

Preventing Underage Drinking and Driving

There's an app for that!



IPRO-351

Scope of the Problem



Nearly 30% of high school teens have engaged in binge drinking



43% of high school seniors have drunk alcohol in the last 30 days



60% of juniors and seniors admit to riding with an impaired teen driver

Communication Matters



“Parents Do Make a Difference. Research shows that parents are an important influence on whether or not teens choose to drink alcohol.”

-M.A.D.D.

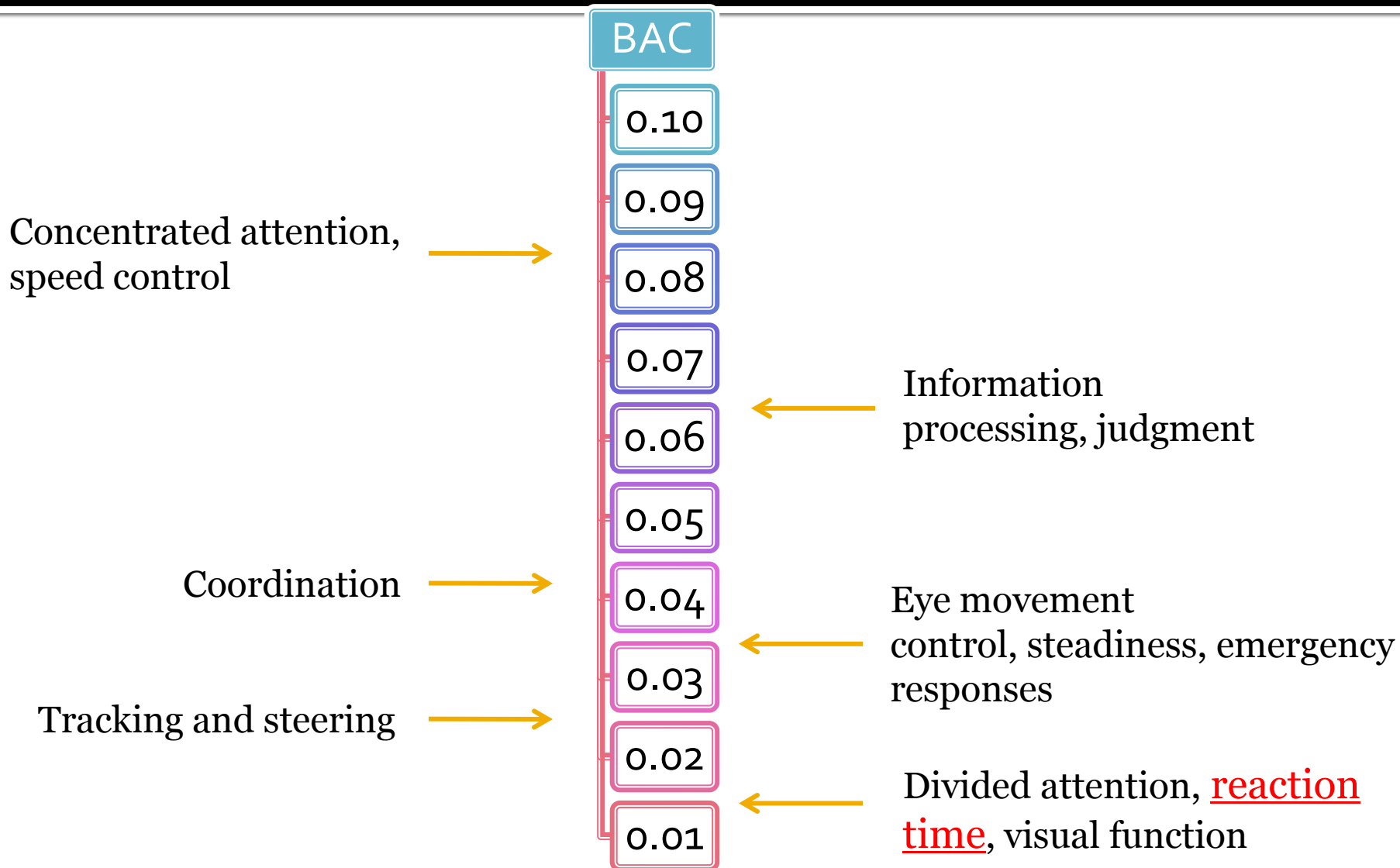
74% of kids (8 – 17) said their parents are the leading influence on their decisions about drinking

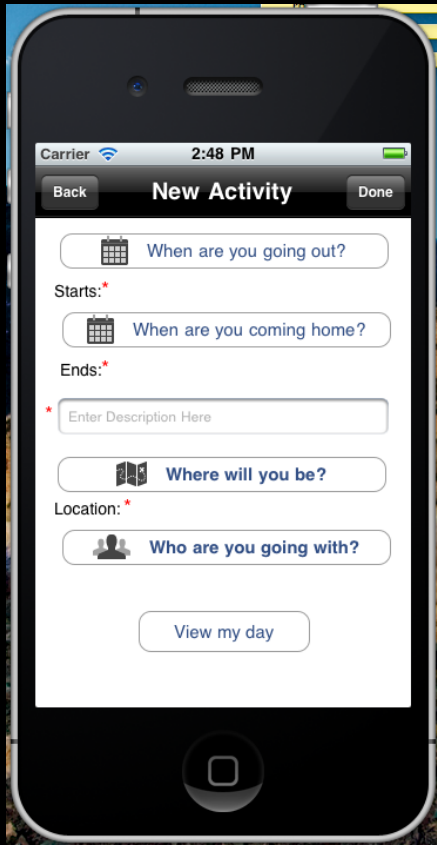
The Contract

- Parents let the kids have the car with the stipulation that...
 - They share their plans for the night
 - They do not drink
 - They will provide evidence that when they get behind the wheel, they can drive safely



Impairments and Blood Alcohol Content

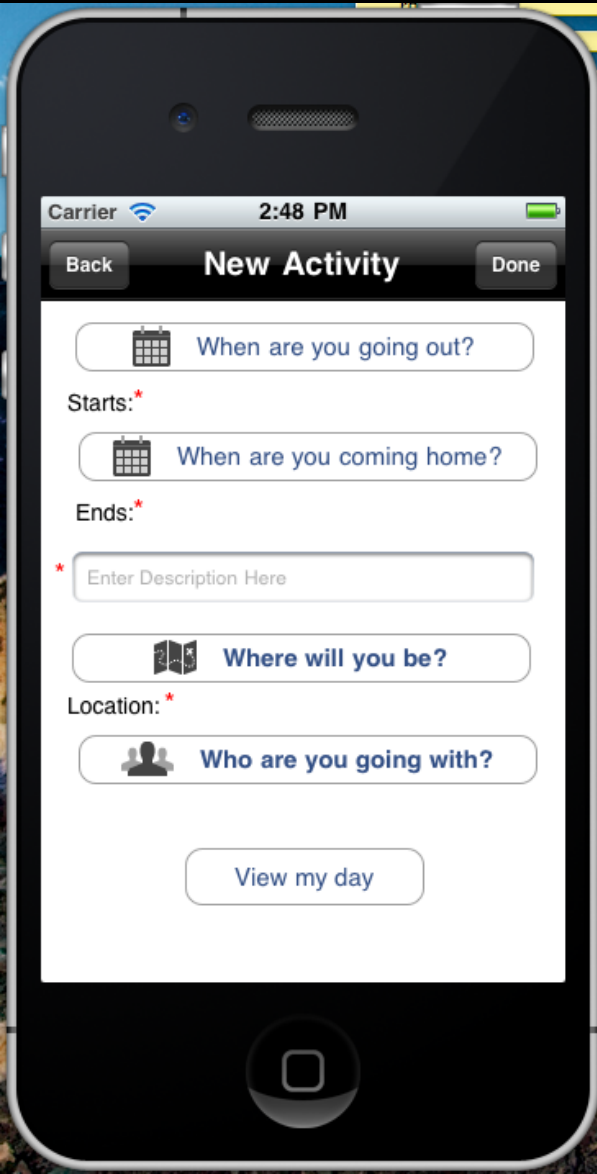




Our Solution



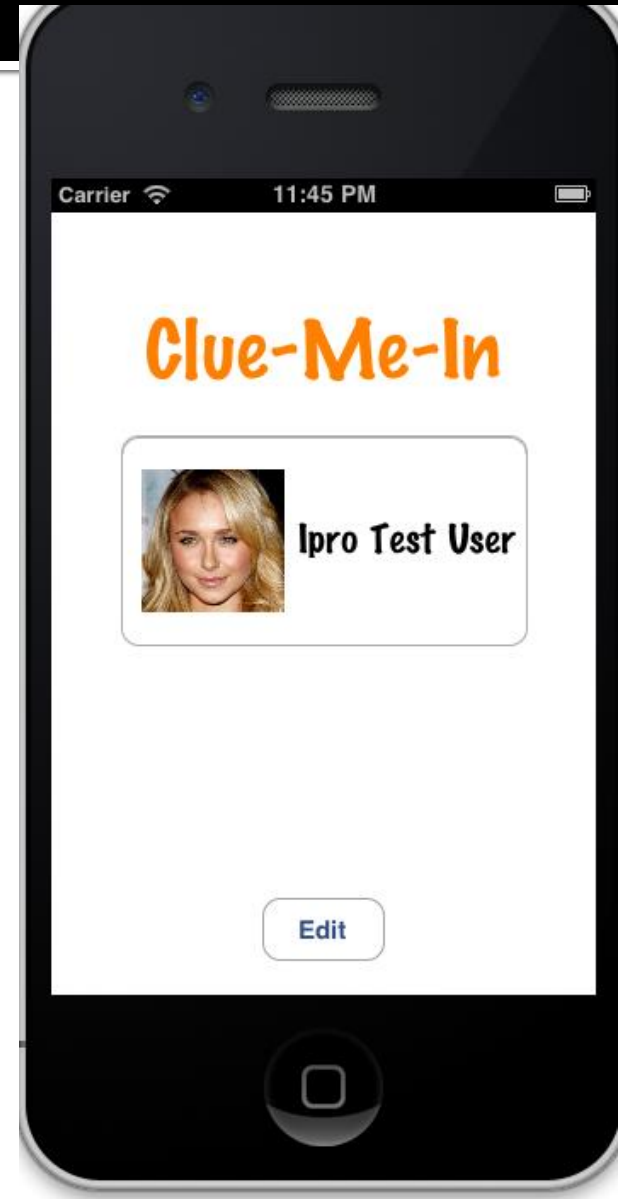
Key-Me-In



- The child enters their plans for the night...
 - The time they're going out
 - The time that they will return home
 - Name of the event
 - Location of event
 - The names of friends that they are going with


Clue-Me-In

- That information is transmitted to the parent's phone so they can...
 - Know where the child is
 - Who they are with
 - When they will be home
 - If they are safe to drive



Stoplight Game

iPod 8:48 PM




Tap and hold the green light to begin
Release when the sign turns yellow
Tap the red light to stop!

back ⓘ

Reaction times

↪ 0.790 seconds	☹️
↪ 0.614 seconds	😊
↪ 0.567 seconds	😊

Average: 0.657 ms

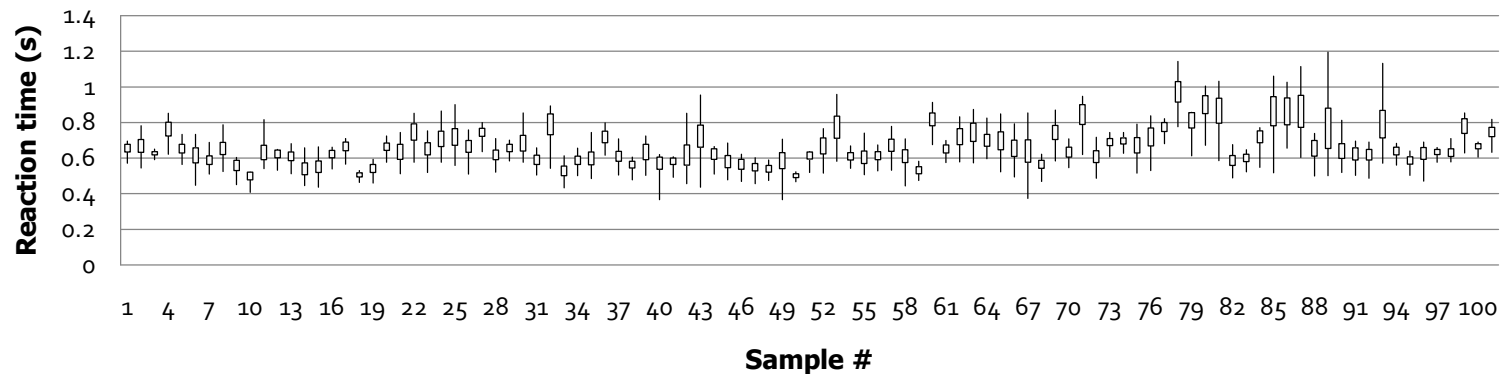


- Provides a way for parents to test the child for possible impairments before they get back in the car to return home
- A baseline score is established at time of purchase
- **Tests reaction time, the first skill to be altered when impaired**

Testing Methodology

- Tested 101 sober individuals to establish a baseline score that is representative of the population
 - Average reaction times
 - Average standard deviations

Stoplight Game Population Baseline



- Compared both the sober and impaired samples of 10 individuals against their own scores and then against the population baseline to determine statistical significance

Sober and Impaired Data

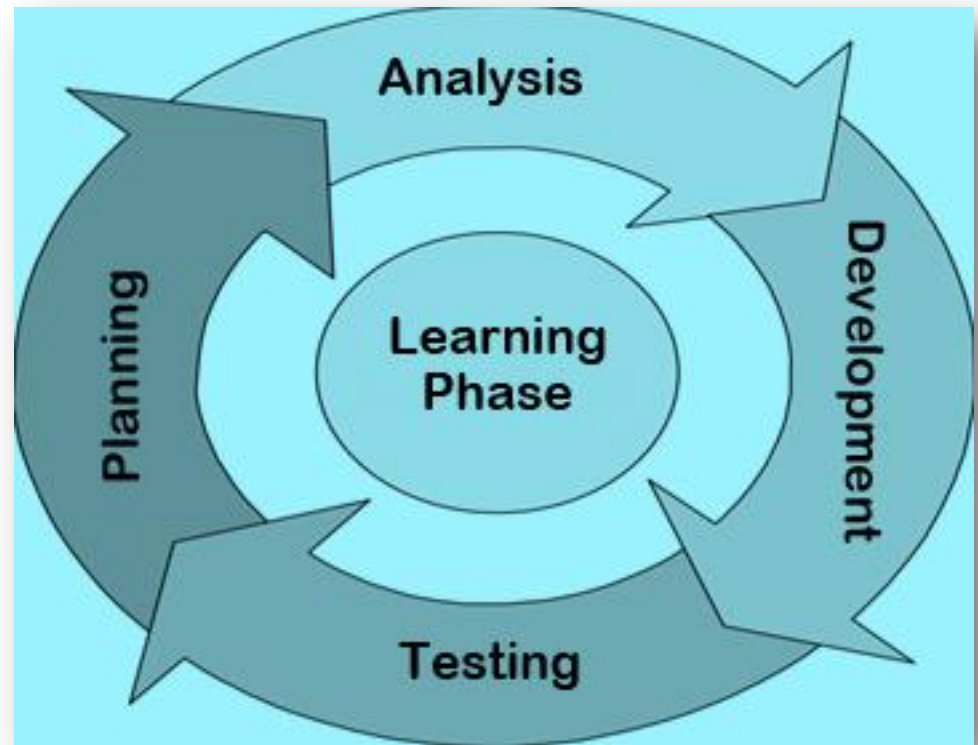
	Average Score		Standard Deviation	
	Sober	Impaired	Sober	Impaired
Sample 1	0.6337	0.6620	0.0430	0.0989
Sample 2	0.6193	0.8590	0.0678	0.2593
Sample 3	0.5759	1.0661	0.1271	0.3883
Sample 4	0.5649	0.8427	0.0425	0.2044
Sample 5	0.5922	0.6222	0.0673	0.0830
Sample 6	0.6201	0.7545	0.0288	0.1089
Sample 7	0.6090	0.8228	0.0422	0.0606
Sample 8	0.7379	0.7205	0.0832	0.1298
Sample 9	0.6518	0.8255	0.0296	0.1282
Sample 10	0.7202	0.7630	0.0512	0.0549

Conclusions Drawn From Test Data

- There is a significant statistical difference between most sober and impaired scores
 - The discrepancies arise because BAC was below 0.01
- Can identify if a person is "on his game" or "off his game" indicating possible impairment and whether or not they should be driving

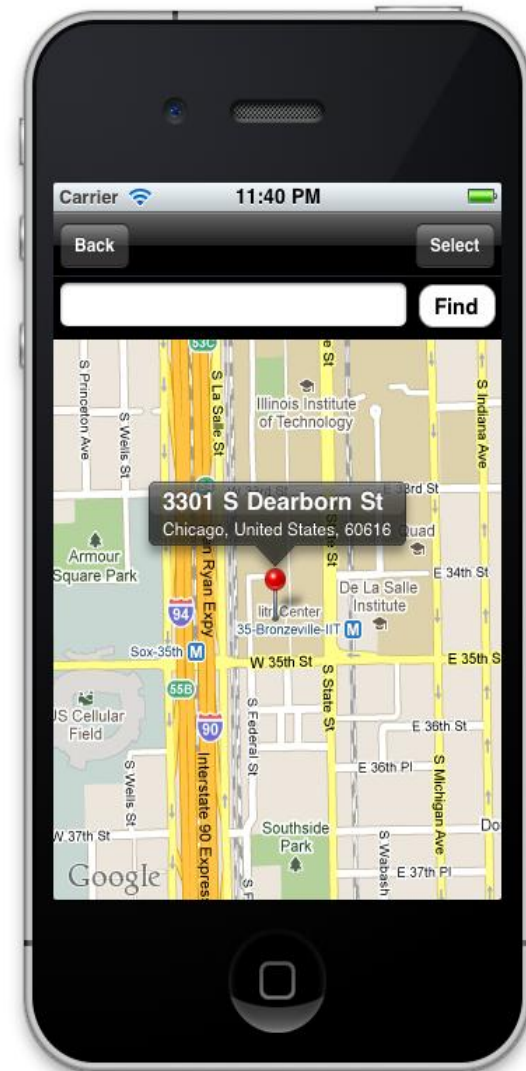
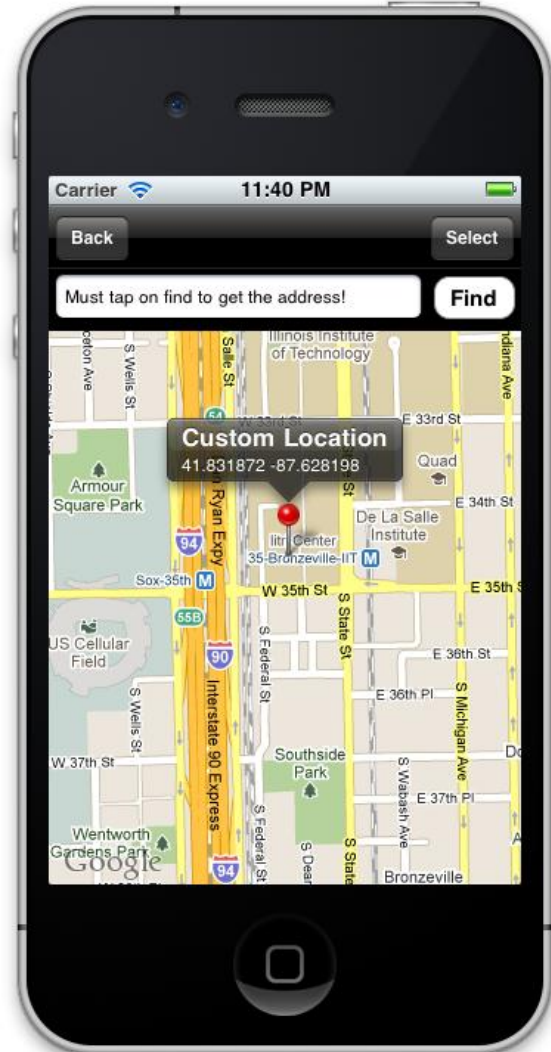
Development Methodology

- Perpetual states of:
 - Planning
 - Analysis
 - Development
 - Testing



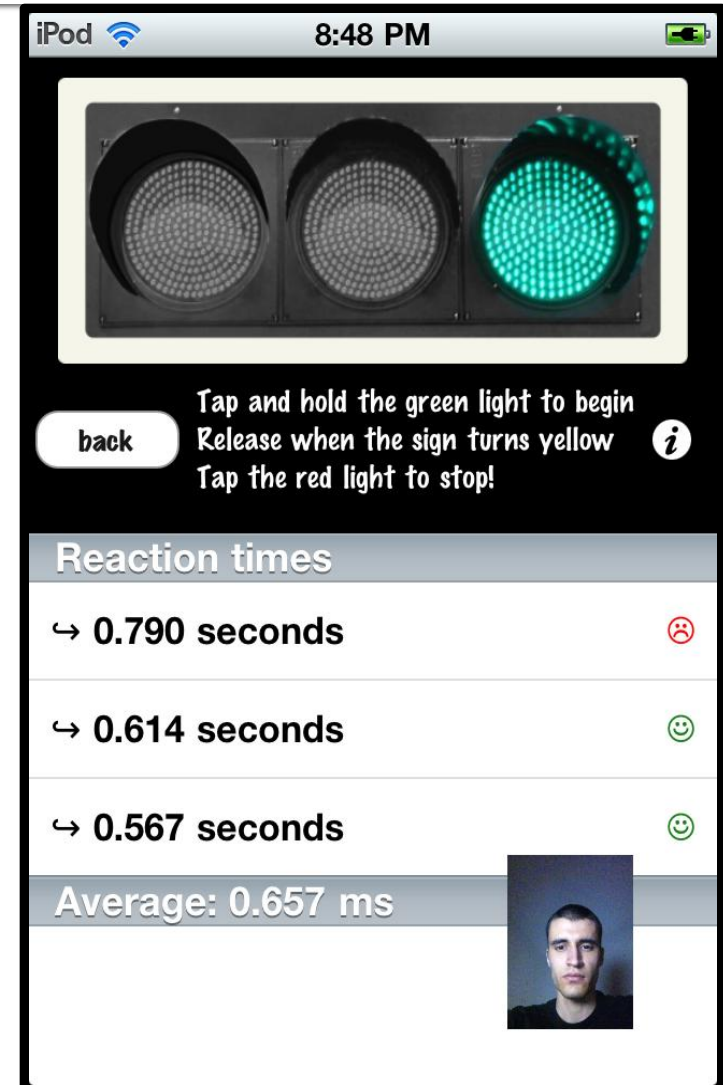
Map Functionality

- Utilizes a feature called:
 - Geo Coding
 - Reverse Geo Coding
- Drag a pin to a location and receive an address back
- Enter an address



Behind the Scenes

- **Camera Feed**
 - A picture is taken at the end of every game and the picture is sent to the parent to ensure that the child is actually the one playing the game



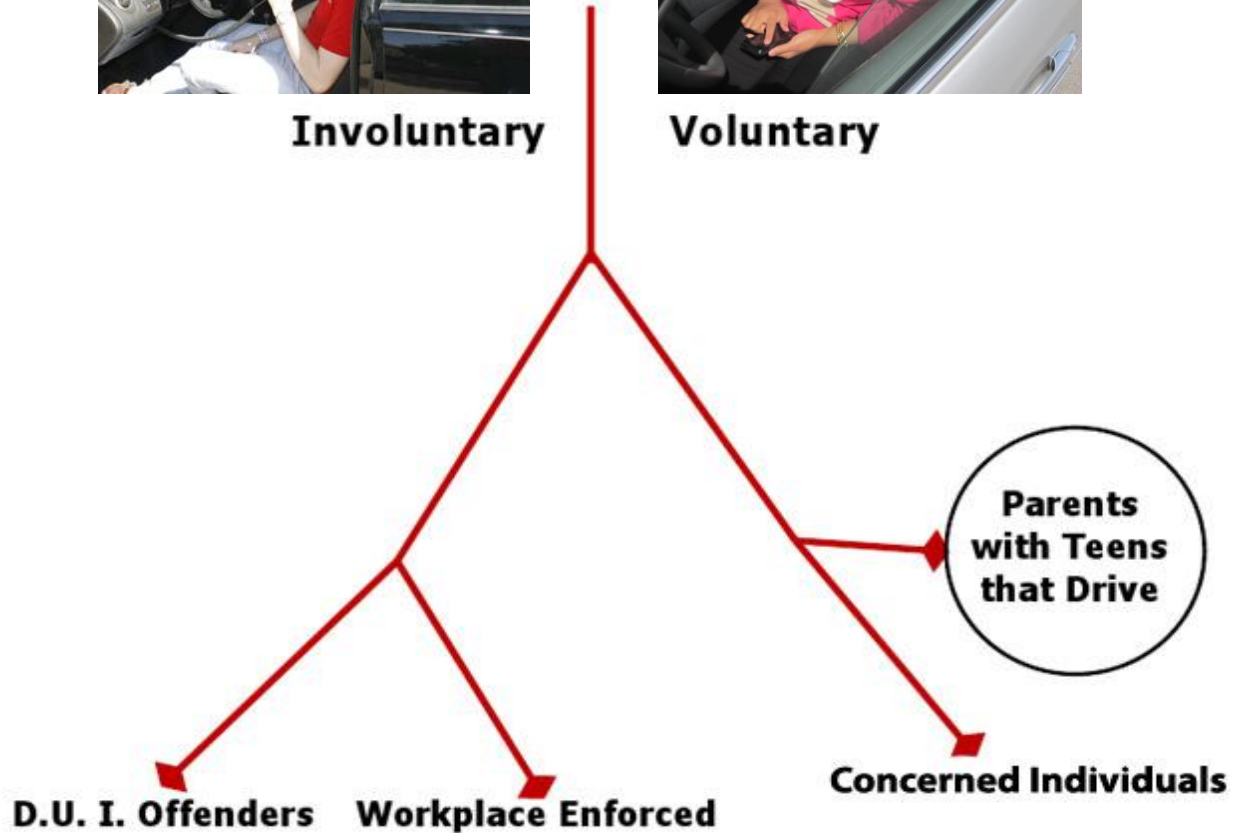
Our Market



Involuntary

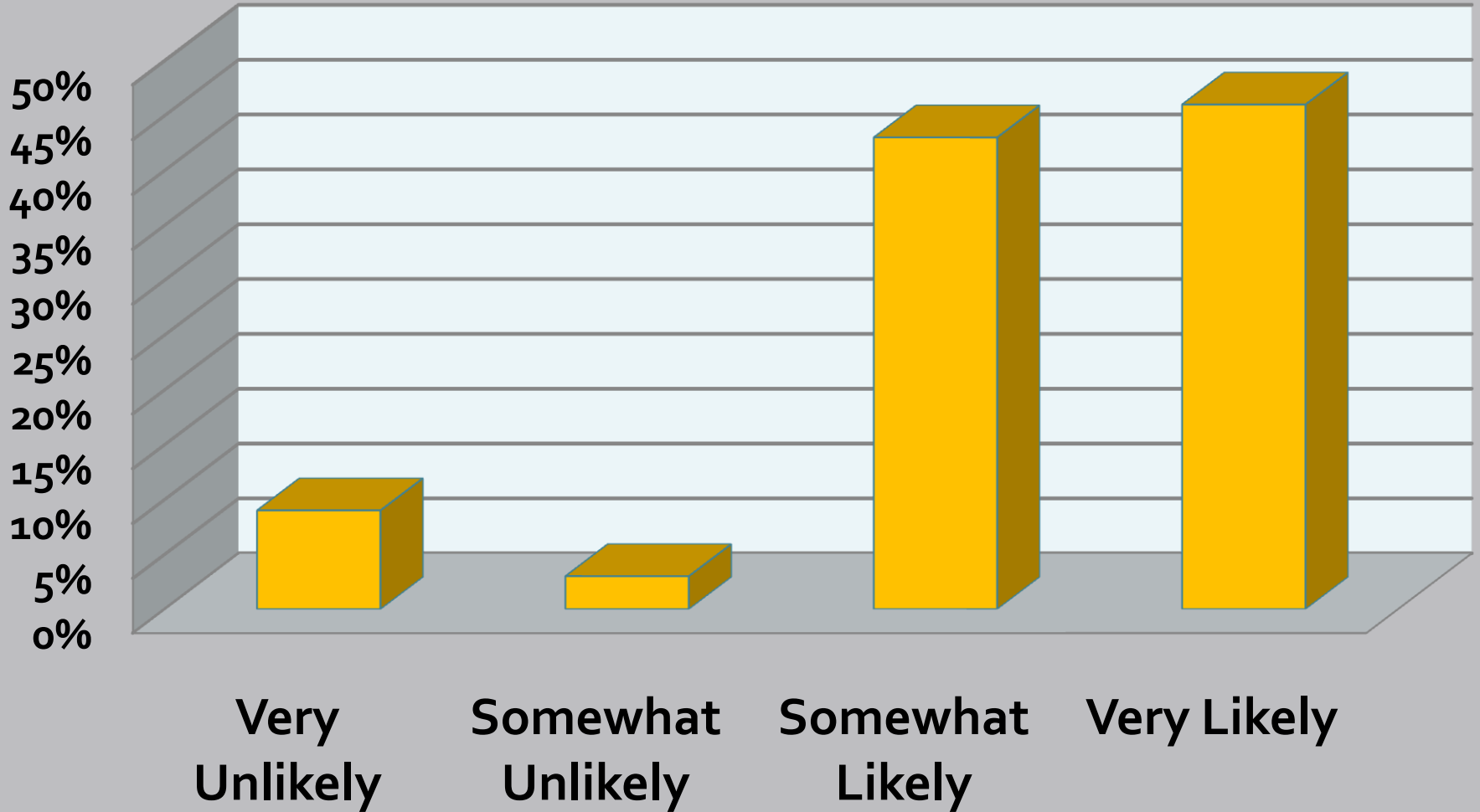


Voluntary



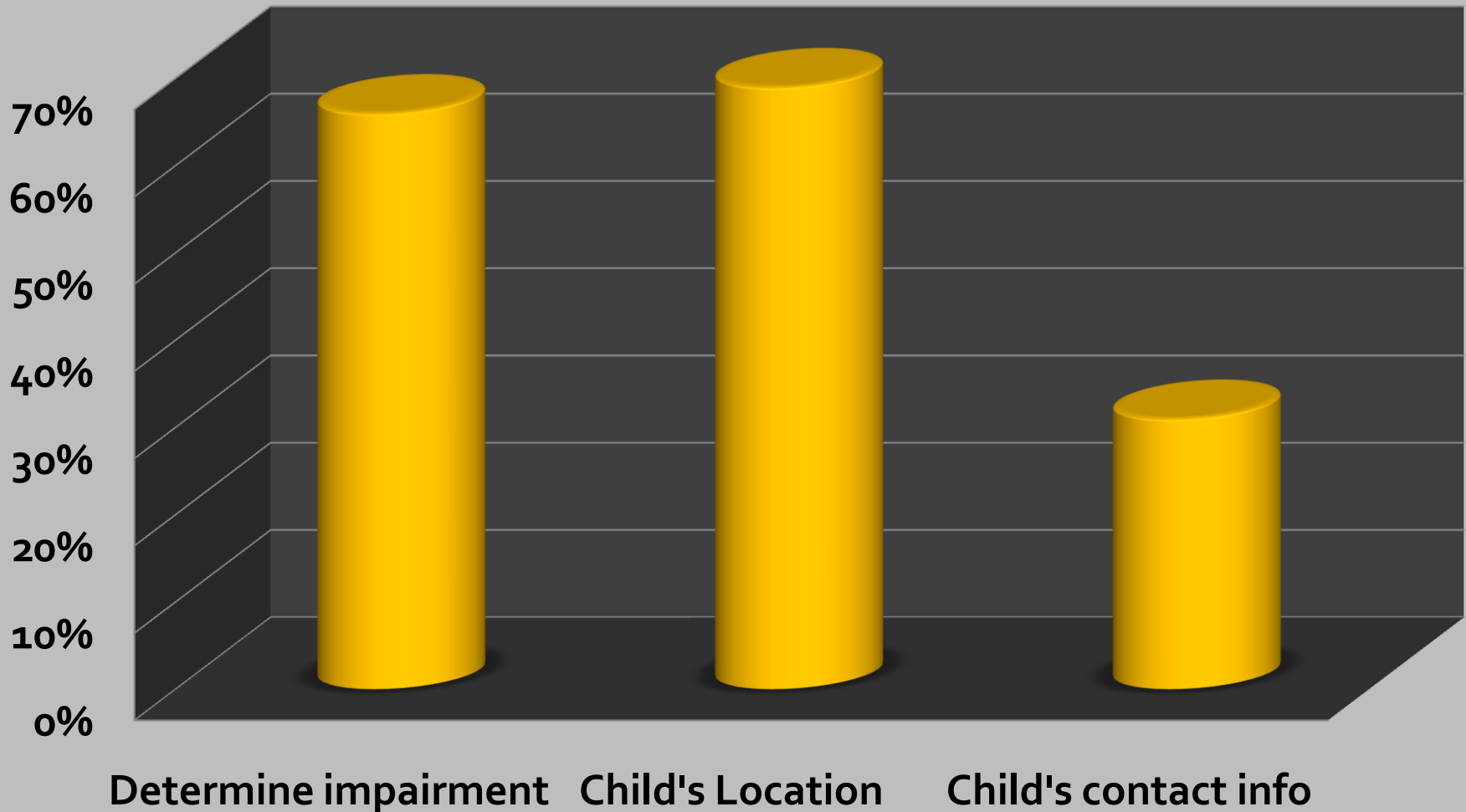
Survey Results

How likely are will you (parents) use this app?

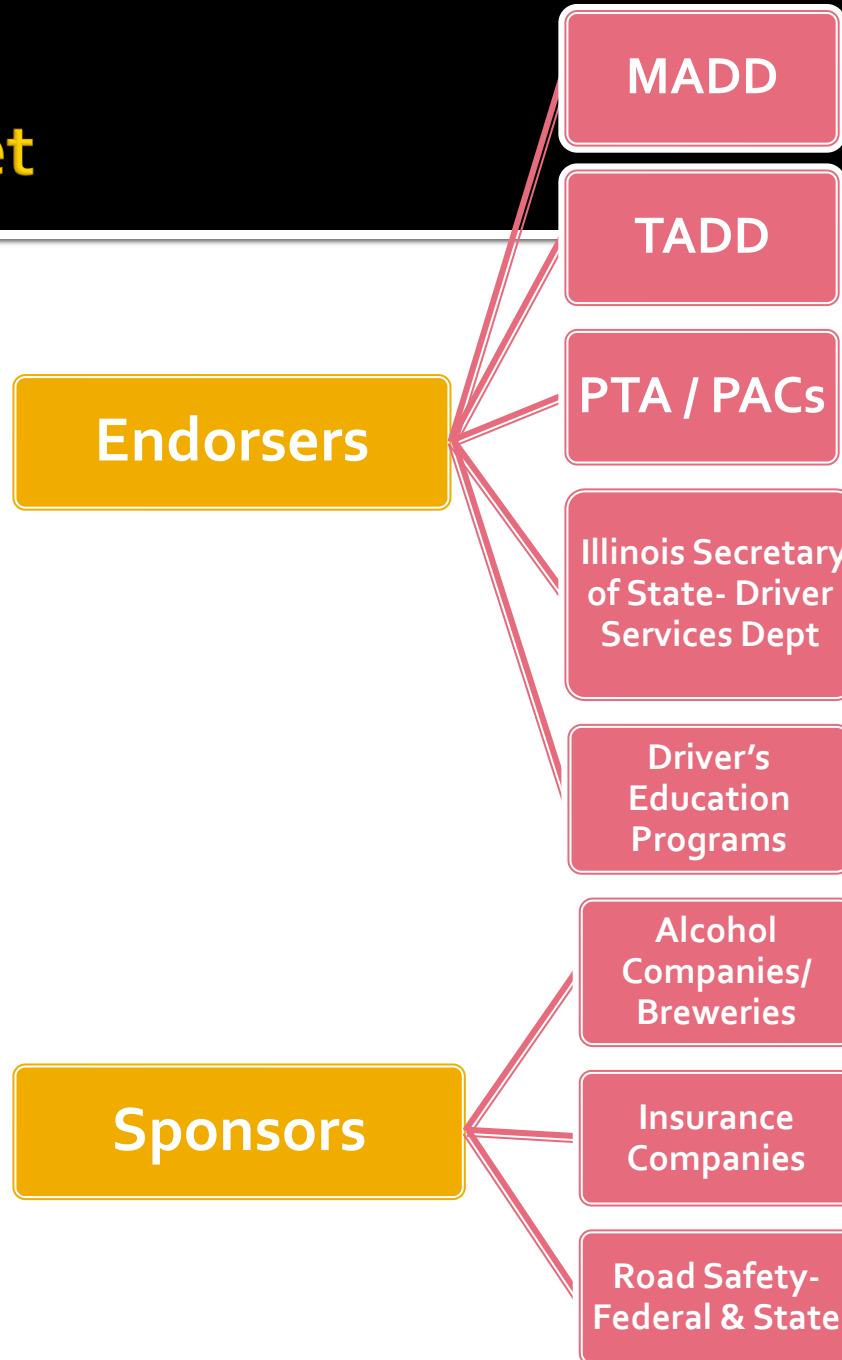


Survey Results

Features of App parents are more likely to use



Go-To Market

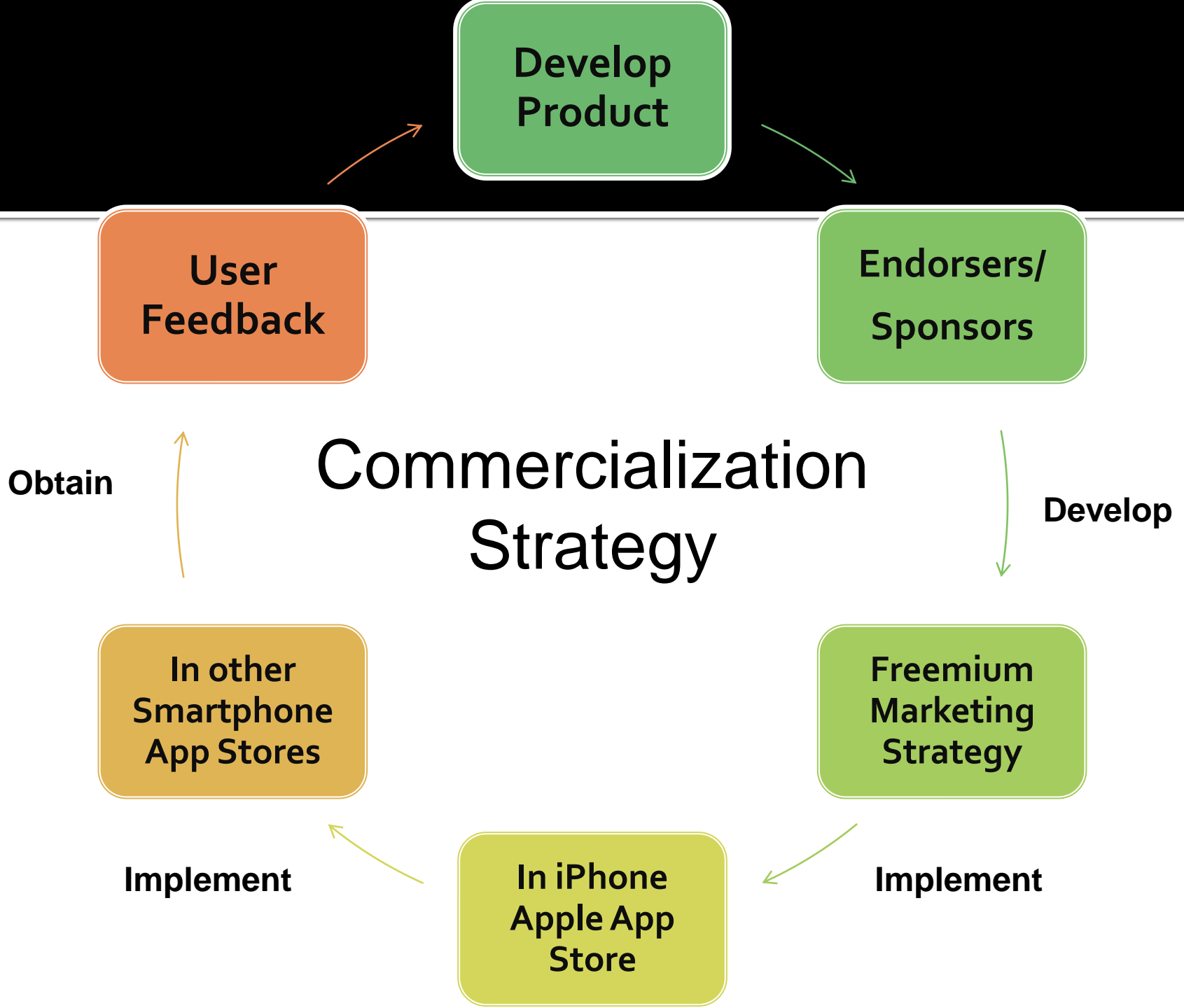




Association with M.A.D.D

- MADD
 - Similar Mission & Goals
 - Well admired and established
- MADD Illinois
 - “Strongly supports and applauds the efforts of the IIT IPRO 351 Team who created innovative, interactive iPhone Application Technology to Combat Drinking and Driving”.
- MADD Global
 - Encourages further testing and evidence of success





Freemium Strategy

- Parent and Teen Applications in Apple App Store
 - Parent Application: Clue-Me-In
 - Free Parent Interface- Basic Sample with Limited Features
 - Teen Application: Key-Me-In
 - Free Teen Interface- Fully Functional with All Games
 - Communication Link
 - Connect Clue-Me-In to Key-Me-In; connect each parent with their teens
 - \$4.99/yearly

3 Year Financial Projection

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
<u>Expenses</u>			
General/Administrative	\$ 5,000.00	\$ 2,000.00	\$ 3,000.00
Sales and Marketing	\$ 1,000.00	\$ 1,500.00	\$ 1,500.00
Research and Development	\$ 5,000.00	\$ 10,000.00	\$ 10,000.00
<u>Revenue</u>			
Price per subscription	\$ 4.99	\$ 4.99	\$ 4.99
Subscribers	3,000	12,000	15,000
Sales	\$ 14,970.00	\$ 59,880.00	\$ 74,850.00
Commission	\$ (4,491.00)	\$ (17,964.00)	\$ (22,455.00)
Net Sales	\$ 10,479.00	\$ 41,916.00	\$ 52,395.00
Net Income	\$ (521.00)	\$ 28,416.00	\$ 37,895.00

Accomplishments

- Development Team
 - Created a working model of;
 - Clue-Me-In (Parental Informant)
 - Key-Me-In (Kid's side)
 - Stoplight Game
- Business Team
 - Established a formal agreement with MADD
- User Interface
 - Tested the Stoplight game to ensure validity
- Information Gathering and Usability
 - Visited high schools and PTAs to raise awareness
 - Conducted surveys

Next Steps

- In order to ensure that Clue-Me-In and Key-Me-In become apps on the Apple app store we need to:
 - Hire a professional coder to finish the project
 - Establish a beta user group of 100 families
 - Obtain official support of endorsers

Questions?

Special Thanks:

Phil Leslie, ProOnGo

Randy Sonnenfeld, State Farm Insurance

Renee Simms, Principal, HillCrest High School

Camilla Covington, Principal, Dunbar Career Academy

Parent Advisory Boards

Curt Kindschuh, DrunkBusters

Debbie Weir, MADD Global

Susan McKeigue, MADD Illinois

David Malham, MADD Illinois

Danny Gandara, IIT Psychology

Tom Gorman, Entrepreneurial Design

Dr. Matthew Matigian, Blue World Asset Managers

Michael Saelee, Faculty Advisor and iPhone Developer

Jim Braband, Faculty Advisor and Straight G

Target Market Analysis

- Number of registered drivers in Illinois
 - 8,055,000
- Number of teens (15 – 19) in Illinois
 - 895,000
- Number of teens with iPhones
 - 17%
- Number of Illinois teens with iPhones
 - 152,000
- Market Penetration
 - 2%
- Realistic sales projection
 - 3,000 people

Actual Sales Plan to Achieve Sales Projections

Week 0: Establish Beta users	100 People
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Week 4: They each tell two people	300 People
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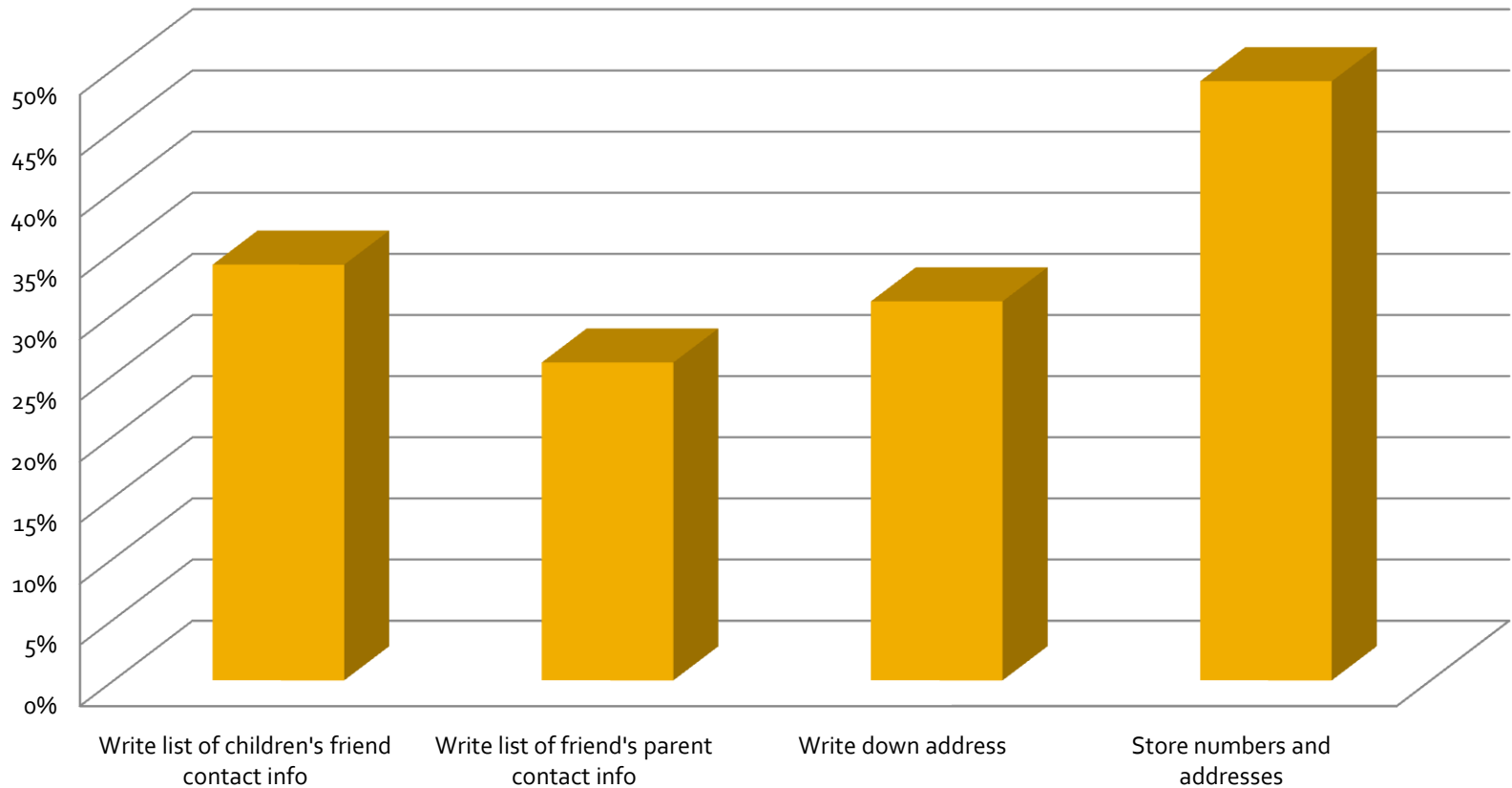
Week 6: MADD presentation with 1000 families	600 People
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Week 26: Half of users tell two more people	1,500 People
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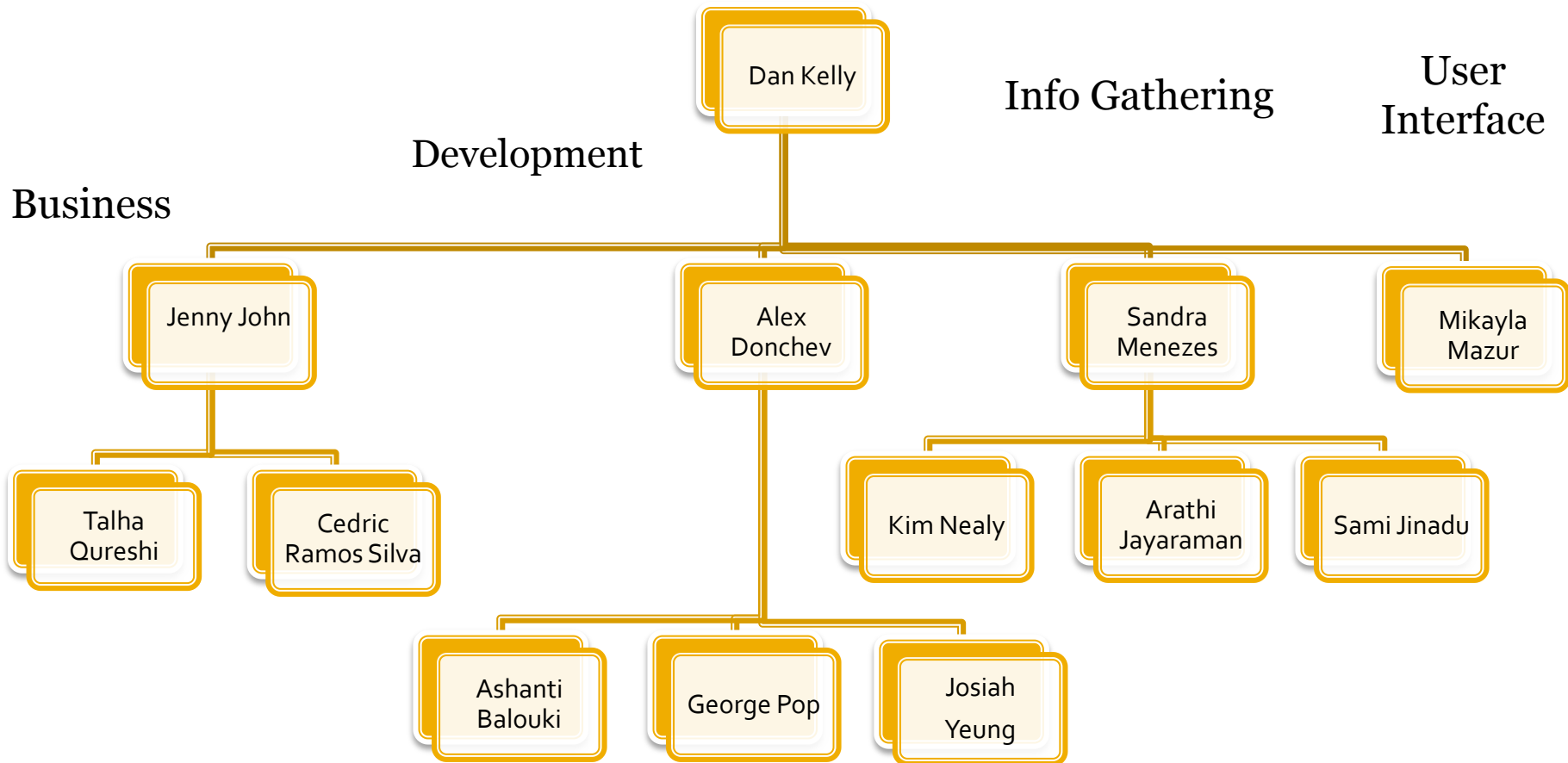
Week 52: Double current users	3,000 People
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Survey Results

Parental activity when Teens go out

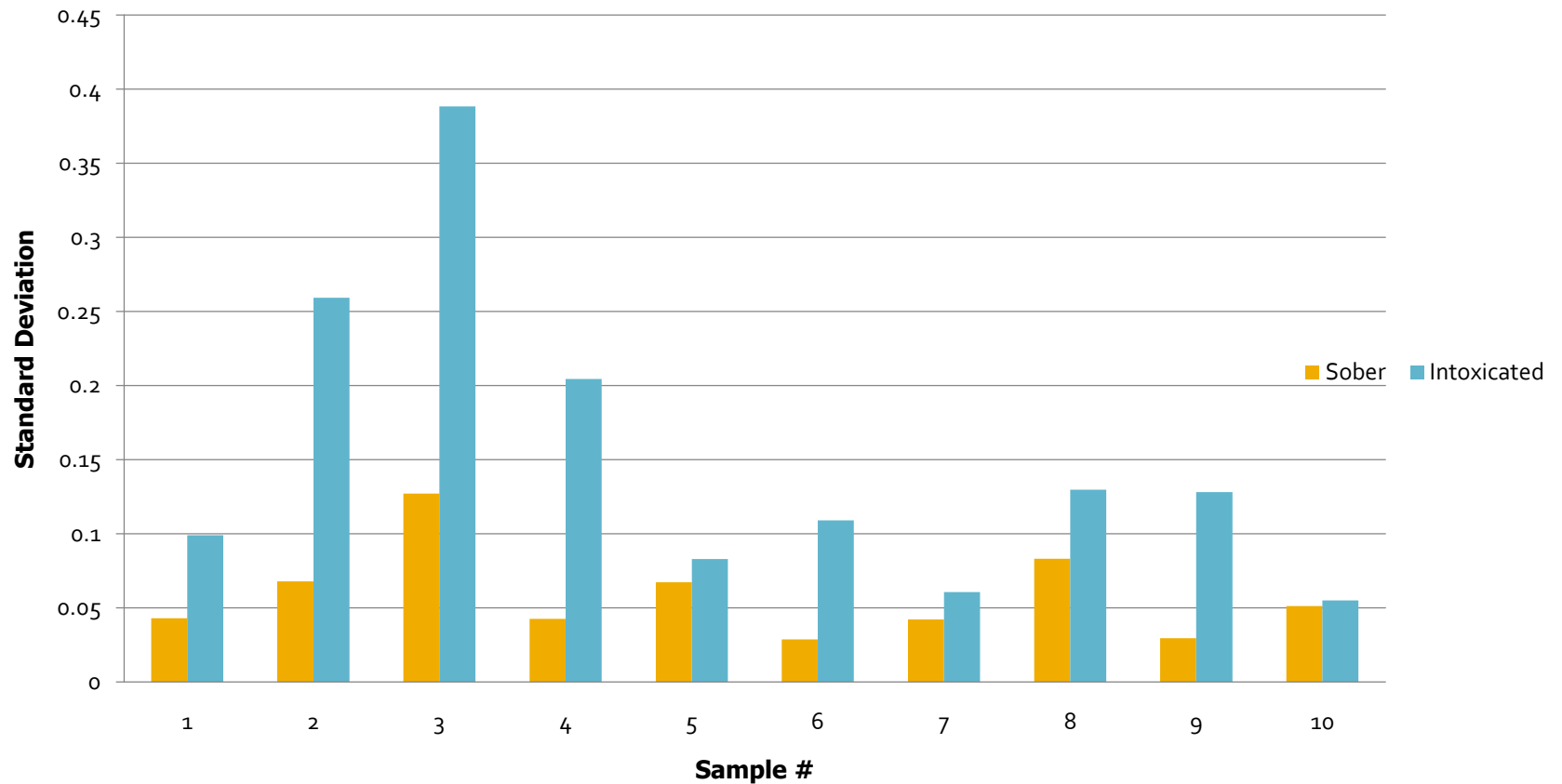


Team Organization



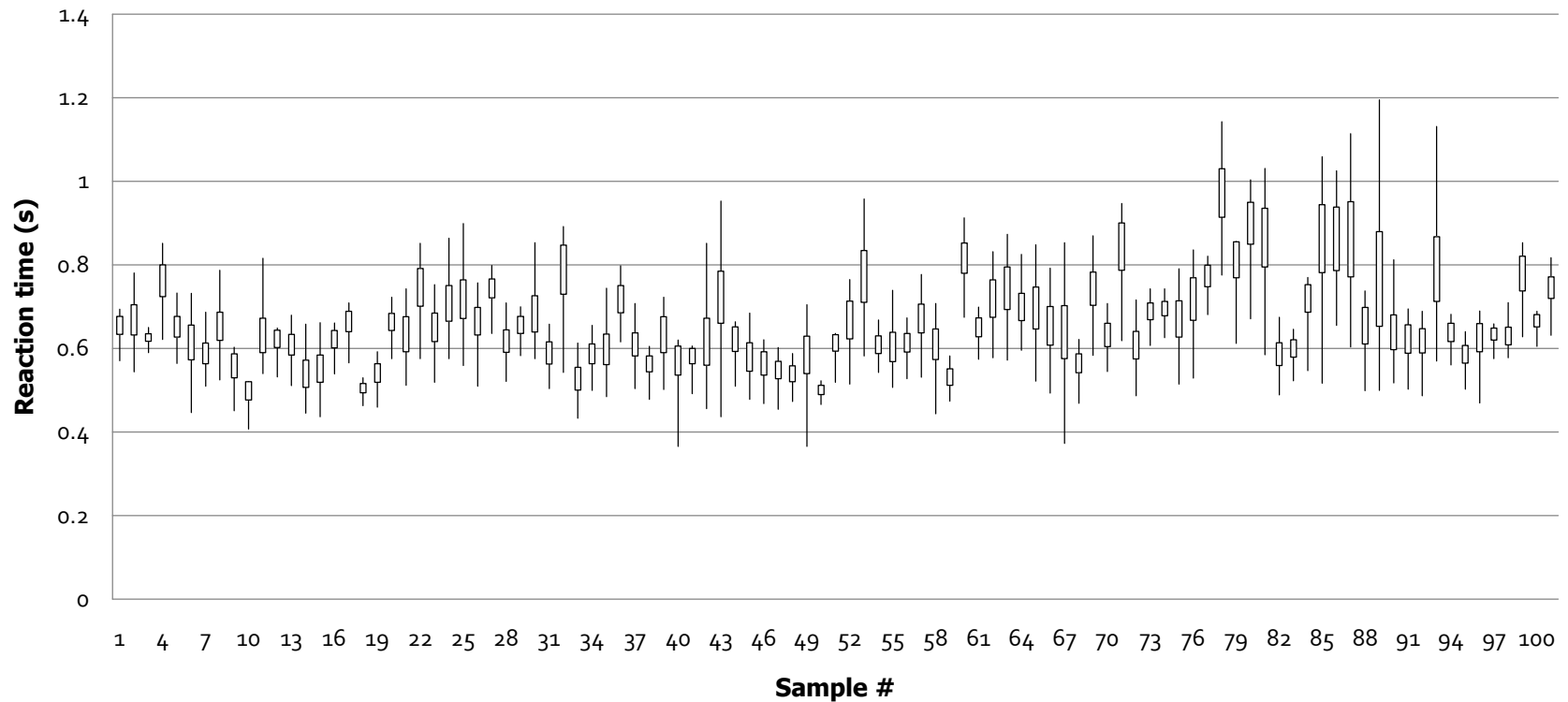
Test Data

Sober vs. Impaired Standard Deviations



Test Data: Population Baseline

Stoplight Game Population Baseline



Memory Management

Memory Hungry Application
+
Unforgiving Memory Management


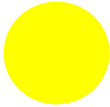





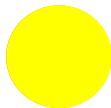
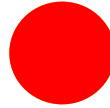



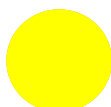
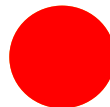



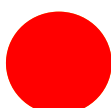



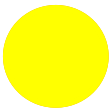
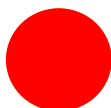
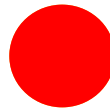
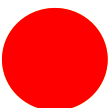

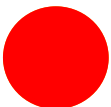
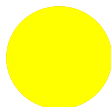


Cost of DWI

Total Cost of a First Time Offender	\$7,828 to \$10,828
Minimum Fine	\$390
Penalty Assessment	666
State Restitution Fund	100
Alcohol-Abuse Education Fund	50
Blood/Breath Testing Fee	37
Jail-Cite-and-Release Fee	10
Driving/Alcohol Awareness School	375
License Reissue Fee	100
Attorney Fees	2500
Auto Insurance Increase	3,600 to 6,600

Many states now require a Car Ignition Interlock device which costs \$1,200 to \$3,600

Competitive Advantage

-  Advantage
-  Neutral
-  Disadvantage

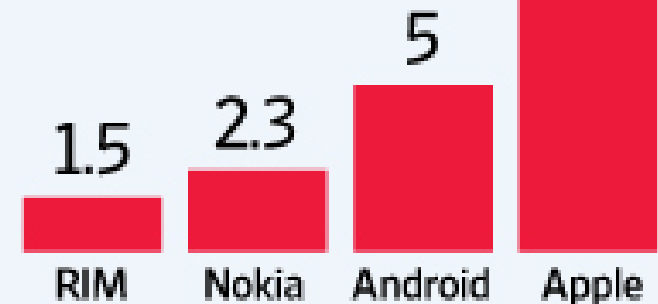
	Clue-Me-In	Other Phone Apps	Breathalyzer	Transdermal	Infrared
Cost					
Ease of Adoption					
Intrusiveness					
Measure multiple impairments					
Scientific support					

Apple iTunes Store

- 160 million registered credit cards on file
- Largest, with 250,000 apps
- Market share was 24.2% at the end of August

Downloads

Estimated number of applications downloaded per day, in millions



Source: Morgan Keegan

Alcohol Impairment: Women

<u>WOMEN</u>										
	APPROXIMATE BLOOD ALCOHOL PERCENTAGE									
DRINKS	BODY WEIGHT IN POUNDS									
	90	100	120	140	160	180	200	220	240	
0	.00	.00	.00	.00	.00	.00	.00	.00	.00	ONLY SAFE DRIVING LIMIT
1	.05	.05	.04	.03	.03	.03	.02	.02	.02	IMPAIRMENT BEGINS
2	.10	.09	.08	.07	.06	.05	.05	.04	.04	DRIVING SKILLS SIGNIFICANTLY AFFECTED
3	.15	.14	.11	.10	.09	.08	.07	.06	.06	
4	.20	.18	.15	.13	.11	.10	.09	.08	.08	POSSIBLE CRIMINAL PENALTIES
5	.25	.23	.19	.16	.14	.13	.11	.10	.09	
6	.30	.27	.23	.19	.17	.15	.14	.12	.11	LEGALLY INTOXICATED
7	.35	.32	.27	.23	.20	.18	.16	.14	.13	
8	.40	.36	.30	.26	.23	.20	.18	.17	.15	
9	.45	.41	.34	.29	.26	.23	.20	.19	.17	CRIMINAL PENALTIES
10	.51	.45	.38	.32	.28	.25	.23	.21	.19	

Subtract .01% for each 40 minutes of drinking.

One drink is 1.25 oz. of 80 proof liquor, 12 oz. of beer, or 5 oz. of table wine.

Alcohol Impairment: Men

<u>MEN</u>									
	APPROXIMATE BLOOD ALCOHOL PERCENTAGE								
DRINKS	BODY WEIGHT IN POUNDS								
	100	120	140	160	180	200	220	240	
0	.00	.00	.00	.00	.00	.00	.00	.00	ONLY SAFE DRIVING LIMIT
1	.04	.03	.03	.02	.02	.02	.02	.02	IMPAIRMENT BEGINS
2	.08	.06	.05	.05	.04	.04	.03	.03	DRIVING SKILLS SIGNIFICANTLY AFFECTED
3	.11	.09	.08	.07	.06	.06	.05	.05	
4	.15	.12	.11	.09	.08	.08	.07	.06	
5	.19	.16	.13	.12	.09	.09	.09	.08	POSSIBLE CRIMINAL PENALTIES
6	.23	.19	.16	.14	.11	.11	.10	.09	
7	.26	.22	.19	.16	.15	.13	.12	.11	LEGALLY INTOXICATED
8	.30	.25	.21	.19	.17	.15	.14	.13	
9	.34	.28	.24	.21	.19	.17	.15	.14	CRIMINAL PENALTIES
10	.38	.31	.27	.23	.21	.19	.17	.16	
Subtract .01% for each 40 minutes of drinking.									
One drink is 1.25 oz. of 80 proof liquor, 12 oz. of beer, or 5 oz. of table wine.									

Individual T-Test Validation

	Pass/Fail	T-Test Value	Confidence
Sample 1	Fail	0.020	98%
Sample 2	Fail	0.001	100%
Sample 3	Fail	0.001	100%
Sample 4	Fail	0.000	100%
Sample 5	Fail	0.030	97%
Sample 6	Fail	0.001	100%
Sample 7	Fail	0.000	100%
Sample 8	Pass	N/A	0%
Sample 9	Fail	0.002	100%
Sample 10	Pass	0.151	0%

Key Benefits

Gives parents peace of mind

Cost effective

Objective measure
of impairment

Less intrusive

Apply to
broader
market

Easy to
adopt

Measure
other
impairments

Illume Software: iZup Application

Features:

- ❑ Prevents outgoing text messages, emails and phone calls while driving.
- ❑ Sends incoming calls to voicemail and holds text messages when the vehicle is in motion.
- ❑ Prohibits web browsing and application use while driving.
- ❑ Three authorized phone numbers allowed (e.g. mom, employer, etc.).
- ❑ One authorized application allowed (e.g. navigation application).
- ❑ Emergency 911 quick dial always available.
- ❑ Emergency 911 notification sent with a map to account holder showing location and time of the call



Additions?

- Slide on Stoplight game itself
- Additional IGU slides
- Gantt chart as supplement
- Talk about our liability disclaimer?
- MADD approved statement?
- How parent and child app communicate with one another?
- Anyone to add to “Questions?” slide?
- Walk-thru of typical night?
 - (kid enters data, parent receives, kid goes out, kid takes test, parent receives results, makes decision)