CSE 403
Lecture 26

Tech Startups

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some ideas and content taken from slides by Wayne Yamamoto, Wikipedia

Startups

- **startup company** ("startup"): A company, partnership, or temporary organization designed to search for a repeatable and scalable business model.
  - became very popular during dot-com bubble
  - often a company poised for rapid growth
    - must be able to reach many people, and make money from them
  - a new/small company != a startup, ... but most are
  - often based on technology
    - low cost to enter market
    - easy to reach many people
    - high risk, high reward
  - *... Could you make a startup??*

Your idea

- Are you sure your idea is even any good?
  - Many successful ideas are "**disruptive**" to an existing market, or create a new market that was not seen before
    - example: Tivo disrupts TV market / creates DVR market
    - example: Facebook, Twitter disrupt online social networking
    - example: FourSquare creates location-based "check in" ad market
  - You may need to do **market research** to validate your idea.
    - assess / develop business ideas and concepts (what is it?)
    - assess revenue potential (can it make money?)
    - identify potential for growth (what is the future of the idea?)

Do you own it?

- You might not "own" your idea if:
  - the idea came from a course or project
  - you built it in a group (group may collectively own it)
  - it uses any university resources (servers, libraries, etc.)
  - it uses any university intellectual property

- Many startups must acquire IP protection of their ideas.
  - Often close to 100% of the value of a startup is in its IP.

A minimal startup team

- A **hacker**
  - (developer, writes most of the code)

- A **hustler**
  - (manager, handles business side)

- A **hipster**
  - (designer)

- Some teams have a few hackers instead of just one
  - but ignoring the other categories is perilous

A startup timeline

Ideation

Potential scalable product/service idea for big enough target market. Some initial revenue models for how it would make money. One person OR only vague team; no confirmed commitment and/or no right skills balance in the team structure yet

Concepting

Having clear and meaningful target with clear direction for min. 3 years with milestones to get there, -> 3, 6, 12, 24, 36 months… Having team of two or three core founding people with balanced ownership. Can also already have some extended team with lighter commitment (stock options and/or cash compensation)

Commitment

Committed & skills balanced founding team. Able to develop the product/service (Minimum Viable Product) without dependency of uncommitted external resources OR already have initial product/ service developed. Have signed shareholder agreement between founders, with milestones, committed time and money usage, for min. 2+ years with vesting etc.

Validation

Can already show some user growth and/or revenue (initial traction). AND/OR continue to attract additional resources (money or sweat equity) for equity or future revenues. Looking for clear market validation (Product Market Fit), to be able to move into scaling.

Scaling

Showing clear, growing and measurable user/market traction in big or rapidly growing target market. Can and want to scale fast. AND/OR is able to attract significant funding.

Establishing

Achieved great growth, that can expected to continue strong. No longer need to "try" get resources and can get those easily. Continue to grow and often wants to culturally continue behaving like a "startup" for as long as possible. Founders make exit or continue biz as usual.

Prototypes

- Hack out a **prototype**.
  - spend 2-10 weeks max
  - Investors are much more likely to fund you if you can show them some minimal initial version of your idea.

- one source: **hack-a-thons**
  - Some universities run 24-hour hack-a-thons where groups build prototype apps to win prizes.
  - Sometimes investors or other groups watch these events and contact promising groups about turning these into startups.

Iterating on a prototype

- Even if started as a prototype/hack, software engineering principles are still important for a project
  - back-create a spec and requirements, rough feature list
  - set up version control repo
  - code review it, refactor poorly designed code
  - add unit tests and some system tests
  - daily builds and automated tests
  - speak to potential users, do UI/usability testing
  - re-examine code for security, performance, reliability, etc.

Money

- Do you need funding to build your prototype?
  - Growing a company typically requires money.
  - Can you afford to "bleed" till your demo hits?

- Reasons you might need money:
  - pay core employees (devs, manager, designers)
  - purchase equipment (computers, servers, software, services...)
  - pay for licenses to use intellectual property
  - rent office space

Angel investors

- **angel investor**: An affluent individual who provides initial capital for a business start-up.
  - amount is generally smallish (~$10-30k)
  - gets company off the ground to prototype stage
  - often decided quickly and on a fairly informal proposal
  - angels are *accredited investors* to comply with SEC regulations
  - in US, many angels (≥40%) are in Silicon Valley
    - other sources: NYC, Seattle, Austin, Boston, NC Research Triangle

- angels are compensated with:
  - *ownership equity* (a percentage of ownership of the company)
    - implies company's value *(e.g. $10k for 5% stock => $200k value)*
  - *convertible debt* (options to buy stock in the company later)

Venture capital

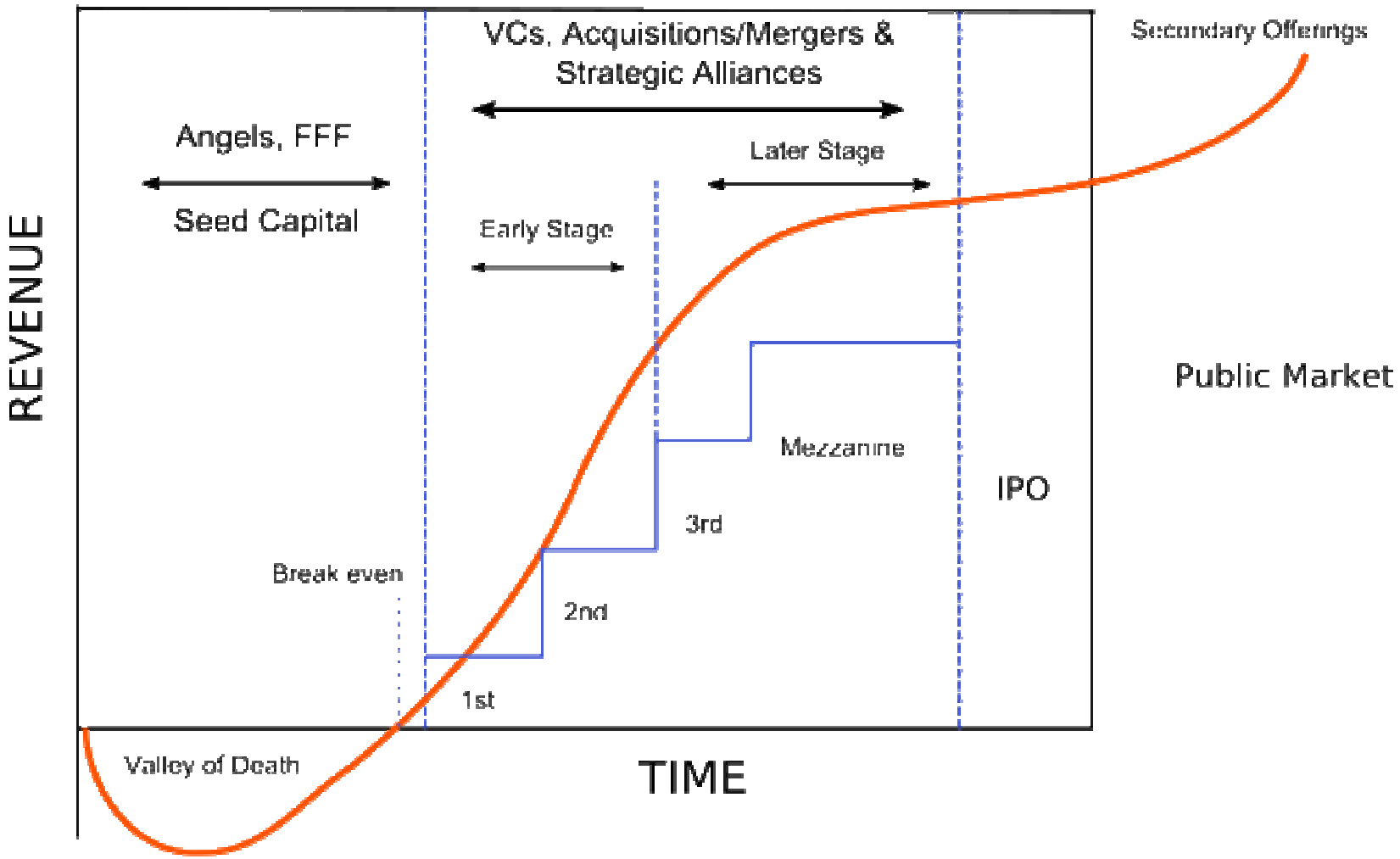
- **venture capital** ("VC"): Financial resources given to early-stage companies.
  - given to startups by VC firms (groups)
  - VC firm gets % of profits or equity (stock)
  - different from bank loans; does not need to be paid back

- stages of VC financing:
  - seed funding: initial minimal funds; often given by angels
  - start-up: early funds from VC firm for marketing/dev
  - growth ("**series A**"): large investment ($1-2M) for preferred stock
  - second round: company is successful, but not profiting
  - expansion ("**mezzanine**"): $ given to a newly profitable company
  - exit/bridge: VC firm sells stock once company matures

Getting VC

- VCs won't fund just anyone.
  You must convince them.
  - have a means of contacting/meeting a VC firm
  - pitch your product
  - convince the firm that:
    - you have a good idea
    - people want it
    - that you have addressed a problem or need and will solve it
    - it is profitable
    - it has growth potential
    - you have assembled a good team to execute it
    - you can beat any (potential) competitors
    - you have legal right to produce the product (own relevant IP, etc.)
    - you are open to suggestions, partnership with the VC firm

Funding timeline



Other funding sources

- **friends and family funding** ("fff"): asking friends to borrow/donate money
- **grants** or government funding
- **bank loans**: taking out a standard business loan to be repaid
- **public equity**: Selling stock in the company
  - IPO (initial public offering) often comes after VC funding
- **crowd funding**: Asking the public for donations
  - e.g. Kickstarter

Startup incubators

- **incubator**: Program designed to support successful development of startups by providing business resources.
  - business, marketing, and networking advice
  - computing resources (computers, net access, servers)
  - financial advisors
  - management teams
  - access to loans and banks
  - access to angel investors and/or venture capitalists
  - legal advisors (such as for intellectual property rights)

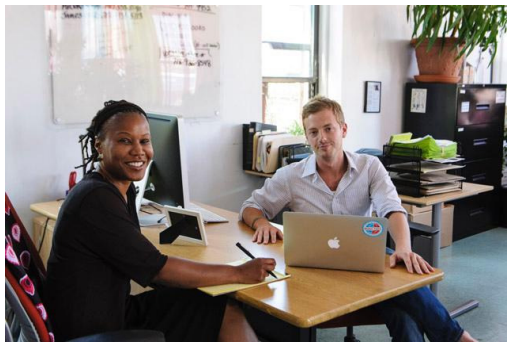
  - Examples: Ycombinator, Techstars

techstars

Y Combinator

Working at startup - pros

- motivation
  - work on something you believe in
- autonomy
  - smaller team; you get to make decisions
- ownership
  - you may be given stock in the company
- compensation (long-term)
  - chance to get rich if company becomes a hit
- casual workplace atmosphere



Working at startup - cons

- compensation (short-term)
  - somewhat lower pay than at big company
- fewer perks
  - less free food, games, toys
- job security
  - company might fail
- long hours
  - entire company's fate rests on short-term milestones; may have to work long days and/or weekends to meet them

Startup failure

- Up to 75% of startups fail. Why?

  - can't raise enough initial angel/VC funding
  - wasting too much money at early stages
  - company doesn't begin with the best people
  - doesn't produce something people want
  - hires too many people too quickly
  - hires the wrong people, or people with the wrong skills
  - doesn't produce a working product in a timely manner
  - not able to successfully monetize the idea
  - beaten out by a competitor

UW/Seattle resources

- UW Center for Commercialization (depts.washington.edu/uwc4c/)
  - helps develop idea, find w/ VC firms, advisors, interns

- UW Startup Weekend (uw.startupweekend.org/)
  - event where coders, hustlers get together to network, develop, pitch ideas, meet mentors

- UW CSE Startup Recruiting Fair
- UW CSE Startup Office Hours

- Startup Seattle: city-wide initiative and resources
- Started in Seattle: a list of Seattle startup companies

- Seattle VC firms: Madrona, Arch, WRF, Voyager, Vulcan, OVP, Ignition, Frazier