From Product Zero to Product Hero: How to Build a Great Web 2.0 Product

Dan Olsen, CEO, YourVersion
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SALES ARE DROPPING LIKE A ROCK.

OUR PLAN IS TO INVENT SOME SORT OF DOOHICKEY THAT EVERYONE WANTS TO BUY.

THE VISIONARY LEADERSHIP WORK IS DONE. HOW LONG WILL YOUR PART TAKE?
What’s the Formula for a Great Web 2.0 Product?

- A product that:
  - Meets customers’ needs
  - Is better than other alternatives
  - Is easy to use
  - Has a good value/price
- Also known as product-market fit
- Simple, right?
- It’s easy to understand what a great product is at the conceptual level
- HOW to achieve that product is the hard part
My Background

- **Education**
  - BS, Electrical Engineering, Northwestern
  - MS, Industrial Engineering, Virginia Tech
  - MBA, Stanford
  - Web development and UI design
- **19 years of Product Management Experience**
  - Managed submarine design for 5 years
  - 5 years at Intuit, led Quicken Product Management
  - Led Product Management at Friendster
  - PM consultant to startups: Box.net, YouSendIt, Epocrates
  - CEO & Cofounder of YourVersion, startup building “Pandora for your real-time web content”

Will post slides to slideshare.net/dan_o
Understanding Customer Needs
# Problem Space vs. Solution Space

<table>
<thead>
<tr>
<th>Problem Space</th>
<th>Solution Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>A customer problem, need, or benefit that the product should address</td>
<td>A specific implementation to address the need or product requirement</td>
</tr>
<tr>
<td>A product requirement</td>
<td>NASA: space pen ($1 M R&amp;D cost)</td>
</tr>
<tr>
<td>Russians: pencil</td>
<td></td>
</tr>
</tbody>
</table>
Problem Space vs. Solution Space: Product Level

Problem Space (user benefit)
- Prepare my taxes
- Check my taxes
- Maximize deductions
- File my taxes
- Reduce audit risk

Solution Space (product)
- Pen and paper
- TurboTax
- TaxCut

Prepare my taxes

Maximize deductions

Check my taxes

File my taxes

Reduce audit risk
Problem vs. Solution Space: Feature Level

**Problem Space**

- **Empowerment/Confidence**
  - Help me prepare taxes
  - Reduce my audit risk
  - Check my return

- **Save Time**
  - Save time preparing taxes
  - Save time filing taxes

- **Save Money**
  - Maximize my tax deductions

**Solution Space**

- Tax Interview Wizard
- Audit Risk Analyzer
- Tax Return Error Checker
- Tax Data Downloader
- Electronic Tax Return Filing
- Tax Deduction Finder

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Prioritization Part 1: Customer Value: Benefits & Features

- How do you prioritize:
  - Which user benefits should you address?
  - Which product features to build (or improve)?

- Importance vs. Satisfaction
  - Importance of user need (problem space)
  - Satisfaction with how well a product meets the user’s need (solution space)
High Importance + Low Satisfaction = Opportunity to Add Customer Value

Importance of User Need

High

Low

User Satisfaction with Current Alternatives

Low

High

Opportunity

Competitive Market

Not Worth Going After
Importance vs. Satisfaction
Ask Users to Rate for Each Feature

Recommended reading: “What Customers Want” by Anthony Ulwick
Kano Model: User Needs & Satisfaction

User Satisfaction

Delighter (wow)

Performance (more is better)

Must Have

Needs & features migrate over time

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What is Your Value Proposition?

- Which user benefits are you providing?
- How are you better than competitors?

<table>
<thead>
<tr>
<th></th>
<th>Competitor A</th>
<th>Competitor B</th>
<th>You</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must Have Benefit 1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Performance Benefit 1</td>
<td>High</td>
<td>Low</td>
<td>Med</td>
</tr>
<tr>
<td>Performance Benefit 2</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Performance Benefit 3</td>
<td>Med</td>
<td>Med</td>
<td><strong>High</strong></td>
</tr>
<tr>
<td>Delighter Benefit 1</td>
<td>Y</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Delighter Benefit 2</td>
<td>-</td>
<td>-</td>
<td><strong>Y</strong></td>
</tr>
</tbody>
</table>
Prioritization Part 2: Customer Value & Engineering Effort

- Customer value is only half the equation
- How much engineering effort will it take?
- Need to consider value and effort (ROI)
- Ruthlessly prioritize: rank order (10 Highs = FAIL)
- Be deliberate about scope & keep it small
  - Strategy = deciding what you’re NOT doing
  - Break features down into smaller chunks
  - LAUNCH!
- Smaller scope → faster iterations → higher cust value
Prioritizing Product Ideas by ROI

Return (Value Created) vs. Investment (developer-weeks)

Idea A: Return 1, Investment 1
Idea B: Return 2, Investment 2
Idea C: Return 3, Investment 2
Idea D: Return 4, Investment 4
Idea F: Return 1, Investment 4

Inset graph:
Idea A: Return 1, Investment 1
Idea B: Return 5, Investment 3
Idea C: Return 8, Investment 5

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UI Design and Ease of Use

Your user requirements include four hundred features.

Do you realize that no human would be able to use a product with that level of complexity?

Good point. I’d better add “easy to use” to the list.
User Benefits vs. Ease of Use

Q: If two products equally deliver the exact same user benefits, which product is better?
A: The product that’s easier to use

“ Ease of use” provides benefits
- Saves time
- Reduces cognitive load & frustration
- Makes user feel empowered

UI Design can be differentiator

Olsen’s Law: “The less user effort required, the higher the percentage of users who will do it”
The UI Design Iceberg

What most people see and react to

Visual Design

Interaction Design

Information Architecture

Conceptual Design

What good product people think about

Recommended reading: Jesse James Garrett’s “Elements of User Experience” chart, free at www.jjg.net
Elements of User Interface Design

Consists of Three Distinct Elements:

- **Information Architecture**
  - Structure and layout at both site and page level
  - How site is structured (sitemap)
  - How site information is organized (site layout)
  - How each page is organized (page layout)

- **Interaction Design**
  - How user and product interact with one another
  - User flows (e.g., navigation across multiple pages)
  - User input (e.g., controls and form design)

- **Visual Design**
  - “How it looks” vs. “What it is”, often called “chrome”
  - Fonts, colors, graphical elements
Learning from Customers

1. **Customer:** I'll need to know your requirements before I start to design the software.
2. **Developer:** First of all, what are you trying to accomplish?
3. **Customer:** I'm trying to make you design my software.
4. **Developer:** I mean what are you trying to accomplish with the software?
5. **Customer:** I won't know what I can accomplish until you tell me what the software can do.
6. **Developer:** Try to get this concept through your thick skull: the software can do whatever I design it to do!
7. **Customer:** Can you design it to tell me my requirements?
## Customer Feedback: Problem Space vs. Solution Space

- Customers **CAN’T** articulate problem space
- Customers **CAN** react to solution space
- But, customers can’t give you solutions
- Customers aren’t designers
  - Multiple use cases and priorities
  - Trade-offs and constraints
  - Don’t have PM, design, and technical skills
Iterating Your Product Vector Based on User Feedback in Solution Space

**Problem Space**
(your mental model)
- Help user book travel
- Help user plan travel

**Solution Space**
(what users can react to)

Mockups / Code
Customer Feedback

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What Are You Getting Feedback & Learnings About?

**Problem Space**
(your mental model)

- Customer Understanding
  (needs & preferences)

**Solution Space**
(what users can react to)

- Feature Set
- UI Design
- Messaging
Persevere or Pivot?

Product-Market Fit = Getting enough data to validate that you’re climbing up the right mountain
“Ramen” User Feedback for Startups

- Anyone can do it!

- Ingredients:
  - Solution-space product/mockup to test
  - 1 customer (with laptop if testing code)
  - 1 desk
  - 1 person to conduct the session
  - Pen and paper
  - Optional note-taker and observers
Typical Format for Customer Session

- **5 - 10 min: Ask questions to understand user needs and solutions they currently use**
- **30 - 50 min: User feedback**
  - Show user product/mockup
  - Non-directed as much as possible
  - When necessary, direct user to attempt to perform a specific task
- **5 - 10 min: Wrap-up**
  - Answer any user questions that came up
  - Point out/explain features you want to highlight
  - Ask them if they would use the product
**Dos & Don’ts of Conducting Usability**

**Do**
- Explain to the user:
  - Their usability test will help improve the product
  - Not to worry about hurting your feelings
  - “Think Aloud Protocol”
- Ask user to attempt the task, then be a fly on the wall
- Ask non-leading, open-ended questions
- Take notes and review them afterwards for take-aways

**Don’t**
- Ask leading questions
- “Help” the user or explain the UI (e.g., “click over here”) 
- Respond to user frustration or questions (until test is over)
- Get defensive
- Blame the user
Case Study on Product-Market Fit: MarketingReport.com
# Product-Market Fit Case Study: MarketingReport.com

- My consulting client, CEO of TrustedID, had an idea for a new product
- Team: me, CEO, head of marketing, UI design consultant
- **Goal:**
  - Validate product-market fit quickly, cheaply without writing a single line of code
  - Determine if there was a business opportunity here
Product-Market Fit Case Study: Developing Product Concept

- Product Concept was “marketing report” that let consumers control the direct mail that they receive.
- Concept was fuzzy with various components, so I broke it into 2 different “flavors”:
  - #1 “Marketing Shield”: Service to reduce/stop junk mail
  - #2 “Marketing Saver”: Opt in & receive money-saving offers
  - Each product concept consisted of several modules that each mapped to a specific user benefit.
- Worked with UI designer to create paper mockups of pages for each flavor concept (5 pages each)
See Your Marketing Report & Score Today

Now available for the first time ever!
The Secret to Saving Hundreds of Dollars!
Every wonder about the secret to getting better offers and more money saving discounts? Now for the first time, you can see and correct information that can help you save hundreds of dollars per year: your Marketing Report and Marketing Score!

Enter your invitation code now

Code:  
See Report

☑️ Find out what advertisers know about you
☑️ Receive valuable offers
☑️ Save hundreds of dollars per year
☑️ Safe, secure website
☑️ Free Service

Haven't been invited? Request your invitation today.

Reviewed by: 
TRUSTe site privacy statement
BBB OnLine Reliability Program
Clustering Potential User Benefits to Create Product Concepts

“Shield” Concept
- Reduce Junk Mail
- Save Trees
- Find out what “they” know about you
- Marketing Report
- Marketing Score
- Marketing Profile

“Saver” Concept
- Money Saving Offers
- Compare Yourself to Others
- Social Networking

“Shield” Concept

“Saver” Concept
Product-Market Fit Case Study: Recruiting People

- Telephone recruit of prospective customers
  - Wrote phone-screen questionnaire to create rough target customer segmentation
    - Wanted users who work full-time & use internet
    - Fit for opt-in concept: use coupons, Costco membership
    - Fit for anti-junk mail concept: use paper shredder, block caller ID
- Scheduled 3 groups of 2 or 3 people to discuss each product concept for 90 minutes
- Moderated each group through the paper mockups to hear their feedback
Product-Market Fit Case Study: Findings on Concepts & User Benefits

“Shield” Concept

- Reduce Junk Mail
- Save Trees
- Find out what “they” know about you
- Marketing Report
  - Marketing Score
  - Marketing Profile

“Saver” Concept

- Money Saving Offers
- Compare Yourself to Others
- Social Networking

Legend

- Strong appeal
- Somewhat positive
- Low appeal

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Learned that “Shield” (anti-junk mail) concept was stronger than “Saver”

People didn’t like many of the “Saver” concept components

Learned users’ concerns / questions about “Shield” concept

Refined “Shield” concept:
- Removed irrelevant components
- Improved messaging to address user concerns / questions

Validated revised “Shield” concept with quick 2nd round of tests
- No customer concerns
- Clear willingness to pay
Junk mail causes identity theft. We *stop* it.

Tired of shredding those credit cards you never asked for, checks you never ordered and refinance offers that look too good to be true? Why not cut the junk mail off at the source. With JunkmailFreeze™, a free service from the people at Trusted ID, that’s exactly what you can do. [Learn More]

- Reduce the risk of identity theft
- Stop the junk mail ID thieves want
- Spend less time shredding mail
- Help the environment. Save 43 trees!
- 100% free service

Stop your junk mail today!
Pick the categories you want to stop:

- [x] Cash advance checks
- [ ] New credit card offers
- [ ] Pre-approved credit card offers

*Over 50 additional categories on the next page!*

Get Started
Product-Market Fit Case Study: Summary

- 4 weeks from 1st meeting to validated product concept with zero coding
- Cost $1,500 to talk to 20 users ($75 each)
- 1 round of iteration on product concept
- Identified compelling concept that users are willing to pay $10/month for
- Trimmed away non-valuable pieces
- You can achieve similar results
Getting Quantitative: Optimization Using Metrics
Approaching Your Business as an Optimization Exercise

Given reality as it exists today, optimize our business results subject to our resource constraints.
Define the Equation of your Business “Peeling the Onion”

Advertising Business Model:

Profit = Revenue - Cost

\[ \text{Unique Visitors} \times \text{Ad Revenue per Visitor} \]
\[ \text{Impressions/Visitor} \times \text{Effective CPM} / 1000 \]
\[ \text{Visits/Visitor} \times \text{Pageviews/Visit} \times \text{Impressions/PV} \]

\[ \text{New Visitors} + \text{Returning Visitors} \]

\[ \text{Invited Visitors} + \text{Uninvited Visitors} \]

\[ \# \text{ of Users Sending Invites} \times \text{Invites Sent/User} \times \text{Invite Conversion Rate} \]
# How to Track Your Metrics

- **Track each metric as daily time series**

<table>
<thead>
<tr>
<th>Date</th>
<th>Unique Visitors</th>
<th>Page views</th>
<th>Ad Revenue</th>
<th>New User Sign-ups</th>
<th>...</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/24/08</td>
<td>10,100</td>
<td>29,600</td>
<td>25</td>
<td>490</td>
<td></td>
</tr>
<tr>
<td>4/25/08</td>
<td>10,500</td>
<td>27,100</td>
<td>24</td>
<td>480</td>
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<td>480</td>
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</tbody>
</table>

- **Create ratios from primary metrics:** $X / Y$

  - **Example:** How good is your registration page?
  - **Okay:** # of registered users per day
  - **Better:** registration conversion rate = # registered users / # uniques to reg page
Sample Signup Page Yield Data

Daily Signup Page Yield vs. Time
New Registered Users divided by Unique Visitors to Signup Page

- Changed messaging
- Added questions to signup page
- Started requiring registration
Identifying the “Critical Few” Metrics

- What are the metrics for your business?
- Where is current value for each metric?
- How many resources to “move” each metric?
  - Developer-hours, time, money
- Which metrics have highest ROI opportunities?

**Metric A**
- Good ROI

**Metric B**
- Bad ROI

**Metric C**
- Great ROI
Metrics to Validate Product-Market Fit

- **Survey results**
  - Importance & Satisfaction
  - Net Promoter Score

- **Survey.io**
  - “How would you feel if you could no longer use Product X?”
    - Very disappointed, Somewhat disappointed, Not disappointed

- **User behavior**
  - Prospects sign up (high conversion rate)
  - They keep using it (high retention rate)
  - They use it often (high frequency of use)
Continuous Improvement
Adding Metrics and Optimization to your Product Process

Plan
- Business Objectives
- Product Roadmap
- Prioritized Feature List

Design
- Scoping
- Requirements & Design

Develop
- Code
- Test
- Launch

Optimize
- Metrics & User Feedback

Site Level
Feature Level
Optimization through Iteration: Continuous Improvement

1. Measure the metric
2. Analyze the metric
3. Identify top opportunities to improve
4. Design & develop the enhancement
5. Launch the enhancement

Learning
Gaining knowledge:
- Market
- Customer
- Domain
- Usability
Web 2.0 Product Hero Cheat Sheet

- Clarify problem space by iterating in the solution space & getting user feedback
- Revise feature set, UI design, and messaging to improve product-market fit
- Ruthlessly prioritize based on ROI
- Define equation of your business
- Identify and track key metrics
- Launch, learn, and iterate
Try it out at:
http://www.yourversion.com

Free apps:
iPhone http://bit.ly/yv-app