

Computer Histories 2013 Startup Simulation – Final Version 10/04/13

Inspiration

"Life can be much broader once you discover one simple fact: Everything around you that you call life was made up by people that were no smarter than you and you can change it, you can influence it, you can build your own things that other people can use. Once you learn that, you'll never be the same again." - Steve Jobs

Scenario

The time is...today

We will simulate a small startup company creating a mobile app

Goals

1. Students will have the creative experience of de novo development of an app
2. Students will simulate a startup experience, the core of all advancement in computing
3. Students will apply concepts learned in class to the exercise
4. To get you out of your comfort zone, To create something that you use everyday, To be a Maker
5. To create history as well as to study history

Methods

1. Teams of 3 students
 - a. Each team will create an app
 - b. Each student will have one (or more) jobs within the team
2. Deliverables
 - a. App Design Document of 1-2 pages which describes functionality of app. This will be created and refined on course Facebook group Wiki
 - b. App Wireframe Document of 3-4 images which shows how app will appear and work. This will be uploaded to course Facebook group Wiki
 - c. Business Plan of 2-4 pages. This will be created and refined on course Facebook group Wiki
 - d. A working app
 - e. In-class "pitch" demonstration of app and presentation of Business Plan to take the app to market

Schedule

See Computer Histories Syllabus / Assignments

App Design Document due October 14, App Wireframe Document due October 21, App / Business Plan / Pitch due December 9

Expectations

I expect you to be an active participant in the design and creation of your team's app (including App Design Document, App Wireframe Document, Business Plan)

It is up to you as to how expert you become in the simulation's mechanics of programming, but the more expertise you develop, the more you learn, the more you can contribute, the better the app will be

Review the questions you will be asked to answer in Essay 3 Simulation Reflections

I recommend you keep a brief diary of your simulation experience and jot down a few notes as you go along

These notes will be useful to you when you go to write Essay 3 Startup Simulation Reflections due December 9

Grading criteria [based on deliverables]

1. Your team's App Design Document and App Wireframe Document and your participation in its development – 40%
Success will be judged by proposed functionality, usefulness, and uniqueness of the app
2. Your team's Business Plan and your participation in its development - 20%
Success will be judged by its thoroughness and probability of success
3. Your team's app and your participation in its development – either coding or debugging- 20%
Success will be measured by your conduct and your team's process and progress in the simulation, rather than how well your app functions
4. Your participation in the in-class presentation – 20%

Materials

1. App creation tools

Recommended

MIT App Inventor for Android - appinventor.mit.edu

Microsoft Kodu for serious games for Windows / Xbox 360 - fuse.microsoft.com/projects/kodu

Microsoft Spark for serious games for Windows / Xbox One - joinprojectspark.com

Others

AppMakr for iOS - www.appmakr.com

Conduit for all platforms - mobile.conduit.com

GameSalad for all platforms – www.gamesalad.com

LiveCode for all platforms – www.runrev.com

2. Proposed algorithm for conducting simulation (see below)
3. Templates for App Design Document, App Wireframe Document, Business Plan (see below)
4. Reflection exercise at end of simulation
 - a. 1 minute critique of the exercise
5. Reflection essay at end of simulation

Potential Ideas for Apps

1. You've all been through orientation - what app would you make for orientation? What would be the ultimate new University of Iowa student app?
2. Digital Public Library of America (www.dp.la) – app for accessing the information within it
3. How a computer works or how the Internet works – app that relates to the topic of the course
4. Grand Theft Galapagos – a serious games app in which you are Charles Darwin exploring the Galapagos Islands for the first time. Consider using Microsoft Kodu or Project Spark to create this

Your Mantra

When in doubt, move forward and be creative! ~ or ~ Keep calm and carry on.

Sources of Inspiration

1. Movie to watch - Startup.com
2. Novels to read – JPod by Douglas Coupland, Microserfs by Douglas Coupland, The First \$20 Million is Always the Hardest by Po Bronson, The Last Best Thing by Pat Dillon
3. Startups to visit in Iowa City – clusterFlunk – www.clusterflunk.com, Bedell Entrepreneurship Learning Laboratory – www.iowajpec.org/bedell, Thinc: Innovation and Collaboration Lab! at John Pappajohn Entrepreneurial Center
4. Web site to look at - <http://www.bytesizeadventures.com/blog/from-idea-to-app-store-in-6-months/>

Teams

Team 1 – Andrew, Bryan, Chelsey

Team 2 – Dom, Jimmy, Lauren

Team 3 – Davis, Hannah, Taylor

Proposed Algorithm For Conducting Simulation (Adapted from my experiences and readings)

Deadline	Team Lead	Steps
September 30	Both	Choose type of app to do
	Both	Choose name of app
October 7	Both	Face to face meeting to work on App Design Document + App Wireframe Document
October 14	Both	Define product
		App Design Document including functionality
	Both	Define market / Market research
		Who is the user
	Both	Define competition
		Look in iTunes + Google Play app stores to identify competition
		What makes you unique?
	Both	Redefine product based on what you learn defining market + competition
October 21	Both	App Wireframe Document
	Both	Determine platform (Any or all of Android, iOS, Windows Mobile – and why)
	Coding	Choose authoring tool
October 28	Coding	Start coding app
October 28	Business	Start creating Business Plan
		Name of company
		Logo of company
		Where + how to sell it / distribute it
		What to charge for it
		Design marketing campaign
November 18	Both	Face to face meeting
		Alpha test app + Business Plan internally
		Find + fix bugs
		Incorporate feedback
December 2	Both	Face to face meeting
		Polish pitch of app + Business Plan
December 9	Both	Pitch app + Business Plan
		Your Pitch will be a little like Dragon's Den / Shark Tank
		Reflection exercise + Reflection essay
		[This is where we will stop]
	Both	Beta test publically
		Find + fix bugs
		Incorporate feedback
	Both	Launch
	Business	Execute marketing campaign
	Both	Continuous Quality Improvement
		Find + fix bugs
		Incorporate feedback

Note – Each team has a Coding part of the team and a Business part of the team. The part of the team that is listed for each step takes the lead on the work for that step, while the other part of the team proofs the work for that step.

For inspiration look at <http://www.bytesizeadventures.com/blog/from-idea-to-app-store-in-6-months/>

App Design Document Template

In a Few Words

A single sentence that captures what the app does.

Audience

Who is going to use your app? Describe the profile of your typical user.

The Experience

What is it like to use the app? Highlight the core features. What make the app compelling to use? What is the overall experience you are trying to achieve?

How it will be used

When and where will the user be interacting with the app? Detail a few scenarios where the app will be used, focusing on individual features of the app. This will let you act out usage of the app.

Features

List all the core features of the app. Detail their functionality.

[Fill this out online on the course Facebook Wiki, find your file in the Files section]

[For inspiration look at <http://www.bytesizeadventures.com/blog/app-development-the-design-document/>]

App Wireframe Document Template

Definition: A wireframe is a visualization tool for presenting proposed functions, structure and content of an app.

Plan functionality + layout of your app without worrying about end appearance. Forces you to think of function over form

Create with computer sketching software – or - pen / pencil / paint on paper and scan it in

Create sketches of the key screens of your app

Then link the screens together to visualize a user's workflow, or journey through the app

When done, upload this to the Files section on the course Facebook Wiki

[For inspiration look at <http://www.bytesizeadventures.com/blog/app-development-the-wireframes/>]

Business Plan Background

You will create a 2-4 page executive summary of a business plan

What is business plan for

Forces you to reduce your dream to writing – structure the process of really figuring out the business

Get you audience with venture capitalists

Provide a shared roadmap for your journey, to synchronize everyone in company, to share with employees / customers / suppliers

Business plan sells your company

Use it to raise money and for real planning

Formulate + solidify strategy, hiring plans, space needs, markets to sell to

Test waters + get feedback

Purpose of business plan

Sales tool for raising capital

Organizational tool for management by obtaining agreement among principles on

Corporate goals

Strategies + tactics to achieve goals

Roles of principles

Scarce resources (cash) and how to spend it

Budget

Elements of business plan

Outline

Executive summary

Business strategies

Products

Operation Plan

Management team

Timeline + milestones

Risk analysis

Financials

Basic elements – people (can they execute the plan), product, plan

Document

Contains user scenario – day in the life of a customer before + after they got your product and how it changed their life

Build demo around this story

Needs 5 years of financial forecasts (profit + loss statements) – discuss when you will be profitable and cash positive

Financial forecasts

Presentation you give

Product demonstration

Creating a product gives you customers who give you revenue

Marketing is a way to efficiently create satisfied customers

Do people really want this product – find the customers and see what they want – are their needs being met by pre-existing technologies?

Things to consider in a business plan

Evaluate your market – what need will this fulfill, how big is market, what chance do you have, who will buy it

Are you creating a market or entering an existing market – what makes you different, need to give compelling reason for its use,
who are your competitors / what are their strengths and weaknesses / where do you fit in

How will you deal with competitors – identify them and your strategy to deal with them

What is your competitive advantage – what do you offer that others don't – is it real, does it matter, do people care about your service

Kill your competitive advantage to determine what you will do when your competitors kill it...so as to preserve your competitive advantage

Identify the customer, the target market – and once you have them talk to them – focus on what specific customers need

Creating satisfied customers is key

Know your market

Who are the buyers

What do they value

How many are there

Is the number growing

How can you reach them

How will competition respond

Business needs – people, space, equipment, supplies

What do you need

How will you get money for this

Business plan parts

People behind it

Market

Product / Service

Distribution scheme

Money you need

Business plan needs to cover

Capital raising

Management

Market size / growth

Valuation

Business Plan Template - Ten Big Questions for Entrepreneurs - From Cayenne Consulting

Potential investors want answers. In deciding whether or not they want to continue discussions, they generally want you to answer The Ten Big Questions:

1. What's the problem?

Basically, if there isn't a big problem in the market - a major unfilled need - then there's no point in trying to sell a solution. So explain how people or companies are experiencing a significant level of pain because existing solutions are deficient.

2. What is your solution, and what makes it special?

This one is obvious. Tell them what you do, and how your customers will benefit relative to existing solutions.

3. How big / severe is the problem?

An attractive problem, from the investor's point of view, is a big problem - preferably one that the market will collectively spend a billion dollars or more to solve.

4. How will you make money?

This may be obvious for some companies (we will sell widgets for \$10 each), but not so obvious for many others. Software, for example, can be sold on a per-user or per-site basis, with or without recurring licensing fees, with or without recurring maintenance fees, with or without installation or customization fees, and so forth. Or you could give away the razor and make your money on blades.

5. Who will buy it, and how will you sell it to them?

That is, how do you segment your potential customers, and what is your plan to efficiently make them aware of your product and decide to give you their money in exchange for it?

6. Why are YOU the best team to do this?

You may have a great solution to a big problem, but you won't get an investor if your team doesn't have the skills to be able to execute your vision.

7. What are the alternative solutions, and what makes yours the best?

No matter what you may think, you do have competitors. If you've invented a teleporter that moves people from point A to point B, your competitors still include trains, planes, and automobiles (and bicycles and sneakers). What makes your solution better than the alternative solutions for getting from A to B?

8. What have you done, and what will you do?

Ideas are dime-a-dozen. Execution is what really counts. You need to show that you have the ability to make the right things happen. A good prior track record and aggressive future milestones (along with a realistic plan for making it happen) shows that you mean business.

9. What are the economics?

Investors want a means of measuring your progress, often in the form of metrics that can be measured. Many of these metrics are economic - revenue per headcount, expense per headcount, marginal gross margins, revenue per customer, cumulative units to break-even, and so forth.

10. How much do you need, and what will you do with my money?

Investors want to know if you have a realistic understanding of the costs involved in starting and growing your business.

These ten questions only scratch the surface of what investors need to feel comfortable with before they make an investment decision. However, if you can offer good answers to these ten, you're almost guaranteed to be invited in to their office for further discussions.