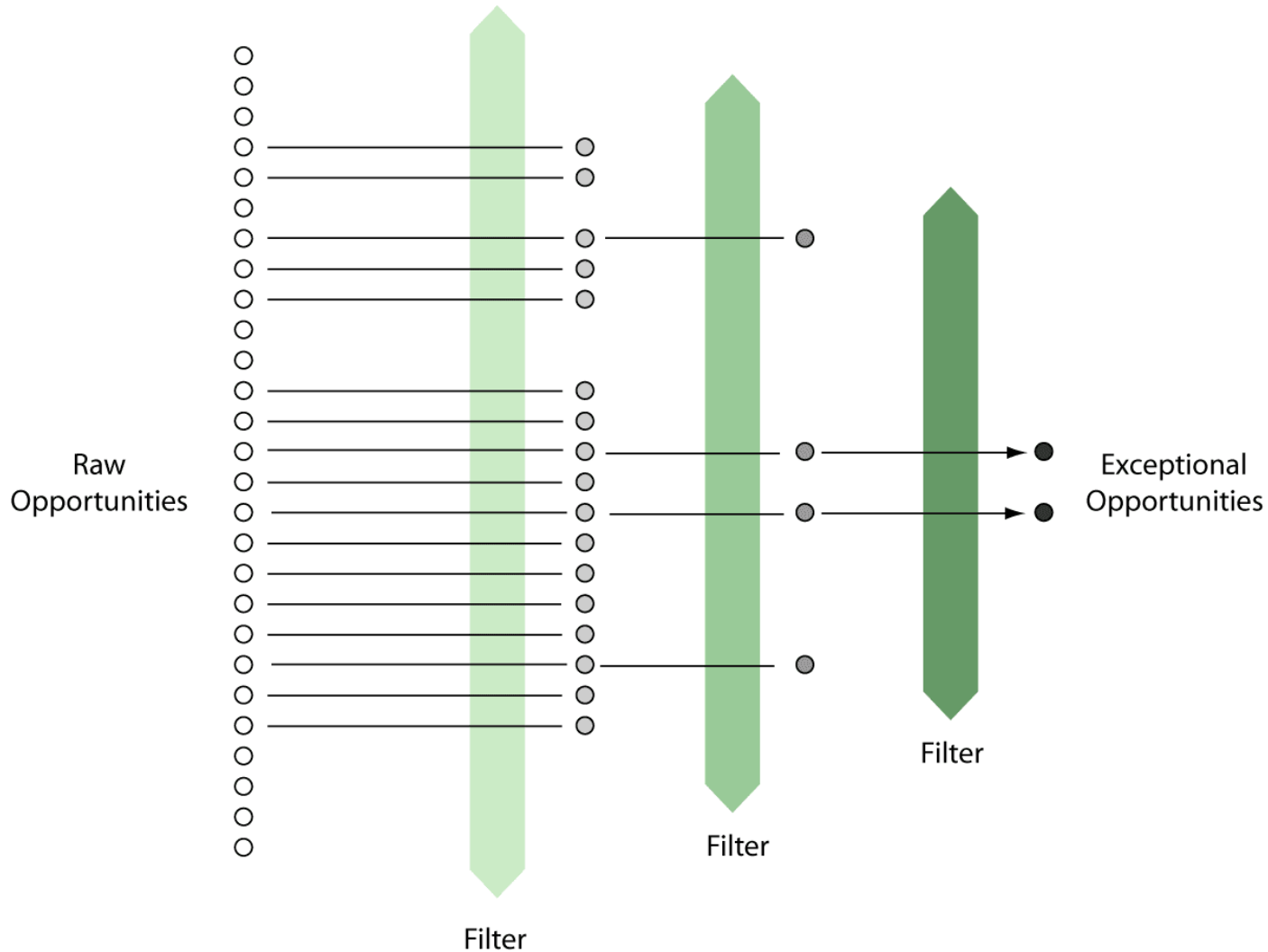
### *References*

Day, George S., “Is it Real? Can We Win? Is it Worth Doing?: Managing Risk and Reward in an Innovation Portfolio”, *Harvard Business Review*, December 2007.

Ulrich and Eppinger, *Product Design and Development*, Chapter 3 – Opportunity Identification, 5th ed., McGraw-Hill, 2012.



# Opportunity Tournament and Filtering Model





# Some questions you may want to answer during your presentation

- What is the opportunity/problem?
- What is the potential solution?
- Who is the customer?
- How many customers in Ghana or target market? How big is the market?
- What competing solutions exist?
- How difficult/expensive will it be to build/develop the solution?



# Real-Win-Worth-It Examples

Note these are examples of how to do the analysis only  
– these examples are not web apps.

Your assignment will on the mobile apps opportunities  
you have developed

# Anti-Fog Goggles using active heating element

## Idea

- **Need:** Goggles fog due to temperature differences inside and outside the goggles
- **Solution:** incorporating an *electronic film, or embedding micro heating wires* to silently heat the lens reducing condensation from forming

## The Market



- Low-end with almost no anti-fog applications
- Price: \$10-\$50



- Goggles with advanced anti-fog applications
- Price: \$100 - \$200



- Expensive Goggles with imbedded electronics (GPS, video cam etc.)
- Price: \$200 - \$400

# Current Solutions Available

## Anti-Fog Goggle Solution/Spray



- Price: \$3 - \$14
- Drawbacks: Doesn't stay after cleaning, must carry around

## Turbo-fan Goggle



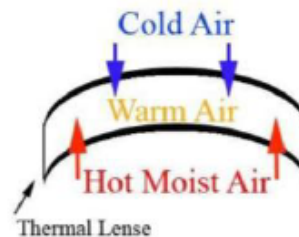
- Price: \$189.95 (incl. goggles)
- Feature: 50 hours/AAA battery
- Drawbacks: Noise, still need to recharge

## Built-in Ventilation/coating



- Price: \$10 (incl. goggles)
- Drawbacks: not effective in preventing fog

## Thermal lens



- Price: applied in high end goggles
- Drawbacks : not effective in preventing fog

# Real-Win-Worth-it

## Is it Real?

- Real demand for fogging solution
- High-end, high-tech goggle market is projected to grow, but there are uncertainties

## Can we Win?

- A lot of solutions out there
- No single solution is satisfactory
- Some considerations on technical feasibility (Effect of heat on eye comfort, Safety issues )

## Is it Worth It?

- Development cost will be not extremely high
- Profitable when applied to high end products

## Problem Definition and Assumptions

**Problem:** Printed expiration dates on packages is an inefficient solution to tracking food expiration across a multitude of products

- It is difficult to easily view product expiration dates
- Waste develops and sunk costs are incurred
- Consumers lack awareness of their perishable food inventory

**Market:** Focus targeted towards homeowners in the U.S. (75 million)

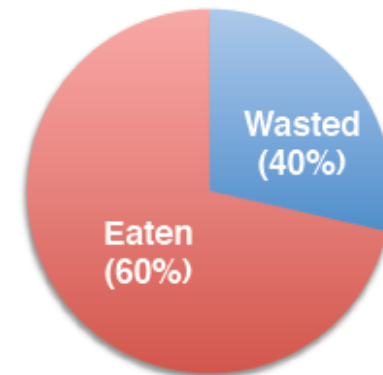
Food waste is a major issue in the U.S.

The average family **wastes \$2,275** in food annually

Food waste has **increased by 50%** since the 1970s

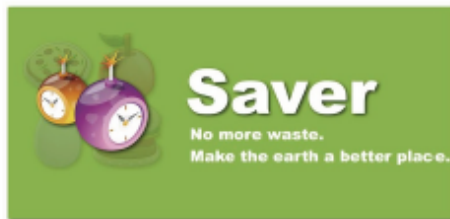
Each consumer **throws out 650 pounds of food** per year (160 days worth of food for an individual)

The U.S. wastes \$165 billion in uneaten food each year



## Apps: Online and Phone

- Phone reminder, web reminder, and printable shopping list for upcoming food expiration.
- No physical product, requires online communication and continuous update by the user.
- **Challenge: Time consuming for users to log info; requires internet access.**



## Smart Refrigerators

- Internal map of where food is located
- Can send a shopping list from refrigerator to cell phone
- **Challenges: Expensive; difficult to implement newer refrigerator**



## Physical Devices

- Indicator reminder showing expiration date
- **Challenges: Can only remind consumer of one product at a time; indicator can take up space within refrigerator**





**Feasibility:** Technology does exist as a foundation to meet market needs.

Improvements could include:

- Solution that is easy to manage and access (efficient use of consumer's time)
- Cost effective solution that is easy to implement
- A technology that can manage an unlimited quantity of food products

**Summary/Takeaways:** We believe that this is a challenge worth tackling, specifically for the following reasons:

- Large homeowner market provides potential
- Secondary markets are also very large: Restaurants, grocery stores, other food vendor.
- Market provides average and extreme customers
- Technology improvement opportunities
- Ability to cross over from food market to other markets such as pharmaceutical storage

30M cars on the road  
20% snowed on

# 6 million cars

Noob



**Traits:**

- unfamiliar
- impatient
- lack diligence

**Needs:**

- nondestructive
- few steps
- quick to use

Pro



**Traits:**

- experienced
- habitual
- unconcerned

**Needs:**

- durable
- ice breaking
- ski rack deicing

Senior



**Traits:**

- cautious
- informed
- lack strength/mobility

**Needs:**

- reusable
- assistive
- simple use

# Chemicals

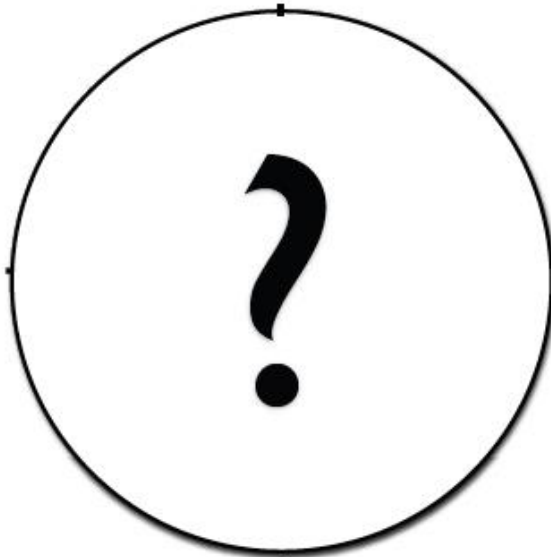


doesn't prevent ice  
toxic

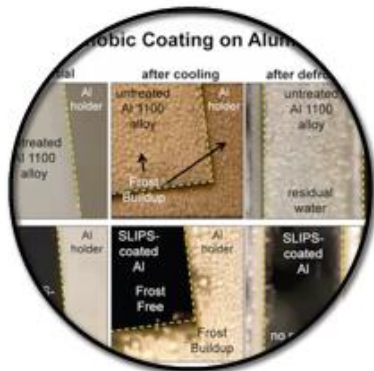
# Scraper



brittle/limited reach  
doesn't break ice



# Research



material specific  
time intensive development

# DIY



user solutions  
not productized

Example 3

6M cars affected  
\$5.99/seasons coating

**\$350 million**

**Real**



- needs identified in all users
- driving w/ iced car illegal
- opportunity exists

**Win**



- established market
- no obvious solution
- latent needs

**Worth-it**



- large potential revenue
- large affected population
- resources available at MIT

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# Preview Coming Next Week

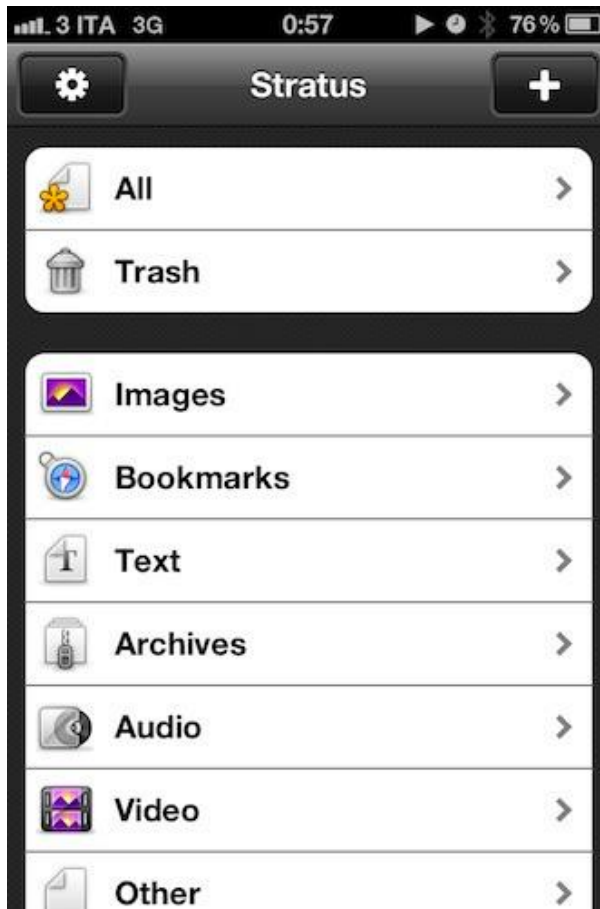




# Concept Model Design Review

- **Prepare a 5-minute presentation that includes your mission statement, critical customer needs, and the key innovation you expect to deliver new value to customers. Include a sketch of the selected concept or concepts.**
- **Show two or more near complete designs/models of the most promising product concept(s) and any key aspects of the concept that may be of concern. Models may be representational (looks like)**
- **Explain the key uncertainties you need to address to ensure a viable concept.**

# Mobile Design Patterns

**Lists**

**Forms**

**Table with Visual Indicators**
