



UNLIMIT:

The Fitbit of Medical Recovery



Team 2: Neta Berger, Elaine Cheson, Janet Liu, Urvi Munot

The average person has two fractures during a lifetime.

In adults, fractures of the arm account for nearly half of all of the broken bones.

“





Mission

We, at UNLIMIT, strive to alleviate the burdens of those living with mobility limitations.

TAM: \$489 M

Medical App Market

SAM: \$195.6 M

40% of sales in the medical app market comes from Health monitoring apps

Target Market: \$7.71 M

Market of physical therapy patients currently using a sling



Source: IbisWorld

Target Market

Model Variation Impact

**1% Premium
99% Free**



\$3.6 M

**5% Premium
95% Free**



\$7.7 M

**10% Premium
90% Free**



\$12.8 M

Market of physical therapy patients currently using a sling





Personas

Norman: Baby Boomer



Injured: tripping over a sidewalk

Age: 53-71

Salary: \$100K - \$200K

Psychological Hallmarks:

Independent, adventure seeking, free spirited, civic minded, individualistic, experimental.

Family and Living Situation:

Married with two kids and a small dog.

Alice: First Time Injury



Injured: winter sports

Age: 22-37

Salary: \$70K - \$110K

Psychological Hallmarks: Educated, civic-minded, diverse, digital natives.

Family and Living Situation:

Single but actively swiping on Tinder.

Andy: Child



Injured falling from bike, injuring arm

Age: 6-14

Salary: \$0, financially dependent

Psychological Hallmarks: Carefree, accident prone, digital native, social, learning to be independent.

Family and Living Situation:

Has a big brother and a small dog. Lives with his parents in a single family home.

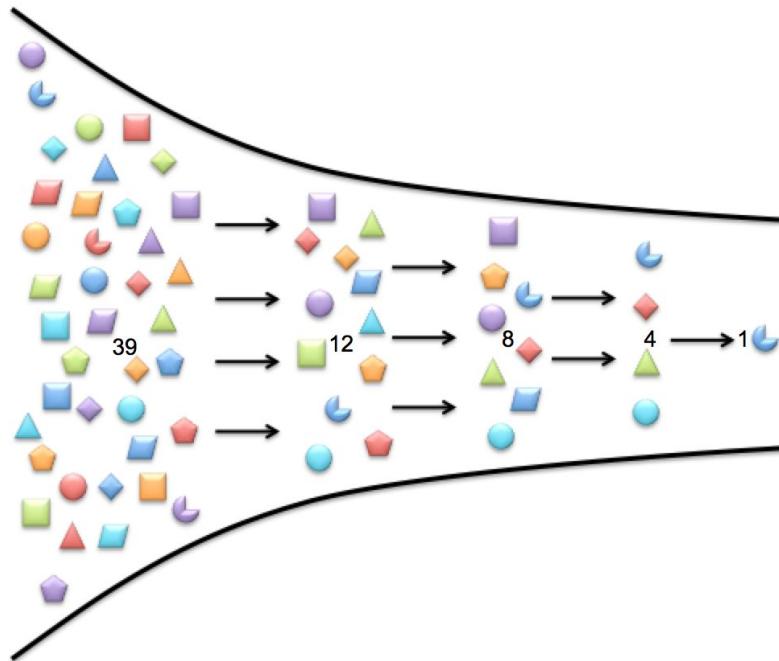


Hierarchical Needs

Independence	Increases Productivity	Provides Medical Recovery
*** User can get around on their own Allows self operated long distance travel *** Ability to perform daily tasks w/o assistance	*! Provides dominant hand functionality *** Ability to efficiently perform daily tasks Allows for faster movements *** Facilitates written communication	*** Supports the arm and shoulder * Combines ice/heat/e-stim treatment in sling ** Appropriate restriction of arm * Provides physical therapy initiatives
Comfort	Convenience	*** Improves recovery time and reduces pain
* Able to sleep comfortably *** Holds elbow in comfortable position *** Does <i>not</i> cause shoulder pain	Convenience in delivery of sling to the user ** The sling is lightweight and compact	High quality Address changing needs as the injury evolves
*! Keeps muscles loose Sling is kept sanitary * Relieves elbow soreness	*** The sling is easy to take on and off ** Provides mobility ! Has integration with splint/soft cast	Increase Confidence ! Fashion Forward *** Relieves stress, increases motivation



Started with 39 ideas, now we here...



Team Favorites:

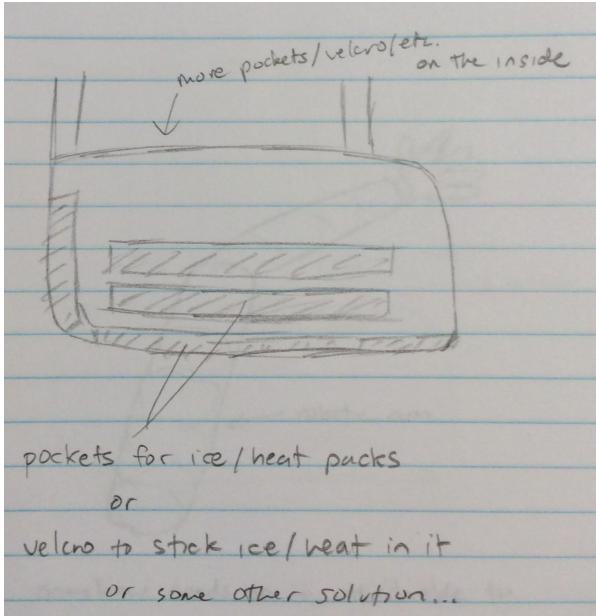
- Sling with built in electrodes
- Robotic arm
- Cap pen (inspired by thimble)
- Jacket with detachable arms
- Biodegradable slings
- Subscription service slings
- Inflatable padding
- Single handed bottle opener



Concept: Physical Therapy Attachments

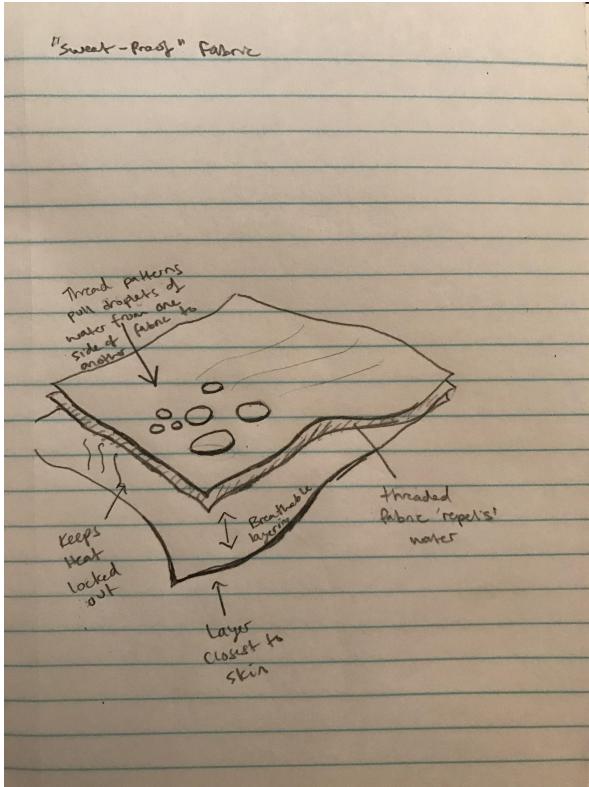
Highlighted Features

- Support medical recovery by allowing for easier use of medical recovery tools.
- Zipper pockets or velcro attachments for easy removal/insertion of medical components.
- Electrode sleeve can be initially set up with electrodes in the correct location one time and be used independently by patient.





Concept: Athletic Sling

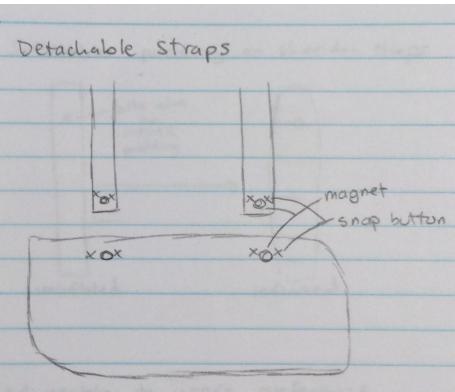


Highlighted Features

- New material design that removes sweat from fabric.
- Given the length of time one spends inside sling, this allows for a more comfortable experience within the sling (reduced smell, reduced likelihood of skin rash)

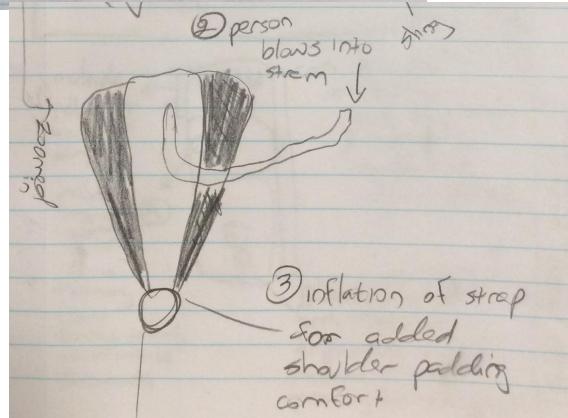


Concept: Removable + Inflatable Strap



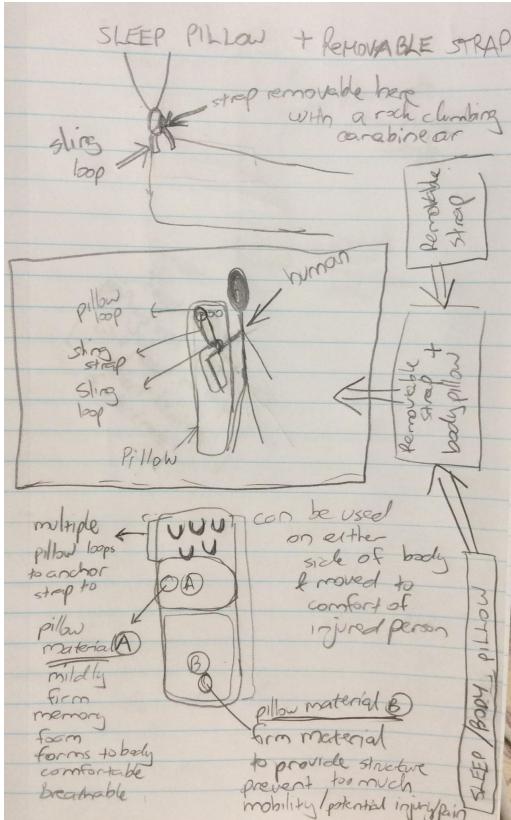
Highlighted Features

- *Removable Strap:*
 - Magnets at strap ends and on the sling for quick attachment
 - Snap buttons at strap ends and on the sling for secure holding of the sling.
- *Inflatable Padding:*
 - Inflation valve that can be pushed into the strap
 - Inflation valve allows user to decide the amount of padding depending on activity.





Concept: Sleep Pillow + Removable Strap



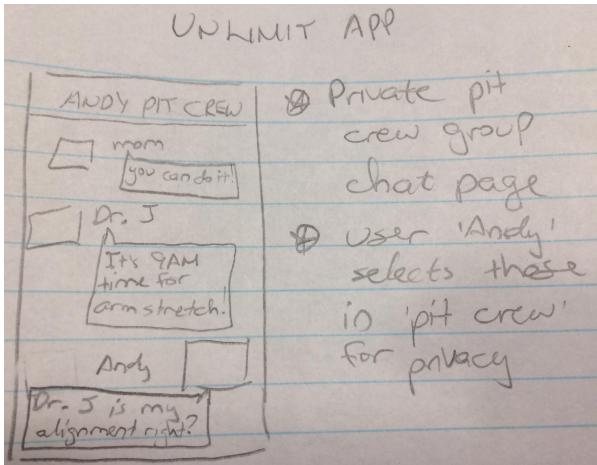
Highlighted Features

- *Features of the inflatable/removable strap:*
 - Magnets at strap ends and on the sling for quick attachment
 - Snap buttons at strap ends and on the sling for secure holding of the sling.
 - Ability to adjust padding with inflation straw
- *Sleep Pillow:*
 - Ability to move from day to night comfortably
 - Connectors on the sleep pillow for the attachment of the removable strap of the sling



Concept: Mobile App

Highlighted Features



- Motivational & inspiring
- Helps user stay on track of physical therapy
- Set personal goals (PT, recovery)
 - Achievement notifications, badges, prizes, etc.
- Connect with other injured people in slings
- Compete with others in recovery speed
- Public group forums & private “pit-crew” groups
- Smart product suggestions, addressing personalized user needs
- Promotional tie-ins



And the Winner Is...

Motivational Mobile App

	Concepts								
		B		C		DE		F	
		Motivational Mobile App		Physical Therapy Attachments (electrodes, heat, cold)		Removable Straps with Inflatable Padding & Sleep Pillow attachment		Athletic Sling (textile microfluidic platform)	
Selection Criteria	Weight	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score
Productivity Increase	20%	4	0.8	3	0.6	3	0.6	3	0.6
Physical Comfort	15%	3	0.45	4	0.6	5	0.75	3	0.45
Support of arm	15%	3	0.45	3	0.45	4	0.6	3	0.45
Medical Recovery	15%	4	0.6	5	0.75	3	0.45	2	0.3
Ease of Use	10%	5	0.5	2	0.2	4	0.4	3	0.3
Confidence Instilled	10%	4	0.4	3	0.3	3	0.3	3	0.3
Ease of Manufacture	10%	4	0.4	2	0.2	2	0.2	3	0.3
Independence Provided	5%	3	0.15	4	0.2	4	0.2	3	0.15
	Total Score	3.75		3.3		3.5		2.85	
	Rank	1		3		2		4	
	Continue?	Develop		No		No		No	



Mobile App: “Unlimit”

Unlimit



Profile



Tips/Suggestions



Trophy Case



50% range
of motion!

First post in
forum!

First friend
added!

First private
chat!

Setup
Pitcrew!

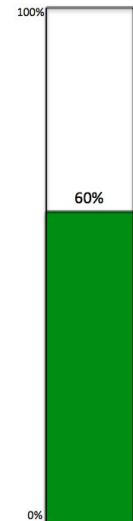
75% range
of motion!

Earn more
badges!

Earn more
badges!



Goals



You have completed
60% of your PT goals!



Today's Mini Goals:

- 10 min stretching
- 20 min ice
- 10x3 band exercises



Chat with Gabrielle

Hi **Gabrielle**! I'm sorry to hear about
your accident. I recently got shoulder
surgery..

Hello Joy, thanks. The recovery
process has been tough. I have been
bored at home.

Yeah, me too. I just joined a forum
where people post all of the fun things
they do at home. You should check it
out. People have a lot of fun ideas that
I didn't think of.

Oh cool, thanks!



Product Roadmap

Year 1: Develop **Unlimit App** to build user base & brand recognition.

Year 3: Leverage user-base community and revenue from Unlimit app to build up physical therapy attachment hardware product.

Year 5: Leverage the hardware and software platform combination to establish a subscription service which delivers medical recovery attachments matching the patient recovery journey.



Competitive Analysis

Measuring our established hierarchical customer needs against the field of existing medical recovery apps,

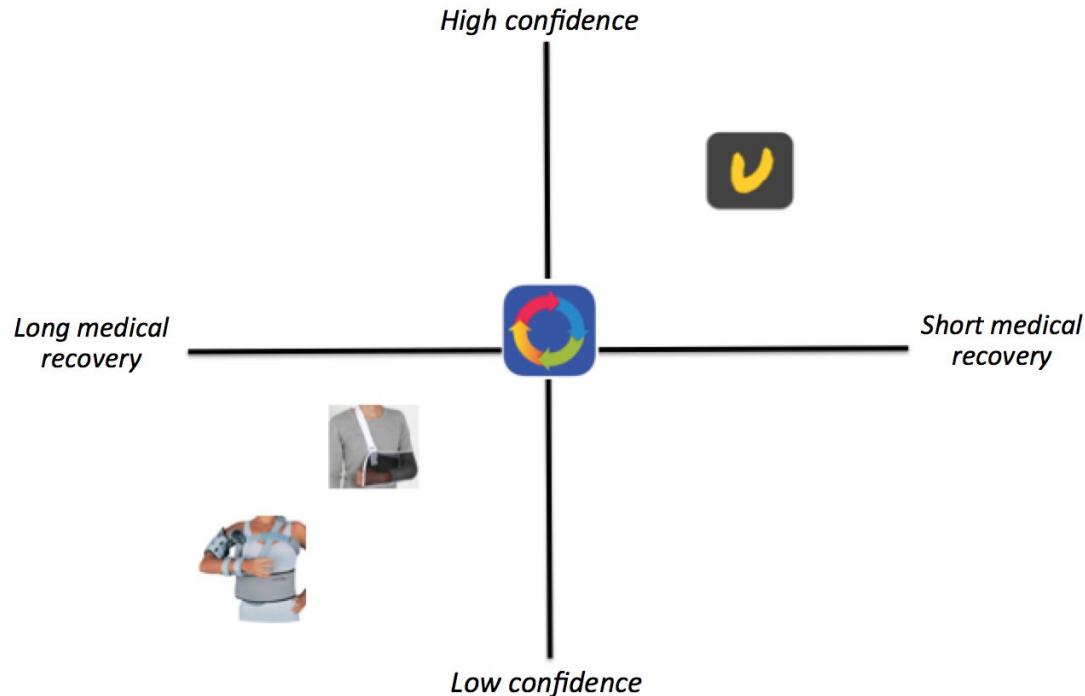
Unlimit is able to establish itself as a winning market offering.

Parameter	Weight	UNLIMIT	Weighted Unlimit	Sling+PT	Weighted Sling	PT Pal Pro	Weighted PT Pal Pro	PhysioAdvisor	Weighted PhysioAdvisor	Best In Class
Ease of Use	0.15	5	0.75	2	0.3	4	0.6	4	0.6	Unlimit
Price	0.15	4	0.6	2	0.3	5	0.75	4	0.6	PTPalPro
Medical Recovery Support	0.2	5	1	2	0.4	4	0.8	4	0.8	Unlimit
Pain Management/ Physical Comfort	0.2	4	0.8	2	0.4	4	0.8	4	0.8	Tie
Productivity/Independence	0.1	4	0.4	2	0.2	4	0.4	4	0.4	Tie
Confidence Instilled	0.2	5	1	2	0.4	4	0.8	4	0.8	Unlimit
Total	1	27	4.55	12	2	25	4.15	24	4	UNLIMIT



2x2 Matrix

Medical Recovery & Instilled Confidence



- Confidence impacts medical recovery
- Medical recovery impacts:
 - independence
 - comfort
 - productivity



Risk Assessment

Risk	Probability of occurrence	Impact on project if it occurs	(Probability x Impact)	Mitigation Plan
Low adoption rate	3	5	15	Increase marketing efforts using prepared backup plan
Delay in app development	3	5	15	Track progress carefully and hire a skilled developer
Poor product market fit	3	5	15	Beta test the application and make changes before launch
Poor relationships with ad/mktg agencies	3	5	15	Establish user base and demonstrate the value of our brand
Security Breaches	1	3	3	Do not take shortcuts and put in place extra security measures



Financial Analysis

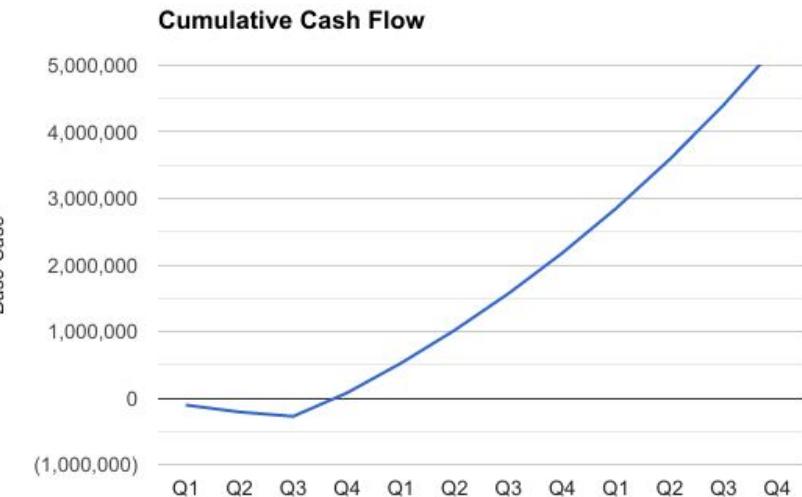
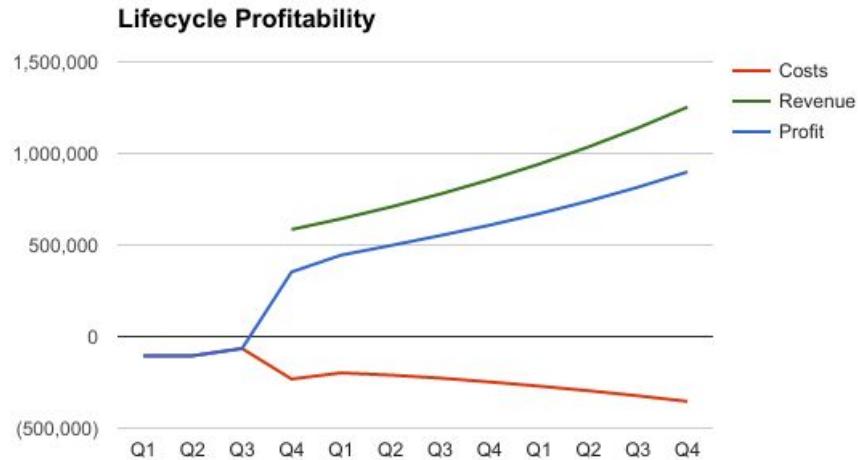
Key Decisions & Assumptions

- Outsource app dev - 6 months & hire freelance developer
- Ongoing dev costs
- Marketing through physical therapist word of mouth
- Free + premium version
 - In app ads: ARPU: \$0.12
 - Premium app price: \$1.99
- Q3: beta launch
 - Build up initial user base
- Project NPV (3 yrs): \$4.35 M

BASE CASE				
	Year 1			
	Q1	Q2	Q3	Q4
Development Cost	(98,775)	(98,650)	(49,150)	(49,150)
App Cost	(55,125)	(55,000)	(5,500)	(5,500)
Engineering Cost	(43,650)	(43,650)	(43,650)	(43,650)
Operations Cost	(6,265)	(6,213)	(6,213)	(6,213)
Marketing Cost			(10,000)	(20,000)
Production Cost			0	(156,481)
App Downloads (Free)			262,113	524,225
App Downloads (Premium)			0	262,113
Unit Cost (Premium)			(0.60)	(0.60)
Revenue			0	584,511
App Downloads (Free)			262,113	524,225
App Downloads (Premium)			0	262,113
Ad Revenue Per User (Free)			0.00	0.12
Price (Premium)			0.00	1.99
Cash Flow	(105,040)	(104,863)	(65,363)	352,667
Cum Cash Flow	(105,040)	(209,903)	(275,266)	77,401
Period	0	1	2	3
PV, r=10%	(105,039.78)	(102,305.37)	(62,213.44)	327,486.10
Project NPV	4,351,671			



Breakeven

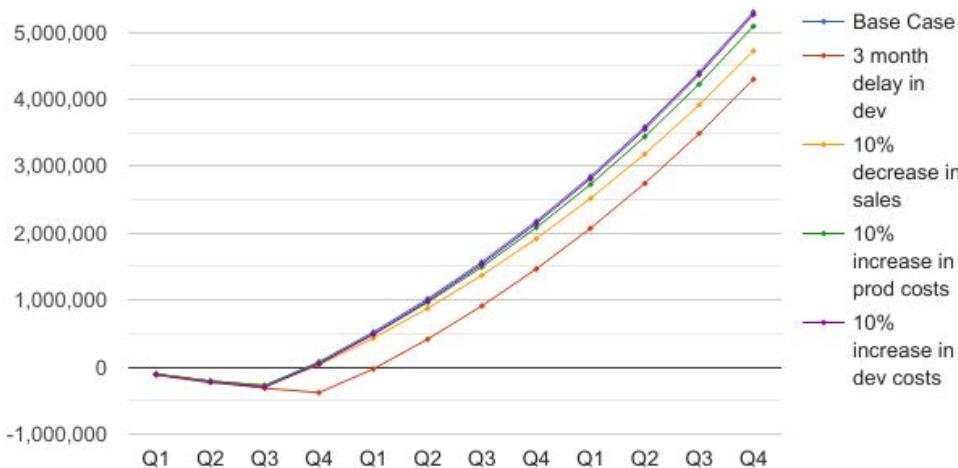


Breakeven: Between Q3 & Q4



Sensitivity Analysis

Cumulative Cash Flow with Variances



- A delay in development would be most costly
- Time to market is crucial in the mobile app space

	Project NPV	Tradeoffs
Base Case	4,351,671	
Variance: Dev Time: 3 month delay	3,472,252	(879,419)
Variance: Sales Volume: 10% decrease in sales	3,869,262	(482,408)
Variance: Product Cost: 10% increase in product costs	4,175,309	(176,361)
Variance: Dev Cost: 10% increase in dev costs	4,316,341	(35,330)

Year 1 costs: \$350,000

Development, Operating, Marketing Costs of Year 1

Breakeven: Q3 ~ Q4

Positive cumulative cash flow of \$77,401 in Q4

Project NPV: \$4,351,671

Project NPV over 3 years



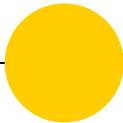


Thanks!



Any *questions* ?

Appendix





User Journey



Financial Analysis



Financial Analysis - Variance

Unlimit App: Demo

