About the instructors
-Jim Swanson

- Past CEO, CFO Ramtek, Corp. – public co
- Past CEO Los Altos Technologies
- Partner, Los Altos Incubator firstonline.com
- SB Degree MIT, MBA & JD Stanford University
- Peace Corps

About the instructors

-Mike Baird

- Past V.P. Eng. Ask Jeeves, Inc. ask.com one of most successful Internet IPOs in history
- Past CTO Snap-on Inc. $2 billion co.
- Partner, Los Altos Incubator firstonline.com
- PhD Computer Science, MBA
Session I
Basic Entrepreneurship

- Basics for business success for the entrepreneurial engineer
- Writing a compelling business plan
- Getting funded, Q & A
Session II
Advanced Entrepreneurship

- Capitalizing your start-up
- Legal structures
- Stock (restricted, common, preferred...)
- Stock Options (ISO's, NQSO's), Other wealth building vehicles
- Stock & Option Grants, vesting, §83(b) elections...
- Valuation, Q & A
Is a start-up for you? Are you a “hunter” or a “farmer”?

Internalizing the five fundamental success factors for launching and funding a successful technology-fueled start-up.

How to identify killer products or services for exploiting growing lucrative protected niche markets.
Your Needs: Who Are You?

- Employed, thinking of starting own business?
- Own a (small) business?
- Looked / looking for / raised funds?
- Written a business plan? funded? rejected?
5 Audience Questions?
Reasons Cited for Starting One's Own Business

- Self-employment/Autonomy: 29%
- Income/Wealth: 19%
- The challenge: 12%
- To pursue an idea: 8%
- Utilize skills: 7%
- Build estate for family: 5%
- No better alternative: 4%
- Meet other's expectations: 2%
- Build an organization: 2%
- Respect/Recognition: 1%
- Contribute to society: 1%
- To live in the area: 1%
- Other (specified by respondent): 9%
From Where to Where?

Sales Employees (millions)

High-growth team-driven business

Income substitution business

Lifestyle consultancy

Entrepreneur in a Single product start-up

Fortune 500 engineering manager

Sales Employees

> $20

> 50

$1 – $20

5 – 50

$0 – $1

0 – 4
The Income-Substitution Wealth-Creation Spectrum

Growth rate
- fast
- slow

Business size
- small
- large

- Income Substitution
- Wealth Building
Business Size, Risk, and Reward

P(Survival) is inversely proportional to risk

P(survival) = 1.0 - p(failure)

Risk

- Retail stores
- Technology-based products (high-growth objective)
- Technology-based consulting (low growth objective)

Reward

- High
- Medium
- Low

P(failure)

- High
- Medium
- Low

0.7
0.5
0.3
Low
Effort Allocated by Founders During First Six Months

- Engineering: 31%
- Sales/Marketing: 28%
- Manufacturing: 25%
- Finance/Administration: 16%
5 Basics for Success
Beyond "The Big Idea, the Passion, the Vision"... making it real... involves...

- Management
- Markets and Customers
- Proprietary Products, Technology, Services
- Attractive Financing and ROI
- Compelling Business Plan
Do You Need a Radical New Idea?
First of Five Elements of Start-Up Success

- Markets and Customers
  - Identifiable customers.
  - Not a missionary sale.
  - Market–Pull.
  - Not Technology–push.
  - Market niche with 15%–30% market share possible.
  - Know 5 prospects by name, ready to buy.
  - Short procurement cycle.

- Management Teams

- Products or Services

- Business Plan

- Financing
Market- and Customer-Driven Technology-Fueled Business Machine

- Benefits
- Customers
- Financial Controls
- Management
- Market Engine
- Technology Fuel
- Rapid Profitability
- Money (ROI)
- Benefits
- Customers
- Products
- Markets
- Business Plan
Competitive Forces in Your Marketplace

Existing competitors

Customer base

Competitors:
- Who?
- Growing?
- How long in business?
- What sales volumes?
- How big?
- How many customers?
- Market share?
- Product niche?
- Similarities/dissimilarities?
- How will you compete with them?
  - product superiority?
  - price?
  - advertising?
  - innovation/technology?
- How is your business better? What is your "distinctive competence?"
  - price?
  - management?
  - product?
  - service, delivery?
  - operations?
- Barriers to entry for new competitors?
Marketing Strategy

Figure 8.2 Marketing Strategy—The Four Ps Plus an S
Markets versus Marketing

- Gillette introduces The Sensor™ razor for men

  - Retail price: $3.75 with three blades
  - R&D costs: $200 million
  - First-year advertising budget: $110 million
  - Estimated annual retail sales: $390 million

- Even if you could invent a superior razor blade, would you want to compete in this game?
Second of Five Elements of Start-Up Success

- Markets and Customers
- Management Teams
- Business Plan
- Products or Services
- Financing

- CEO
- CFO
- VP-Marketing & Sales
- VP-Engineering (CTO)
- Board of Directors
Management Completeness-Experience Grid

<table>
<thead>
<tr>
<th></th>
<th>Inexperienced (0)</th>
<th>Experienced (1)</th>
<th>Very experienced (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete team (2)</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Partial team (1)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>No team (0)</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
## Team Size and Product Status in Business Plan Reception

<table>
<thead>
<tr>
<th>Management status</th>
<th>Most desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 4. All members on board and experienced.</td>
<td>4 + 1 = 5</td>
</tr>
<tr>
<td></td>
<td>4 + 2 = 6</td>
</tr>
<tr>
<td></td>
<td>4 + 3 = 7</td>
</tr>
<tr>
<td></td>
<td>4 + 4 = 8</td>
</tr>
<tr>
<td>Level 3. All members identified; some on board only after funding.</td>
<td>3 + 1 = 4</td>
</tr>
<tr>
<td></td>
<td>3 + 2 = 5</td>
</tr>
<tr>
<td></td>
<td>3 + 3 = 6</td>
</tr>
<tr>
<td></td>
<td>3 + 4 = 7</td>
</tr>
<tr>
<td>Level 2. Two founders; others not identified.</td>
<td>2 + 1 = 3</td>
</tr>
<tr>
<td></td>
<td>2 + 2 = 4</td>
</tr>
<tr>
<td></td>
<td>2 + 3 = 5</td>
</tr>
<tr>
<td></td>
<td>2 + 4 = 6</td>
</tr>
<tr>
<td>Level 1. Single entrepreneur.</td>
<td>1 + 1 = 2</td>
</tr>
<tr>
<td></td>
<td>1 + 2 = 3</td>
</tr>
<tr>
<td></td>
<td>1 + 3 = 4</td>
</tr>
<tr>
<td></td>
<td>1 + 4 = 5</td>
</tr>
</tbody>
</table>

### Product status:

- **Level 1.** Idea only; market assumed.
- **Level 2.** Prototype operable but not developed for production; market assumed.
- **Level 3.** Product fully developed; few or no users; market assumed.
- **Level 4.** Product fully developed; satisfied users; market established.
Third of Five Elements of Start-Up Success

- Markets and Customers
- Business Plan
- Financing
- Management Teams
- Products or Services
  - Proprietary Technology
  - Product Family
  - Easily understandable
  - Easily Sold
  - Short Development Time
Cost versus Perceived Differentiation Model

- **Low** Perceived cost versus competition
- **High** Perceived cost versus competition
- **Low** Perceived differentiation versus competition
- **High** Perceived differentiation versus competition

- **Success highly uncertain**
- **Market failure likely**
- **Market success likely**
- **Success highly uncertain**

Market success likely

Success highly uncertain

Market failure likely

Success highly uncertain
Figure 9.2  Positioning of Internet Service Providers (ISPs)
Fourth of Five Elements of Start-Up Success

- Markets and Customers
- Products or Services
- Management Teams
- Business Plan
- Financing

Questions:
- How many pages?
- How much time to write?
- When to write it?
- What's in it?
- Written for whom?

Types of plans:
- Funding
- Operational
Fifth of Five Elements of Start-Up Success

- Never run out of money.
- Fair Valuation.
- Attractive ROI
- Financing
- Business Plan
- Products or Services
- Management Teams

Markets and Customers
Writing a compelling business plan

- Elements of a successful and fundable plan
- Some sample plan outlines
- Analysis of a classic venture capital-funded business plan
- Fatal flaws and deal killers – how to avoid them
- "Tips and Tricks" for writing the plan
Elements of a successful and fundable plan

- Markets and Customers (compelling…)
- Management Team (proven…)
- Products and Services (proprietary…)
- Business Plan (content, format, presentation)
- Financing (ROI, pro-formas…)

Some sample plan outlines

See *Engineering Your Start-Up* for many sample outlines
Analysis of a classic venture capital-funded business plan
## Genus, Inc. Case Study ($9.5M, 1981)

<table>
<thead>
<tr>
<th>Section name</th>
<th>Number of pages</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>2</td>
<td>It is compelling and powerful.</td>
</tr>
<tr>
<td>Marketing Analysis</td>
<td>15</td>
<td>The section is comprehensive.</td>
</tr>
<tr>
<td>Product Analysis</td>
<td>4</td>
<td>Says what the product will do, <em>nothing</em> about how it will be developed or invented. Technology is not being sold here.</td>
</tr>
<tr>
<td>Operations Plan</td>
<td>1</td>
<td>The strong management team, with proven track records, can administer operations.</td>
</tr>
<tr>
<td>Management and key personnel</td>
<td>8</td>
<td>Three two-page résumés for the president/general manager, the V.P. finance, and the V.P. engineering, plus an organization chart says it all. <strong>No mention is made of any key engineers</strong> who might design the product.</td>
</tr>
<tr>
<td>Financial Data</td>
<td>12</td>
<td>Tells investors how much money the business is going to make, when, and what will be spent to make it happen.</td>
</tr>
</tbody>
</table>
Some fatal flaws and deal killers – how to avoid them

- Lofty Mission Statement (e.g., reduce world hunger, plow 10% of profits into charity…)
- Missing any of the 5 basics of success w/o acknowledging the fact
- Imputed ROI not attractive
- Fixation on "control," overt greed
- "Distributed leadership," or professed "socialist" management philosophies
Case Study: One Business Plan that Will Never be Funded

- Entrepreneur looking for $500,000 for 15% of the company
  (Implied pre-money valuation = $2.83 million; post-money valuation = $3.3 million)
- Projected Sales of $1 million in 3 years
- Management team is one person
- Market is "everyone"
"Tips and Tricks" for writing the plan

- Can someone else write your plan?
- When to use a consultant?
- Watch out for promises to help raise funds, especially with up-front fees.
Operational Stages of Company Growth — When to Write Your Plan

- **Concept**
  - Still working, you formulate your ideas in a business plan outline, and you start to build your management team.

- **Seed**
  - You quit your job to pursue business planning full time. Your co-founders may remain working.

- **Market Development**
  - Funding is obtained. Your team members join you in the business launch.

- **Steady State**
Getting Funded

- Sources of start-up capital
- "Shopping" the plan
- Venture capital – is it for you?
Sources for Seed Capital for High-Tech Companies

Personal savings dominates!

Note: "Family and friends" plays a smaller role in high-tech start-ups than for most other small businesses.
Figure 6.1  Stages of a Company's Growth
Figure 6.4  Several Years of Venture-Backed IPOs
VCs versus Angels

Venture funds back 
~2,000+ deals per year

Angels support ~30,000 deals per year

Figure 11.2 Venture Capital Investments (1995–2002)
Venture capital – is it for you?

- Who is getting funded? (read, attend…)
- What's your "score" (on the 5 success factors)
- Outside advice (seek it, and listen)
"Shopping" the VC plan

- Unsolicited "Over the transom" plans: % funded $\sim= 0$
- Use VC directories only as a road map (WAVC is good)
- Strong partners are well-connected (work on developing, or joining, a team)
Summary

- **Commit**
  (make the right decision for yourself)

- **Educate yourself** (read, network, explore, experiment, invest time and money, build relationships, build prototypes, cultivate potential customers)

- **Plan**
  (what will result in success for you?)

- **Execute** (persist, but know when to call a loss)
Advanced Entrepreneurship

- Capitalizing your start-up
- Legal structures
- Stock (restricted, common, preferred...)
- Stock Options (ISO's, NQSO's), Other wealth building vehicles
- Stock & Option Grants, vesting, §83(b) elections...
- Valuation, Q & A
Knowledge is $$$

Lack of knowledge of financing tricks, stock grant, and stock option practices can do more to limit your financial success than lacking knowledge of the fundamental basics for business success:

- Markets and customers
- Management team
- Products and services
- Attractive ROI,
- Supported by a written Business Plan
The Relative Importance of Stock

Risks
- Lost salary
- Lost fringe benefits
- Lost family time
- Increased stress
- Short term security
- Lost vacation

Stock
- Better salary
- Excitement
- Fun
- Emotional independence
- Financial independence

Rewards
- Lost salary
- Lost fringe benefits
- Lost family time
- Increased stress
- Short term security
- Lost vacation

The Relative Importance of Stock
To raise the money you need to speak the language... To raise the money you need to speak the language...

Levels of Financing

IPO/Acquisition/Buyout Financing

— 2nd, 3rd, 4th stages

Expansion Financing

— First-stage

Early stage Financing

— Start-up

Seed Financing
Capitalizing your Start-Up (cont.)

Private vs. Public sales of stock
— Private stock offerings
— SEC Registration Requirements
— Initial Public Offerings (IPOs)
— SCORs Small Company Offering Registration

§1244 IRS small business stock (common stock losses can be treated as "ordinary" rather than "capital" losses)
Legal Structures and ownership vehicles

- Sole Proprietorships
- Partnerships
- Corporations
- 'C' - Sub-Chapter 'S'
- Limited Liability Companies (LLCs)

Incorporate with an experienced lawyer!
Stock Ownership, Grant and Award Practices for Your Start-Up

Many questions…

Founders' stock; options; incentive stock options; non-qualified stock options; stock grants; vesting schedules; how many shares? when? legal & tax considerations.
Dividing Up the Pie!

Pre-financing  Early stage financing  Expansion financing  IPO / Acquisition / Buyout financing

Founding employees  Investors  Founding employees  Investors  Key employees
Authorized and Outstanding Shares

- **Authorized**: number of shares you can issue (of no importance to valuation or percentage ownership calculations)
- **Outstanding**: "Issued" = number of shares granted or purchased.
Common vs. Preferred Stock

- “Preferred” for investors
  - Has preference on liquidation
  - Usually has (cumulative) dividend rights; Rights to ROI before common; Converts to common at "exit"
  - Often has anti-dilution rights

- “Common” for founders and key employees
Restricted Stock

- Securities laws — restrictions on transfer (stock is not registered)
- Company restrictions — on transfer (you need to be vested before you can sell stock). Plus, the company / existing investors have rights of first refusal...
• Stock Gifts and Grants
  — Founders' stock

• Stock Options
  — Incentive (ISOs)
  — Non-Qualified (NQSOs)

See Table for Details
ISO Case Study - "Exploiting employee desire for stock options"—selling stock in disguise

- Job offers come with numerous stock options with...
- only 2 year vesting (must exercise w/in short period thereafter)
- 110% fair-market-value
- double up if exercise immediately
How Many Shares to Grant?

- Rules of thumb
- Common stock is considered to be "worth" what's being paid for the preferred, although common is priced typically at 1/10th of preferred
- Option on common stock "worth" 1–2X annual salary is good
How Many Shares to Grant? (cont.)

- Rule of thumb (very rough)
- If CEO gets 100 shares
- Direct reports (VPs) get 10
- Next level reports get 1
- and so on…
Vesting Schedules and Conditions – Exercising Options

- Vesting is typically over 3, 4, 5 years; w/ linear, stair-step, threshold models
- Exercise must be done w/in 1-3 months of termination of employment for ISOs
Founders' Stock

- Common stock; Pay almost nothing if buy before funding;
- Vesting is by time, & may also be based on performance.
- Poor performance can result in dilution of your ownership (either via partial vesting, or investors' performance-based conversion formulas)
Section 83(b) Election

- Allows you to "pay taxes now" on any gain from buying founders stock at a favorable price, and then NOT having to pay taxes when vesting conditions expire (when stock could be worth tons) — only pay taxes later if stock is sold

- Avoids tax surprises later

- Founders should always elect 83(b) — Many don't (using inexperienced lawyers?)
Venture Capital Ratchets

Significant anti-dilution protection for investors via change in conversion privileges of preferred to common if later pricing drops.

Example:

Ratchets are Very common
Make aggressive promises, don't perform, and you may pay
Stock Warrants

- Another instrument of sophisticated investors to increase their ownership
- Allows purchase of additional stock in the future, at older favorable price
- Used properly, warrants encourages your investors to stay in the play (you must insist on increasing warrant conversion prices)
Punitive Financing

- Ratchets (invoked on lower pricing)
- Turnarounds (if pricing flat; management may be replaced)
- Re-starts (if pricing declines; management is replaced)
Company Valuation

- Pre-money defined
- Post-money defined
- Rule of thumb (~$3-5 million is pre-money valuation for a start-up with a good management team, a hot market w/ identified customers, and a "protected" product)
Pre-money defined

Example:
1,000,000 shares outstanding:
   300,000 sold for $0.01/share $3,000 (founder's common shares)
   700,000 sold for $1.00/share $700,000 (preferred shares)
   Total paid-in-equity $703,000
If new investors willing to pay, e.g., $2.00/share, pre-money valuation is $2,000,000
Example continued:

1,000,000 shares outstanding:

New investors willing to pay $2.00/share, for 1 million new shares (contribute $2,000,000).

Total paid-in-equity = $2,000,000.

Post-money valuation = # shares outstanding * last price

= 2,000,000 * $2/share

= $4,000,000
Post-money defined (cont.)

Example continued: (using "percentage" approach)
Imputed valuation = amount invested ÷ % purchased
(from amount invested = valuation * % purchased)
In above example: investors bought 1 million new shares, which become 50% of the company, and
Imputed valuation = $2,000,000 ÷ 50% = $4,000,000

"A $2 million addition to a $2 million valuation company equates to a $4 million post-money valuation"
Post-money defined (cont.)

Scenario
Entrepreneur: "My company is worth $2 million."
VC: "Is that pre- or post-money?"

[Translation] "Is that before or after we put in $2 million?"

Conclusion: simple stuff — better have it down cold.
Summary

- Incorporate with an experienced lawyer
- Maintain clean corporate records, follow your bylaws and articles of incorporation; Maintain CPA audited financials
- Full disclosure to investors — always
- Create fair, motivating, win-win performance-based stock and option structures; Understand dilution risks
Summary (cont.)

- Don't violate securities laws
- Don't neglect tax consequences (e.g. §83(b) elections, §1244 stock declarations, use of tax-deferring ISO's...)
- Valuation is in the eyes of the buyer
- Never ever run out of money
- Stop and smell the roses too