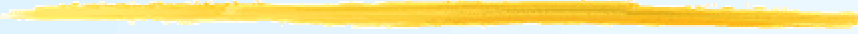


290T: The Business of Software: From Business Model to Business Plans



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Fall 2003
EECS
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Course feedback

- **On a sheet of paper, please tell us the following**
 - **3 favorite things about this course**
 - **3 least favorite things about this course**
 - **3 suggestions for improvement**
- **You may sign your name if you wish, but it's not necessary**
- **Be honest!**
- **We're all learning in this course... and there is still time to incorporate your feedback.**

2

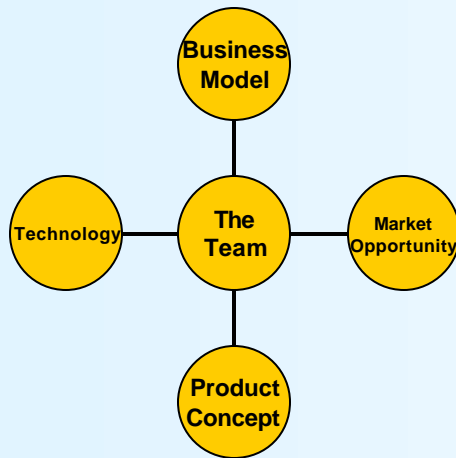
Projects

| Project | Description | Team |
|-------------------------------|---|--|
| PandoraBots | Software robot hosting service | Gabriel, Brian, Ashley |
| Personal data management | Managing all the data individuals are creating | Laheem, Phil, Lauren, Rachel |
| PicoRadio | Applications for low-cost/low-energy motes | Jennifer, Ravi, Myra, Florian, Christian |
| Program analysis for security | Automatic code analysis software for finding security holes | David, Jimmy, Tom, Egan, Joyojeet |
| Tricked Out Texas Hold 'em | Software that lets players practice and optimize their poker strategies | Will, Leo, Arkadeb, Albert |
| X-think | Tablet PC Scientific Calculator | Satrajit, Scott, Ram, Kevin, Abdul |

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The business model

- A business model is a system model for the inputs (intellectual property, human effort, capital) and outputs (products, revenue, earnings) of a business



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Business Model: A Detailed Model of Your Business Enterprise

Executive Management

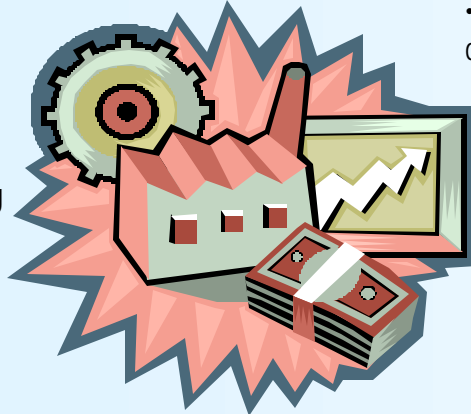
- CEO
- Mktg, Engr, Sales VPs

Factory/tooling

- Infrastructure
- Computing
- R&D Staff
- Support

Capital

- Self-funded
- Angel, VC



Products/Services

- Product/service definition

Marketing

- Market sizing
- Competition

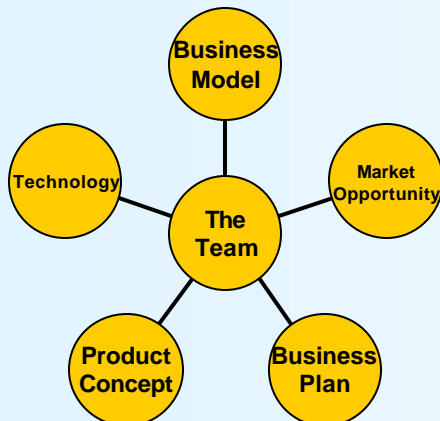
Mktg/Sales

- Customers
- Model of sales engagement

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Business plan

- With the business model in place, we need a written version of it - with financials



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Business Plan

Purpose

- **Attract investment**
- **Long term plan for the company**
- **Documentation**

The business plan is almost a simple codification of the business model – what else do we need?

Outline:

- **Team overview**
- **Business environment**
- **Product Overview**
- **Sales and Marketing Plan**
- **Financial Summary**
- **Product Development Plan**
- **Final checklist**

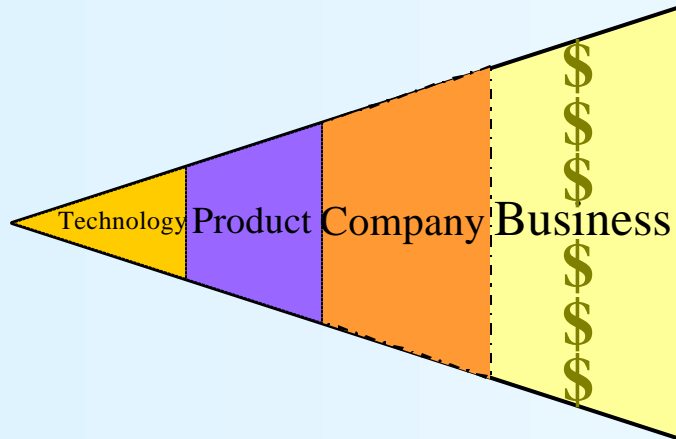
7

[why do business models matter ?]

- **Provides a common language**
- **Enables analogies, hypotheses**
- **Acts as a road map**
- **Ensures focus on sustainable growth**
- **Isolates problems, transition points**

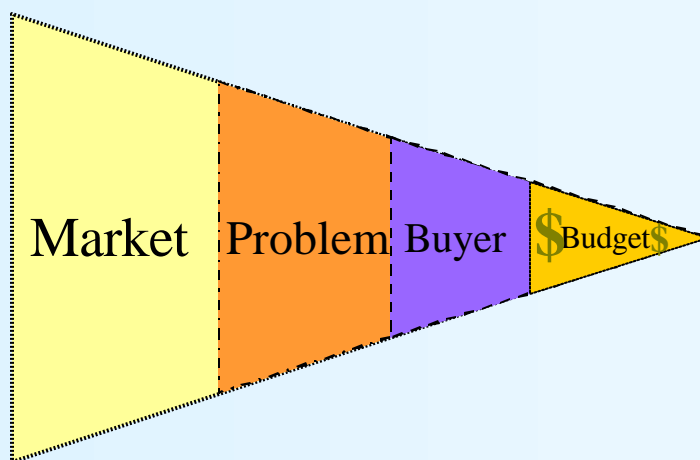
From Darlene Mann
(<http://haas.quimbik.com/files/DarleneMann.ppt>)

[first point of confusion]



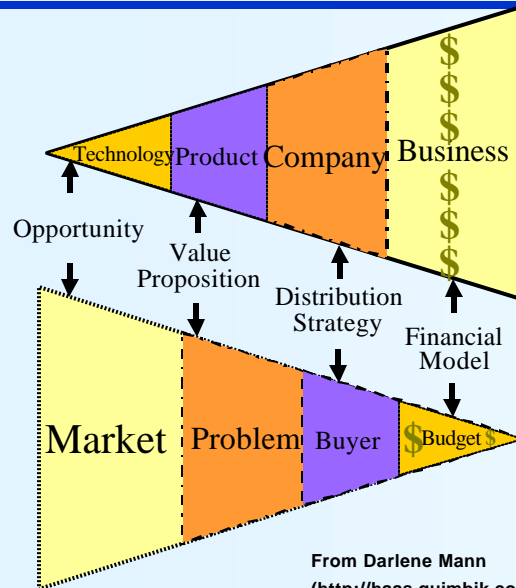
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[second point of confusion]



From Darlene Mann
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[creating a business model]



Business Model: A Detailed Model of Your Business Enterprise

Executive Management

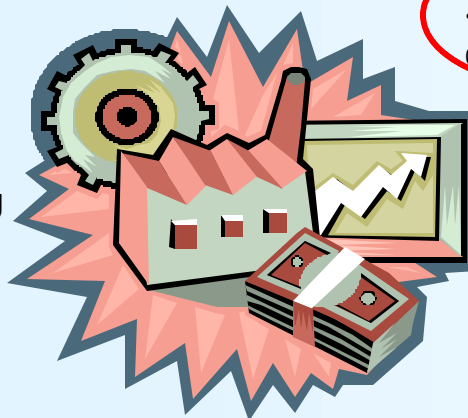
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What's the pain?

- What pain is your product/service easing?
- Is your product/service a “nice-to-have” (vitamin) or a necessity (headache)?
- Sometimes the pain is obvious
 - From Documentum case: pharma companies spending 6 months to assemble a single new drug application (NDA) for a single country using a completely manual process
 - Wireless LAN security
- Other times, it's less obvious
 - High cost of WAN links – expensive, but not prohibitively so

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What's the value proposition?

- A pain is a customer problem
- Your product/service solves this problem
- A value proposition is what your product/service does for the customer
- From Drew Isaacs:
 - A value proposition either
 - Enables something that was previously impossible
 - Has a demonstrable cost savings
 - Dramatically and quantifiably improves productivity

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What's the phrase that pays?

- The value proposition should be **easily** understood by everyone
 - Investors
 - Customers
 - Partners
- Delivery of the value proposition is **CRITICAL**
 - Convey the value of your product/service
 - Short: ≤ 1 sentence
 - Easy to understand
- Examples
 - Documentum: "Enterprise Content Management"
 - Chronologic (now SNPS): "Faster Verilog"
 - Peribit: "Instant WAN Capacity"
 - "Check Point of wireless networks"

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Business Model: A Detailed Model of Your Business Enterprise

Executive Management

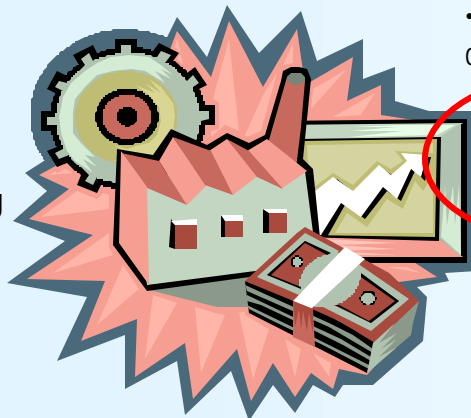
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Market Sizing & Market Growth

- **Total available market (TAM)**
 - = total \$\$ available for your product/service
- **Serviceable available market (SAM)**
 - = total \$\$ that you can serve
- **Market growth rate: this is just as important as market size**
 - A fast growing market gives your company some slack
- **Methods for market sizing**
 - Top down
 - Bottom up
 - Comparables (comps)

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Market Sizing – Top Down

- **Top down analysis starts with a larger market, then whittles this down**
- **Rarely will you get to the TAM for your product**
- **This will almost always be an over-estimate**
- **Examples**
 - **Average tool budget of IC design team/industry 1-3% of expected revenue**
 - **Average enterprise corporation Information Technology budget**
- **Size these down by the relative importance of your application (what other products will your customers give up to buy yours)**

If you're lucky these numbers are available from Dataquest, Gartner Group, International Data Corporation – otherwise

- **Private industry analysts (e.g. Will Stauss, Handel Jones)**
- **International trade shows (Design Automation Conference), Journals (EE Times) and organizations (ACM - SIGDA, IEEE etc.)**

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Market Sizing – Bottom Up

- Bottom up analysis aggregates account by account info
- TAM = # users * average selling price (ASP)
- SAM = penetration rate * TAM

- How to get number of users?
 - Segment the market (possibly multiple ways)
 - By tiers (e.g FPGA vendors)
 - Tier 1 – Xilinx, Altera
 - Tier 2 – Atmel, Actel, Cypress, Lattice
 - Tier 3 – ...
 - By application areas (e.g. digital signal processors)
 - Wireless, wireline, consumer, automotive, computer
 - Find/Estimate size of each of the constituent companies

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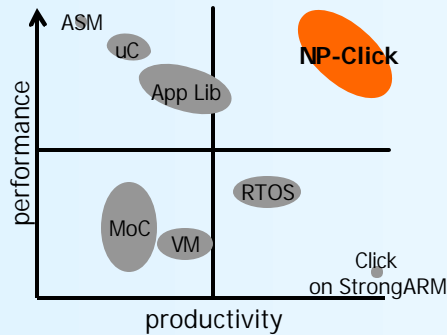
Market Sizing – Comps

- Investors like analogies and metaphors
- But, be sure you know who you're comparing to
 - Many software companies say they want to be like Microsoft, but they took 9 years to go public
- Why are you similar to them (or expect to be similar to them)
- Examples of similar successful efforts
 - Revenue ramp
 - Market cap/acquisition price
 - multiple of revenue
 - multiple of profit
- Careful not to stretch the metaphor

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Competition

- **Competition:** those who are solving/have the potential to solve the same/similar problem you are
- This does not mean they are solving it in same way as you are!
- Typical methods of showing competition
 - 2x2 (make sure your company is in the upper right corner)
 - SWOT analysis on you and your competition
 - Strengths, Weaknesses, Opportunities, Threats



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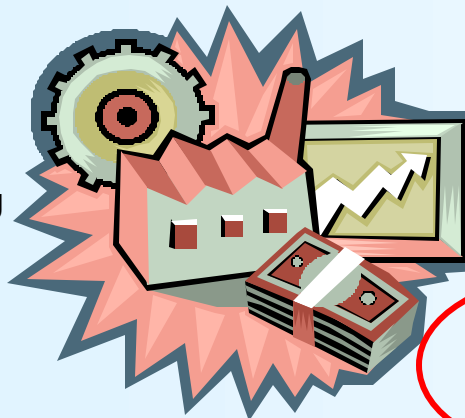
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Customers

- **When sizing the market, you identified customers**
- **Know your customers well!**
- **How do you reach them? (What's your channel?)**
 - **Direct**
 - **Indirect**
- **How do they currently operate? What's their current process for dealing their pain?**
- **What are their expectations for your product/service?**
- **How do they buy?**
 - **Who makes the decision to buy?**
 - **How do they make that decision?**

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Sales Engagement

- **For example:**
 - **Demand creation & product awareness**
 - **Emails, tradeshows, webcasts**
 - **Meet with potential user & decision maker**
 - **Convince them for your value proposition**
 - **Understand (if you don't already) how they make decisions**
 - **Evaluation**
 - **Eval copy of SW**
 - **Field Application Engineer**
 - **Close the sale**

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Business Model: A Detailed Model of Your Business Enterprise

Executive Management

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Business Plan: A Quantitative Detailed and Forecasting Model of Your Business Enterprise

Executive Management

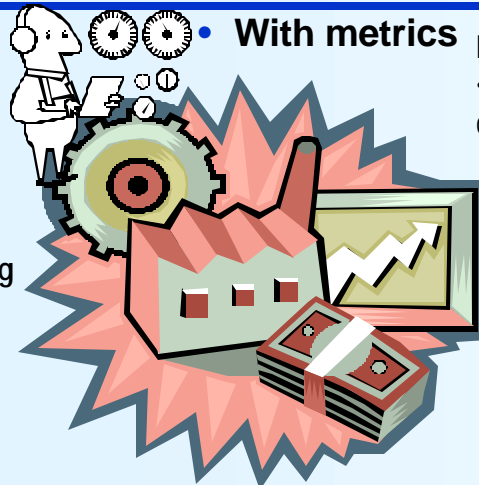
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• With metrics

Products/Services

- Product/service definition

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- Market sizing
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Business Plan

Purpose of a business plan?

- Attract investment
- Long term plan for the company

The business plan is almost a simple codification of the business model – what else do we need?

Outline:

- Team overview
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Sales and Marketing Plan

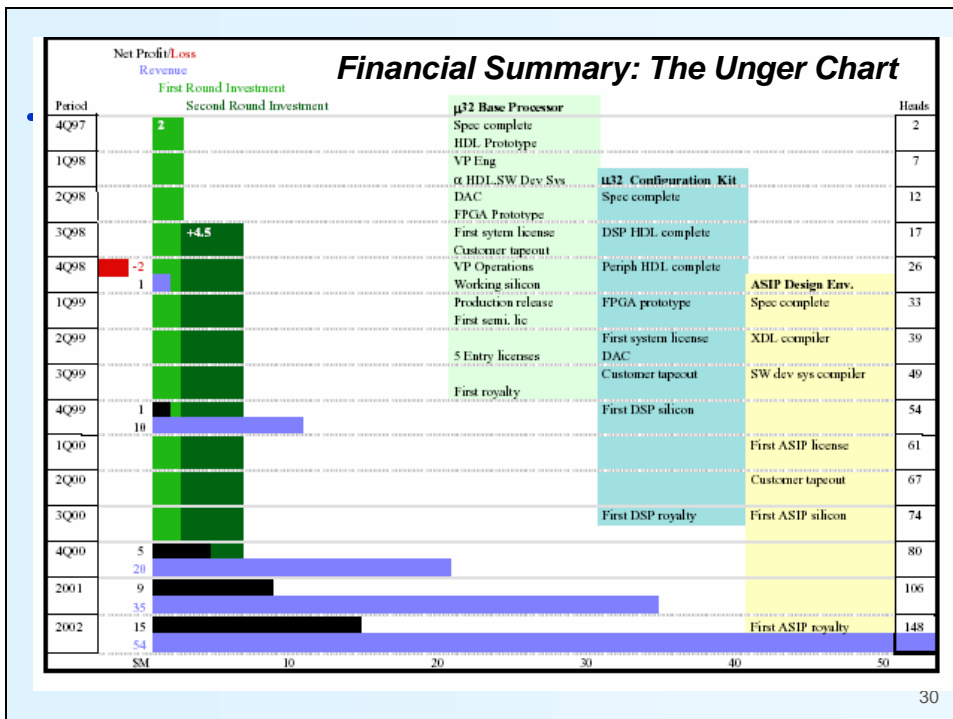
- Based on your segmentation and analysis, determine the initial target segment(s):
 - Market growth
 - Competition
 - Buying behaviors
 - Customer expectations aligned with your ability to deliver
 - Early adopters
 - Choose segments that will ultimately provide the best customer base for sustained revenue
- How will you reach those customers?
- How will you sell to those customers?
- Timetable for milestones

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Financial Summary

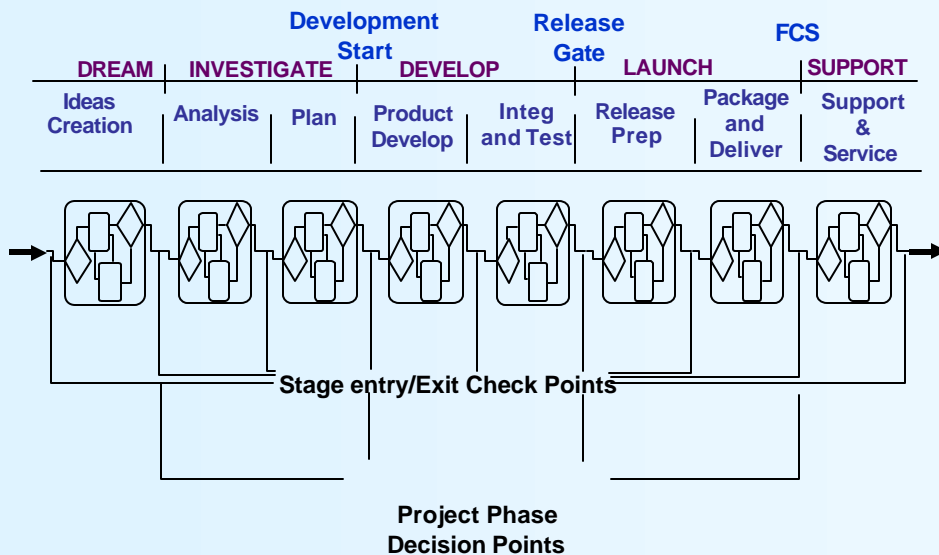
- A summary of a detailed financial model
 - Project 4-5 years (quarterly for the first 2)
 - Revenue
 - Headcount
 - Profit/Loss
 - Milestones
 - State your assumptions
- This investment
 - Seeking \$xxx
 - Uses of cash
 - How long will it last
- Align investment rounds with significant milestones (e.g. referencable beta customers, FCS, revenue target, cashflow +ve)

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Semi-Waterfall Software Development Process



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Putting it all together

The business plan is principally a codification of the business model

- Key questions to address:
 - Who are the customers? Target, alpha, beta
 - Why should they buy this product?
 - How will we validate that the product meets spec?
 - What is the “phrase that pays” for the product positioning
 - Is there a competitor that can cover your phrase? If not, who are closest competitors?
 - Who will be your reference customers?
 - What is the one action your competition could take in the next year that would hurt most?
 - What is the one action you could take that would hurt your competition most?

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Contents of a Strategic Business Plan for an Entrepreneurial Venture

| | |
|--|---|
| I. Table of Contents | X. Human Resources Plan |
| II. Executive Summary | XI. Ownership |
| III. Nature of the Business | XII. Risk Analysis |
| IV. Strategy Formulation | XIII. Timetables and Milestones |
| V. Market Analysis | XIV. Strategy Implementation—Action Plans |
| VI. Marketing Plan | XV. Evaluation and Control |
| VII. Operational Plans—Service/Product | XVI. Summary |
| VIII. Financial Plans | XVII. Appendices |
| IX. Organization and Management | |

**Wheelen/Hunger: STRATEGIC
MANAGEMENT AND BUSINESS POLICY, 8/e (Prentice-Hall, 2002)**

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Simple Outline of the Business Plan

- **Team overview**
- **Business environment**
- **Product Overview**
- **Sales and Marketing Plan**
- **Financial Summary**
- **Product Development Plan**
- **Final checklist**

To stand out, a business plan should allow brilliance in:

- **Market identification**
- **Product and technology**
- **Business innovation**

Business plan is not intended to hide flaws or baffle the viewer/reader

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Business Plan Template

Your name
Company Name

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Outline

- Team overview
- **Business environment**
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Outline

- **Team overview**
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Outline

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Customer Profile

- **Describe the customer of this technology including their work environment, design flow and experience level**

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Product Objectives

- **Outline product scope**
- **Define what problem the product is intended to solve**
- **Discuss customer/market requirements**
 - **Discuss which will be met and which will not be met**

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Customer Value Statement

- Describe this product's value to the customer/user

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Product Description

- Describe how the product fits into the customer usage flow
- Describe the synergies and dependencies the product has with other products or infrastructures

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Outline

- **Team overview**
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Market Segmentation

- **Break the market into segments**
- **How are the individual segments characterized?**
- **What are the buying behaviors of the different segments?**
- **What are the expectations of the segment (product performance, reliability, sophistication)?**
- **Which segments will most rapidly adopt the technology?**
- **Which segments will ultimately provide the best customer base for sustained revenue?**

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Market Size and Dynamics

- Describe how this product fits in the key market trends
Estimate the potential market size
- Estimate the projected market growth
- Estimate your expected market share goal
- Estimate the market window for this idea in terms of timing
- Identify competitors and their characteristics (next slide)
- (break info into market segments as is useful)

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Competitive Assessment

| Company | Strengths | Weaknesses | Opportunities | Threats |
|---------|-----------|------------|---------------|---------|
| Comp1 | | | | |
| Comp2 | | | | |
| Comp3 | | | | |
| Etc. | | | | |

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Outline

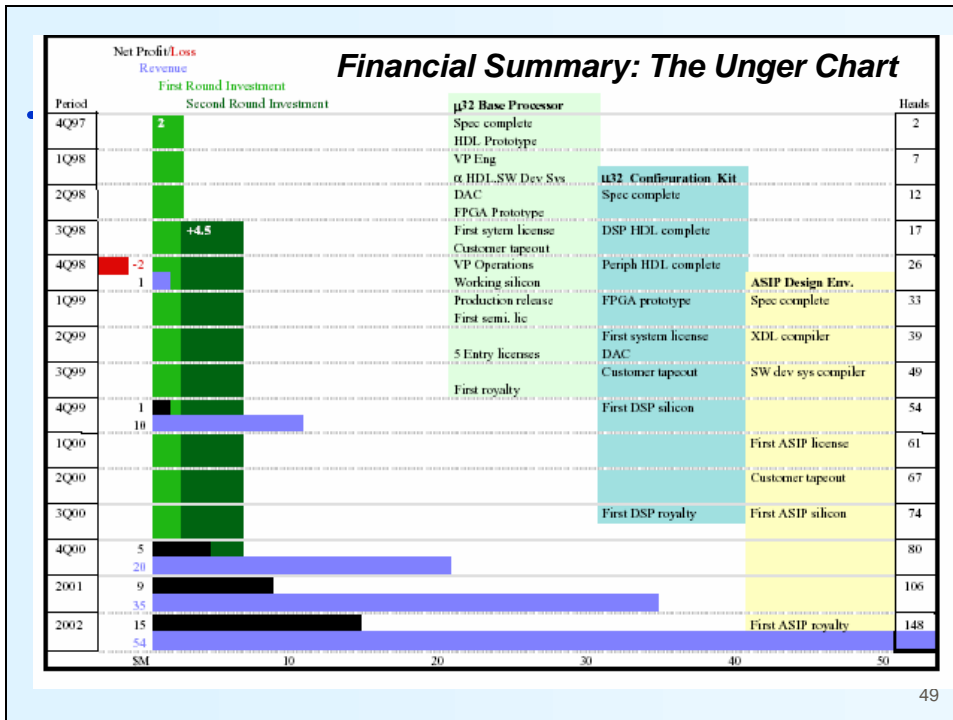
- **Team overview**
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Financial summary

| | FY 02 | FY 03 | FY 04 | FY 05 |
|----------------------------------|-------|-------|-------|-------|
| Total available | | | | |
| Market Serviceable Market | | | | |
| R&D Cost | | | | |
| Marketing cost | | | | |
| Cost of sales | | | | |
| Other costs | | | | |
| Revenue | | | | |
| Market share | | | | |

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Outline

- Team overview
- Business environment
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Product Development Schedule

| ACTIVITIES/MILESTONES | DATE(S) |
|--|---------|
| <ul style="list-style-type: none">• Prototype• Testing• Benchmark• Alpha• Beta• Other | |

Outline

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Open Issues

- **Identify any open issues (including risks and contingency plans)**

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Appendix - Documents

- **Provide status of development documents and their locations**
- **Pointers to web page**

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Potentially Useful Slides

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Product Development Scope/Project List - optional

| Project | Priority | Effort (person/weeks) | Status | Release |
|---------|----------|--------------------------|--------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

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Product Positioning

| | <i>Articulation</i> What do you say | <i>Action</i> What do you do | <i>Association</i> Who you work with |
|--------------------------|---|--|--|
| <u>Technology</u> | | | |
| <u>Product</u> | | | |
| <u>Market</u> | | | |
| <u>Company</u> | | | |

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Resources and Staffing

- Identify resource and staffing requirements going forward

- Marketing
- R&D
- Application Engineering
- Computer Infrastructure
- Sales
- Consulting

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