Czech University of Life Sciences in Prague

Faculty of Economy and Management

Department of Information Technologies

Diploma Thesis

Development of iPad Application from Project Manager's View

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Czech University of Life Sciences Prague   Faculty of Economics and Management

Department of Information Technologies   Academic year   2010/2011

DIPLOMA THESIS ASSIGNMENT

Daniel Piterák

specialization of the study: Economics and Management

In accordance with the Study and Examination Regulations of the Czech University of Life Sciences Prague, Article 17, the Head of the Department assigns the following diploma thesis to

Thesis title: **Development of IPad application from Project`s manager view**

The structure of the diploma thesis:

1. Introduction
2. Objectives of thesis and methodology
3. The overview of solved problems
4. Company overview
5. iPad technology
6. iPad menu
7. Conclusions
8. Bibliography
9. Supplements

The proposed extent of the thesis: 50 - 60 pages

Bibliography:

GOLDSTEIN N., BOVE T.: iPad Application Development for Dummies, Wiley Publishing, Inc., 2010, 480 p., ISBN 978-0-470-58447-7
ALLEN S., GRAUPERA V., LUNDRIGAN L.: Pro Smartphone Cross-Platform Development, Apress, 2010, 268 p., ISBN 978-1-4302-2868-4

The Diploma Thesis Supervisor: **Ing. Petr Benda,**

Deadline of the diploma thesis submission: April 2011

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Head of the Department

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Dean

In Prague: 9th March 2011

Declaration

I declare that I have worked on the Diploma thesis 'Development of iPad application from project manager's view' on my own and I have used only the sources mentioned in the references.

In Prague, 7th March 2011   _____

Acknowledgement to the supervisor

I would like to thank the supervisor of my bachelor thesis, Ing. Petr Benda, for his useful comments, advices, literature sources and his patience.

Vývoj iPad aplikace z pohledu projektového manažera

Development of iPad application from project manager's view

Souhrn

V této práci pojednávám o vývoji iPad aplikace jako hlavním produktu obchodního plánu. Je stručně představeno vývojové prostředí a nástroje společnosti Apple, jakožto i samotný tablet. Dále je představena společnost zajišťující vývoj celého projektu a její zkušenosti s vývojem. Zaměřuji se na analýzu finanční, marketingové a vývojové stránky. Ve finanční analýze představuji obchodní plán na budoucí tři kalendářní roky a využívám výstupy SWOT analýzy. V marketingové části sestavuji 4P marketingového mixu a definuji způsoby propagace. V oblasti zabývající se vývojem připravuji kompletní funkční specifikace jednotlivých aplikací a nastavuji termínový plán. V závěru zhodnocuji získané poznatky a dávám doporučení k rozhodnutí o realizaci projektu.

Summary

In this diploma thesis I will write about iPad application development as a core product of a business plan. I briefly describe Apple's development environment and tools as well tablet. Then is introduced a company, which will develop the applications, and its experiences with this platform. I focus on financial, marketing and development analyses. In financial analysis is introduced business plan for following three years and I use data from SWOT analysis. In marketing part I am preparing 4P of marketing mix and defining ways of promotion. In a field of development I prepare complete functional specifications and set development schedule. In the end I sum up all the results and give an advice for a decision whether to realize the project.

Klíčová slova: iPad, aplikace, tablet, Apple, projekt, vývoj software, obchodní plán, Česká republika

Keywords: iPad, application, tablet, Apple, project, software development, business plan, Czech Republic

1. Introduction

Increasing popularity of tablets and especially iPad is significant in every aspect of our lives. Man can see advertisements on streets with Apple's logo or play games where the main price is iPad. Big companies starting to offer applications for smart phones with touch displays and in almost all cases the first realized platform is iPhone. That is the reason why I will focus on a business plan with the iPad application as a core product.

I will start with a brief introduction of Apple Inc. and its history. As this is a business plan I will research what should a good business plan contain and which common mistakes are made during the creation. Then I will introduce company uLikeIT s.r.o. as an application's developer and its vision and mission statements to deeply understand their way of working.

I will continue with the specifications of iPad as a device and introduction of the whole Apple's developing platform for iOS. I will focus on Cocoa Touch as a programming framework, Xcode as developing tool and iTunes with AppStore as an application's distribution channel.

Then I will describe the whole business plan for iPad menu, which is electronic web based menu for restaurants running on tablets. I will divide the plan into several parts according to the recognized standards. In application limitations I will outline possible market and technology barriers. Then I will analyze the financial side of the project, where I will calculate three years financial prediction structured in costs, revenues and profit / loss. After that I will shortly introduce organizational structure and set customer's profile. To identify strong and weak internal and external project's factors I will compound SWOT analysis. I will continue with competitor's description and theirs features. In marketing and pricing strategy I will set the promotion channels and several price levels according to the time period of

use. In the last part of my diploma thesis I will turn to application development such as functional specifications, development schedule and AppStore submission.

2. Objectives and methodology

Main objective of my diploma thesis is iPad application development from project manager's view and to create a complete step by step business plan for a new product. The aim is to have a ready to sell solution with the whole financial and business strategy. Another objective is to find through financial, market and SWOT analysis the right information for a decision whether to start up a business or not.

In my work I research the current worldwide market with similar applications and the whole Apple concept market. I use financial analysis to identify costs, revenues and profit/loss statements of the project. Marketing mix and sales analysis is another important part for the final decision of starting a new business.

3. The overview of solved problem

3. 1.   Apple history

Apple Inc. is a multinational corporation founded on 1st April 1976 by Steve Jobs, Steve Wozniak and Ronald Wayne. The company design and produce personal computers, computer software and consumer electronics. Its headquarters is situated in Cupertino, California in the United States of America. Nowadays it is the most valuable brand and company in the world. The magazine Forbes worth the brand's value to $57.4 billion and ranked it as a number one in the 2010 tech firms list. Millward Brown Optimor, the creator of BrandZ Rankings, worth Apple Inc. $83.153 billion, which is 3rd place behind Google and IBM in TOP 100 most valuable global brands 2010.

3. 1. 1.   1976 – 1980

First company's personal computer kit was handmade Apple I, which was introduced at the Homebrew Computer Club. The selling price in year 1976 was $666.66, which is more than $2,500 today adjusted by inflation. In year 1977 Ronald Wayne sold his company share to Jobs and Wozniak, because he did not believe that the company could success. In the same year Apple presented Apple II, which had colour graphics, an open architecture and floppy disk drive. With Apple III company tried to compete with IBM and Microsoft in the field of business and corporate market.

3. 1. 2.   1981 – 1985

In 1983 Apple introduced first personal computer with graphical user interface called Lisa. It was great computer, but high price was the reason why Lisa was not

in selling volume successful. One year after that Jobs' team released first Macintosh, which was announced by a popular commercial during Super Bowl XVIII. For Macintosh was available first PostScript laser printer with reasonable price on the market and predecessor of desktop publishing packages called PageMaker. In 1985 Jobs was fighting for the decision power in the company with John Sculley, which resulted in Jobs' withdrawal.

3. 1. 3.   1986 – 1993

Macintosh Portable from 1989 was an experience for Apple how did not do laptop computers and company made the best from it and introduced PowerBook two years later and set a standard for modern laptops. Apple was generating high revenues and seemed to be unstoppable. But huge mistakes with selling low end computers in markets such as Wal-Mart and too much extensive portfolio diversification with portable CD audio players, digital cameras, video consoles or speakers resulted in a dropdown after rapid rise.

3. 1. 4.   1994 – 1997

At this period Apple was facing a strong competition and outdated Macintosh platform. Thus Apple, IBM and Motorola set up an alliance, which should resulted in a new competitive computer assembled from IBM's and Motorola's hardware and Apple's software. The first result from this cooperation was Power Macintosh. In 1996 actual CEO Gil Amelio bought NeXT with its NeXTSTEP operating system and Steve Jobs returned to Apple as an adviser. One year later Jobs became CEO and on Macworld Expo announced that Apple would join Microsoft to release new versions of Microsoft Office for Macintosh.

3. 1. 5. 1998 – 2005

At this period Apple purchased several companies to spread its software portfolio. Products developed from these acquisitions were for example iMovie, GarageBand, iPhoto or Final Cut Pro. In 2001 was released long time expected Mac OS X, which main features were security, stability and reliability. At the same year company introduced a legend in a field of portable audio players called iPod – 100 million sold devices within six years. Two years later was released online music store called iTunes.

3. 1. 6. 2005 – 2007

At the Worldwide Developers Conference in 2005 Steve Jobs announced that Apple would build in its computers only Intel chips. Power Mac, iBook and PowerBook were replaced by Mac Pro, MacBook and MacBook Pro. Apple's success was significant and the value of the company was rapidly rising.

3. 2. Business plan

Encarta defines business plan like this - "plan of future strategy: a plan that sets out the future strategy and financial development of a business, usually covering a period of several years"[1]. That sounds little bit simple so Business Dictionary definition is – „Set of documents prepared by a firm's management to summarize its operational and financial objectives for the near future (usually one to three years) and to show how they will be achieved. It serves as a blueprint to guide the firm's policies and strategies, and is continually modified as conditions change and new

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[1] Encarta Dictionary,
http://uk.encarta.msn.com/encnet/features/dictionary/DictionaryResults.aspx?lextype=3&search=business%20plan, accessed on 4.3.2011

opportunities and/or threats emerge. When prepared for external audience (lenders, prospective investors) it details the past, present, and forecasted performance of the firm. And usually also contains pro-forma balance sheet, income statement, and cash flow statement, to illustrate how the financing being sought will affect the firm's financial position."[2]

3. 2. 1.   Importance of business plan

Why is business plan so important? "We once worked with an entrepreneur who had what we all thought was a great idea. He saw a need for a single store with carpet, lighting appliances, window treatments, paint, cabinets, tile, and other 'home interior' items. It was a great idea. Today, we see this idea alive in many 'home stores' including the Home Depot and the Lowe's stores.

Our entrepreneur friend said the store needed to be a place where men are comfortable. He was right. He had developed this concept after working with a major paint company. He said it has to be all pulled together. He had a team ready to go from each potential department. He knew the vendors. He had scouted out locations in which to run pilots. He had assurances from a team of executives.

He could not, however, get funded! His vision was so clear to the believers on his team and his advisers that no one saw the need to put it all down on paper in order to make a cohesive presentation to possible investors. He preferred extemporaneous conversation to the structured approach. Even use of the business plan concept as an outline for the presentations may have helped. A business plan may have allowed 'teaming' with others, who could have helped raise the neccessary funds. Many less significant opportunities get funded."[3]

[2] Business Dictionary, http://www.businessdictionary.com/definition/business-plan.html, accessed on 4.3.2011
[3] FORD B. R., BORNSTEIN J. M., PRUITT P. T.: Ernst & Young Business Plan Guide, John Wiley & Sons, Inc., 3rd edition, 2007, 233 p., ISBN: 978-0-470-11269-4

3. 2. 2.   Common mistakes in business plan

In the creation of the business plan there is important to avoid of some common mistakes. Basic rules are well described in an online course 'My Own Business'. "Place some reasonable limits on long-term, future projections. (Long-term means over one year.) Better to stick with short-term objectives and modify the plan as your business progresses. Too often, long-range planning becomes meaningless because the reality of your business can be different from your initial concept.

Avoid optimism. In fact, to offset optimism, be extremely conservative in predicting capital requirements, timelines, sales and profits. Few business plans correctly anticipate how much money and time will be required.

Do not ignore spelling out what your strategies will be in the event of business adversities.

Use simple language in explaining the issues. Make it easy to read and understand.

Don't depend entirely on the uniqueness of your business or even a patented invention. Success comes to those who start businesses with great economics and not necessarily great inventions."[4]

3. 2. 3.   Elements of business plan

Superior and impressive business plan have to follow proven structure. Investor must find information relevant for him to make a decision, whether to interest deeply in your project. "Start with a clear, concise executive summary of your business. Think of it like an elevator pitch. In no more than two pages, billboard all the important stuff. At the top, communicate your value proposition: what your

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[4] My Own Business online cource, http://www.myownbusiness.org/s2/, accessed on 4.3.2011

company does, how it will make money and why customers will want to pay for your product or service. If you are sending your plan to investors, include the amount of money you need and how you plan to use it. You have to know the whole picture before you can boil things down, so tackle the summary after finishing the rest of your plan.

Next, establish the market opportunity. Answer questions like: How large is your target market? How fast is it growing? Where are the opportunities and threats, and how will you deal with them? Again, highlight your value proposition. Most of this market information can be found through industry associations, chambers of commerce, census data or even from other business owners. (Be sure to source all of your information in case you are asked to back up your claims or need to update your business plan.)

While you may have convinced yourself that your product or service is unique, don't fall into that trap. Instead, get real and size up the competition: Who are they? What do they sell? How much market share do they have? Why will customers choose your product or service instead of theirs? What are the barriers to entry? Remember to include indirect competitors--those with similar capabilities that currently cater to a different market but could choose to challenge you down the road.

Now that you've established your idea, start addressing the execution--specifically, your team. Include profiles of each of your business's founders, partners or officers and what kinds of skills, qualifications and accomplishments they bring to the table. (Include resumes in an appendix.)

If potential investors have read this far, it's time to give them the nuts and bolts of your business model. This includes a detailed description of all revenue streams (product sales, advertising, services, licensing) and the company's cost structure (salaries, rent, inventory, maintenance). Be sure to list all assumptions and provide a justification for them. Also, include names of key suppliers or distribution partners.

After all of that, one big question still remains: Exactly how much money does your business stand to make? More important, when will the cash come in the door? That's why you need a section containing past financial performance (if your company is a going concern) and financial projections. Three-year forward-looking profit-and-loss, balance sheet and cash-flow statements are a must--as is a break-even analysis that shows how much revenue you need to cover your initial investment."[5]

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[5] CRANE M.: Ten Things Every Good Business Plan Must Have, Forbes.com, 5.9.2007, http://www.forbes.com/2007/05/09/palo-alto-software-ent-manage-cx_mc_0509businessplan.html, accessed on 4.3.2011

4. Company overview

4. 1. Introduction

uLikeIT s.r.o. is private limited company according to the Czech law with registered capital of 200 000 CZK and was established in 2009 with headquarters based in Prague. The company was formed from several independent developing teams focused on websites and mobile applications development. During the year 2009 the company changed its objectives and focused only on mobile applications development.

The company is covering all major mobile platforms such as iPhone, iPad, Android, BlackBerry, Windows Phone 7 and Samsung Bada. After establishing the majority of company's clients were from abroad, because the Czech market was still forming and the user's base was low but increasing.

Nowadays uLikeIT s.r.o. is one of the leaders of Czech mobile applications development market and is heading to be a number one. The main reasons of company's success are experience, young motivated professionals and customer satisfaction. Company is working on projects as they were its own and is trying to make the best solution for users.

4. 2. Vision

Company's vision is to be the Czech market leader in developing native smart phone's applications.

4. 3.   Mission

uLikeIT s.r.o. got several mission statements which are leading to fulfil the company's vision. The main idea is just to do not do everything what customer says, take money and close the project, but try to develop the best solution.

- to satisfy and exceed customers expectations
- provide high customer care
- advise costumers in their mobile application's plans
- talk to customers if they are doing something wrong or their plan is wrong
- do not develop applications just in the way the customer draft them, but look on the whole use case from user's point of view
- take advantage of experiences from developing and put it to the new projects

5. iPad technology

"The iPad is a tablet computer designed, developed and marketed by Apple primarily as a platform for audio-visual media including books, periodicals, movies, music, games, and web content. At about 1.5 pounds (680 grams), its size and weight fall between those of contemporary smartphones and laptop computers. Apple released the iPad in April 2010, and sold 3 million of the devices in 80 days.

According to a report released by Strategy Analytics, the Apple iPad had gained a 95 percent share of Tablet PC sales at the end of the second quarter of 2010. During the second quarter of 2010, Apple sold 4.19 million iPads around the world.

The iPad runs the same operating system as the iPod Touch and iPhone - and can run its own applications as well as iPhone applications. Without modification, and with the exception of web applications, it will only run programs approved by Apple and distributed via its online store.

Like iPhone and iPod Touch, the iPad is controlled by a multitouch display - a departure from most previous tablet computers, which used a pressure-triggered stylus - as well as a virtual onscreen keyboard in lieu of a physical keyboard. The iPad uses a Wi-Fi data connection to browse the Internet, load and stream media, and install software. Some models also have a 3G wireless data connection which can connect to HSPA data networks. The device is managed and synced by iTunes on a personal computer via USB cable."[6]

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[6] Wikipedia.org: iPad, http://en.wikipedia.org/wiki/IPad, last time edited on 24.2.2011, accessed on 26.2.2011

5. 1.   Technical specifications[7]

Height: 242.8 mm

Width: 189.7 mm

Depth: 13.4 mm

Weight: 0.68 kg (Wi-Fi model), 0.73 kg (Wi-Fi + 3G model)

Display

- 9.7 inch (diagonal) LED-backlit glossy widescreen Multi-Touch display with IPS technology
- 1024-by-768 pixels resolution at 132 pixels per inch (ppi)
- Fingerprint-resistant oleophobic coating

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[7] Apple.com: iPad Technical Specifications, www.apple.com/ipad/specs/, accessed on 26.2.2011

- Support for display of multiple languages and characters simultaneously

Capacity

- 16 GB
- 32 GB
- 64 GB

Processor

- 1 GHz Apple A4 custom-designed, high-performance, low-power system-on-a-chip

Battery and power

- Built-in 25-watt-hour rechargeable lithium-polymer battery
- Up to 10 hours of surfing the web on Wi-Fi, watching video, or listening music
- Up to 9 hours of surfing the web using 3G data network
- Charging via power adapter or USB to computer system

Sensors

- Accelerometer
- Ambient light sensor

Input and output

- Dock connector port

- 3.5-mm stereo headphone jack

- Built-in speaker

- Microphone

- Micro-SIM card tray (Wi-Fi + 3G model only)

Audio playback

- Frequency response: 20Hz to 20,000Hz

- Audio formats supported: HE-AAC (V1), AAC (16 to 320 Kbps), Protected AAC (from iTunes Store), MP3 (16 to 320 Kbps), MP3 VBR, Audible (formats 2, 3, and 4), Apple Lossless, AIFF, and WAV

- User-configurable maximum volume limit

Wireless and cellular

Wi-Fi model

- Wi-Fi (802.11a/b/g/n)
- Bluetooth 2.1 + EDR technology

Wi-Fi + 3G model

- UMTS/HSDPA (850, 1900, 2100 MHz)
- GSM/EDGE (850, 900, 1800, 1900 MHz)
- Data only
- Wi-Fi (802.11a/b/g/n)
- Bluetooth 2.1 + EDR technology

TV and video

- Support for 1024 by 768 pixels with Dock Connector to VGA Adapter; 576p and 480p with Apple Component AV Cable; 576i and 480i with Apple Composite AV Cable

- H.264 video up to 720p, 30 frames per second, Main Profile level 3.1 with AAC-LC audio up to 160 Kbps per channel, 48kHz, stereo audio in .m4v, .mp4, and .mov file formats; MPEG-4 video, up to 2.5 Mbps, 640 by 480 pixels, 30 frames per second, Simple Profile with AAC-LC audio up to 160 Kbps, 48kHz, stereo audio in .m4v, .mp4, and .mov file formats; Motion JPEG (M-JPEG) up to 35 Mbps, 1280 by 720 pixels, 30 frames per second, audio in ulaw, PCM stereo audio in .avi file format

Location

- Wi-Fi
- Digital compass
- Assisted GPS (Wi-Fi + 3G model)
- Cellular (Wi-Fi + 3G model)

Mail attachment support

- Viewable document types: .jpg, .tiff, .gif (images); .doc and .docx (Microsoft Word); .htm and .html (web pages); .key (Keynote); .numbers (Numbers); .pages (Pages); .pdf (Preview and Adobe Acrobat); .ppt and .pptx (Microsoft PowerPoint); .txt (text); .rtf (rich text format); .vcf (contact information); .xls and .xlsx (Microsoft Excel)

Languages

- Language support for English (U.S.), English (UK), French (France), German, Traditional Chinese, Simplified Chinese, Dutch, Italian, Spanish, Portuguese (Brazil), Portuguese (Portugal), Danish, Swedish, Finnish, Norwegian, Korean, Japanese, Russian, Polish, Turkish, Ukrainian, Hungarian, Arabic, Thai, Czech, Greek, Hebrew, Indonesian, Malay, Romanian, Slovak, Croatian, Catalan, and Vietnamese

- Keyboard support for English (U.S.), English (UK), French (France), French (Canadian), French (Switzerland), German, Traditional Chinese (Handwriting, Pinyin, Zhuyin, Cangjie, Wubihua), Simplified Chinese (Handwriting, Pinyin, Wubihua), Dutch, Italian, Spanish, Portuguese (Brazil), Portuguese (Portugal), Danish, Swedish, Finnish, Norwegian, Korean, Japanese (Romaji, Fifty Key), Japanese (Kana), Russian, Polish, Turkish, Ukrainian, Estonian, Hungarian, Icelandic, Lithuanian, Latvian, Flemish, Arabic, Thai, Czech, Greek, Hebrew, Indonesian, Malay, Romanian, Slovak, Croatian, Bulgarian, Serbian (Cyrillic/Latin), Catalan, Vietnamese, Tibetan, Macedonian, and Cherokee

- Dictionary support (enables predictive text and autocorrect) for English (U.S.), English (UK), French, German, Traditional Chinese, Simplified Chinese, Dutch, Italian, Spanish, Portuguese (Brazil), Portuguese (Portugal), Danish, Swedish, Finnish, Norwegian, Korean, Japanese (Romaji), Japanese (Kana), Russian, Polish, Turkish, Ukrainian, Hungarian, Lithuanian, Flemish, Arabic, Thai, Czech, Greek, Hebrew, Indonesian, Malaysian, Romanian, Slovak, Croatian, Catalan, Vietnamese, and Cherokee

Mac system requirements

- Mac computer with USB 2.0 port
- Mac OS X v10.5.8 or later
- iTunes 10.1 or later (free download from www.itunes.com/download)
- iTunes Store account
- Internet access

Windows system requirements

- PC with USB 2.0 port
- Windows 7; Windows Vista; or Windows XP Home or Professional with Service Pack 3 or later
- iTunes 10.1 or later (free download from www.itunes.com/download)
- iTunes Store account
- Internet access

Environmental requirements

- Operating temperature: 0° to 35° C
- Nonoperating temperature: -20° to 45° C
- Relative humidity: 5% to 95% noncondensing
- Maximum operating altitude: 3000 m

5. 2.   iOS

"Apple provides a complete ecosystem for developers. All the components including hardware, the operating systems, and the developer tools are designed by

one company, and they're all designed to work together seamlessly – creating an easier, more intuitive experience so developers can focus on making great apps."[8]

"iOS is the world's most advanced mobile platform, redefining what can be done with a mobile device. The iOS SDK combined with Xcode tools make it easy to create apps that perform feats never before attempted. iOS 4 delivers several new multitasking services that allow your apps to perform tasks in the background while preserving battery life and performance. With the App Store present on every iOS device, and localized around the world, there is simply no platform more compelling for mobile developers.

Picture 2 - Cocoa Touch, http://devimages.apple.com/technologies/ios/images/cocoa-touch_06.jpg, accessed on 27.3.2011

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[8] Why You'll Love to Develop with Apple Technologies, Apple Inc.,
http://developer.apple.com/technologies/, accessed on 27.3.2011

[25]

5. 2. 1.   Powerful Foundation

The amazing user experience of iOS is possible because of the powerful foundation upon which it is built. Derived from the proven core of Mac OS X, iOS has been streamlined to be compact and efficient, taking maximum advantage of the iPad, iPhone and iPod touch hardware. Technologies shared between iOS and Mac OS X include the OS X kernel, BSD sockets for networking, and Objective-C, and C/C++ compilers for native performance.

5. 2. 2.   Cocoa Touch

Cocoa Touch is the programming framework driving user interaction on iOS. Using technology derived from Cocoa and the gorgeous Mac desktop, Cocoa Touch and the iOS interface were completely re-designed for multi-touch. Buttons, table lists, page transitions, and gestures on the iPhone are unique for the pocketable form factor, and all this UI power is available to developers through the Cocoa Touch frameworks.

Built upon the Model-View-Controller paradigm, Cocoa Touch provides a solid foundation for creating state-of-the-art applications. When combined with the Interface Builder developer tool, it is both easy and fun to use drag-and-drop to design the next great iOS application.

Strong low-level foundations enable fantastic high-level frameworks such as Game Kit for multiplayer gaming, Core Data, which offers high performance, yet easy-to-use data management, Core Animation for stunning effects, and the most innovative browser engine on mobile devices in WebKit.

Working together, the Cocoa Touch frameworks and powerful foundation provide a truly unique canvas upon which to create a new work of application art.
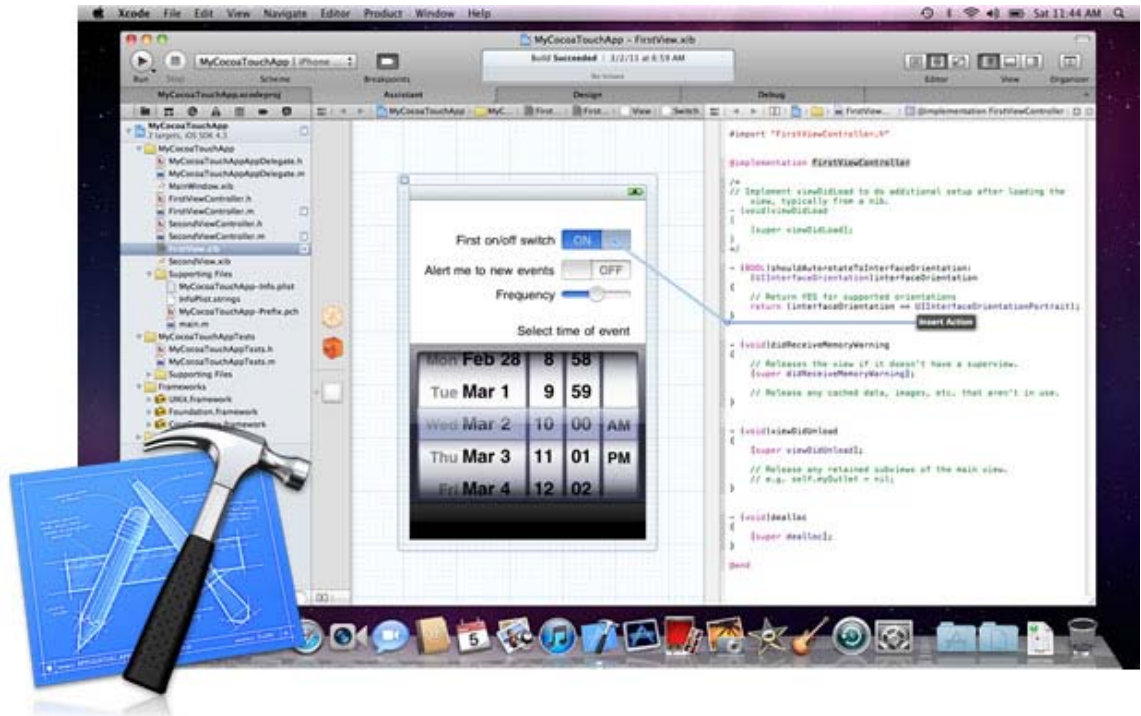
5. 2. 3. Graphics

The iOS delivers a wide-range of graphics capabilities, ranging from comprehensive 2D drawing to accelerated 3D rendering and direct access to the system's video playback and capture capabilities. Accessible through high-level frameworks, these capabilities make it easy to create gorgeous animations and transitions within your application's UI."[9]

5. 3. Xcode

"The Xcode developer tools package provides everything you need to create great applications for Mac, iPhone, and iPad. Xcode is tightly integrated with the Cocoa and Cocoa Touch frameworks, creating a productive and easy-to-use development environment that is powerful enough to be the same tools used by Apple to produce Mac OS X and iOS. The Xcode toolset includes the amazing Xcode IDE, with the Interface Builder design tool and Apple LLVM compiler fully integrated. The Instruments analysis tool is also included, along with dozens of other supporting developer tools.

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[9] Develop for iOS, Apple Inc., http://developer.apple.com/technologies/ios/, accessed on 27.3.2011

5. 3. 1.   Xcode IDE

Designed from the ground up to take advantage of the newest Apple technologies, Xcode integrates all the tools you need. The unified interface smoothly transitions from composing source code, to debugging, and even to designing your next stunning user interface, all within the same window.

The Xcode workspace is all about keeping you focused. As you type, Live Issues will immediately alert you to coding mistakes, displaying a message bubble beside your code for more detail. Hit the Run button to launch your Mac app, or upload the app to your test device, and immediately start debugging. Hover the mouse pointer above a variable to inspect its value at runtime, never having lost your place in the editor.

By working closely with the developer web portal, Xcode provisions new iOS devices with a single click, can securely sign and archive your Mac or iOS app, and directly submit it to the App Store.

5. 3. 2.   Apple LLVM Compiler

Apple's next generation compiler technology, the Apple LLVM compiler, does more than build your app. Apple LLVM technology is integrated into the entire development experience. The same parser used to build C/C++ and Objective-C powers Xcode's indexing engine, providing incredibly accurate code completions. As you work, Apple LLVM is constantly evaluating what you type, identifying coding mistakes that Xcode shows as Live Issues, and thinking ahead for ways to Fix-it for you. Other compilers can tell you what is wrong -- Apple LLVM can make it right.

5. 3. 3.   Instruments for Performance and Behavior Analysis

A world-class Mac OS X or iOS application provides a great user experience, and that means more than beautiful images and intuitive design. Great applications must feel fast, respond quickly, and impress with smooth animations. To help make your app great, the Xcode developer tools include Instruments, a truly unique application that helps you track down performance bottlenecks in your Mac OS X and iOS applications.

Instruments collects data such as disk, memory, or CPU usage in real time, either on your Mac or remotely from a connected iPhone. The collected data is graphically displayed as tracks over time, making it easy to pinpoint problem areas, then drill down to the offending lines of code.

Instruments helps guarantee your gorgeous user interface will be accompanied by equally impressive responsiveness.

5. 3. 4.   iOS Simulator

The iOS Simulator runs your application in much the same way as an actual iOS device. Because it is quick to launch and debug, the iOS Simulator makes for a perfect test bed to make sure your user interface works the way you intend, your network calls are correct, and that the views change correctly when the phone rotates. You can even simulate touch gestures by using the mouse. The iOS Simulator is a great time saver.“[10]

5. 4.   iTunes & App Store

As was mentioned above Apple Inc. offers to its developers complex solution. One very important part is how to get your application to users. Apple got distribution channel to every user of its device and it does not matter whether he or she uses iPod, iPhone or iPad. This distribution channel is called iTunes and for applications developers the most important part is App Store, where users can buy its products.

„iTunes is a free application for your Mac or PC. It organizes and plays your digital music and video on your computer. It keeps all your content in sync. And it's a store on your computer, iPod touch, iPhone, iPad, and Apple TV that has everything you need to be entertained. Anywhere. Anytime.“[11]

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[10] Developer Tools, Apple Inc., http://developer.apple.com/technologies/tools/, accessed on 27.3.2011
[11] What Is iTunes?, Apple Inc., http://www.apple.com/itunes/what-is/, accessed on 27.3.2011

Picture 4 - iTunes AppStore, http://images.apple.com/itunes/what-is/images/store_browse_appstore20100901.jpg, accessed on 27.3.2011
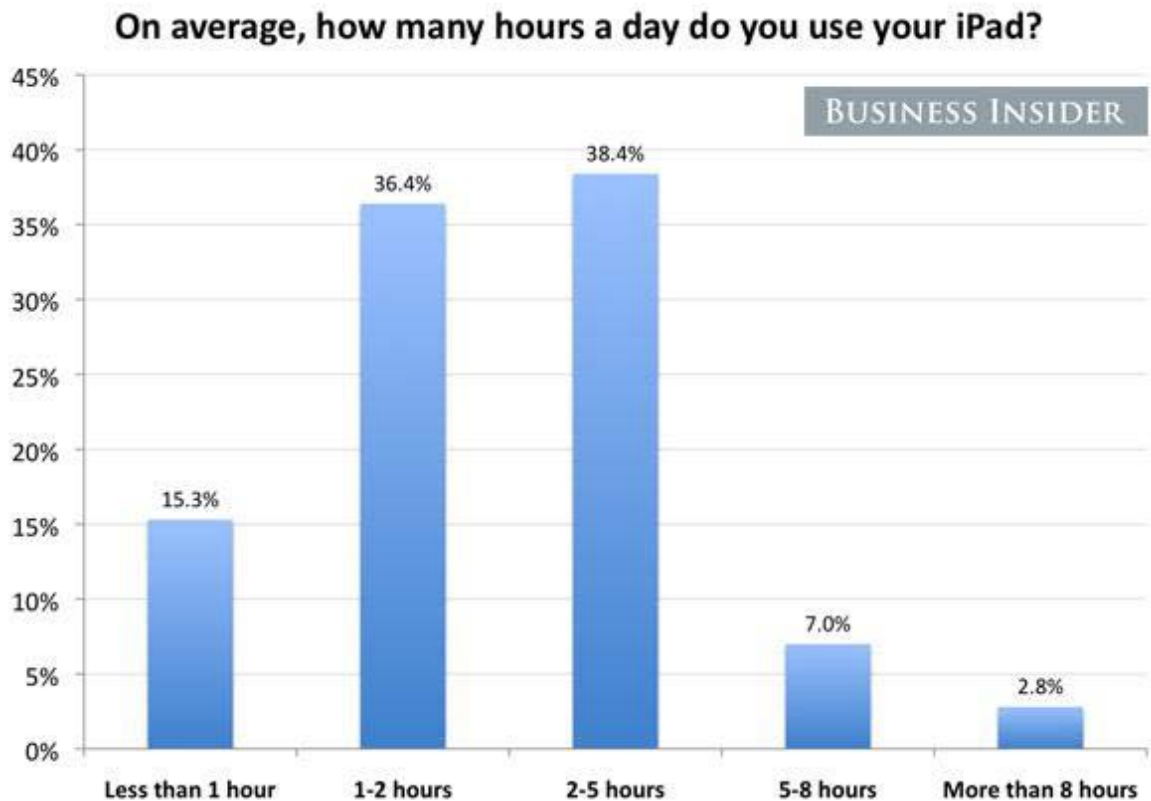
6. iPad menu

6. 1.   Purpose of the application

Main purpose of iPad menu is to offer restaurants easy and cheap way how to transform their paper based menus into intuitive and modern electronic tablet based menus. The creation of the menu is simple and can be enriched by detailed description and photos. Restaurants will achieve higher sales due to better presentation of meals and wines and will receive more positive reviews. Also the application is environmentally friendly, because it reduces all the papers, which have to be printed out for the classic menus.

Restaurants also do not have to wait for making any change in their menus. As they save it in the website administration it will reflect on iPad. Changes are done on the fly. Such an easy and simple way.

Additional extension of the project is selling accessories. This stuff will enrich the whole offer and will make the service more complex competitive. In accessories can be leather iPad cases, branded leather cases, docking and power stations or cables.

On average, how many hours a day do you use your iPad?

BUSINESS INSIDER

Less than 1 hour	15.3%
1-2 hours	36.4%
2-5 hours	38.4%
5-8 hours	7.0%
More than 8 hours	2.8%

Graph 1 - BusinessInsider.com, http://www.businessinsider.com/ipad-survey-results-2010-11#two-thirds-of-ipad-owners-use-their-ipads-1-5-hours-a-day-1, accessed on 4.3.2011

6. 2.   Application limitations

6. 2. 1.   Market limitations

In the first year there will be a limitation in the capital investments from the restaurant's side by the acquisition of iPad devices. On one hand the amount of 172 000 CZK for 20 iPads is relatively high. This limitation will be reduced in the second year, where will be developed Android application. Tablets with Android operating system are much cheaper than iPad.

On the other hand with the respect for the target group of luxury restaurants, this high price of iPad device will mean something special and luxury, which will

differentiate really luxury restaurants. In a way of quick expand it is limitation, but in a way of marketing tool it is advantage.

For a market limitation it is also counted the impossibility of estimating the real market value and its potential. There are estimates for iPad selling volume in future years, but it is not relevant. There are two main problems with the identification of the market. First is worldwide targeting and impossibility of creating a survey with restaurant's owners on an appropriate sample. Second problem is the identification of market size with luxury restaurants worldwide. There are resources to find out a total number of restaurants in each country, but without allocation to its kinds.

To sum it up overall estimated numbers of selling volumes of iPad menu are based on the popularity and growing market share of iPad.

6. 2. 2. Technology limitations

The results of the technology feasibility study conducted with the developer said that there are no known technology limitations that would complicate programming and implementation work.

Only known technology limitation is the iPad as a device, which will be used in the restaurant environment, where can get easily in touch with drinks and food. Because it is electronic device, it can get broken. But this can be prevented by the use of cases.

6. 3.   Financial analysis

6. 3. 1.   Costs

Projected costs for the first 3 years of running iPad menu are shown in the Table 1. Costs are divided into several categories. First two categories such as software development and marketing decrease every year. That is because these items are initial investment for the start up and regarding the marketing there would not be necessity to invest in the promotion more due to high number of customers and their satisfaction. Reference by word of mouth is the best and cheapest reference.

Due to increasing number of customers every year there will be higher demand on server hosting capabilities, which is resulting in higher fees for server hosting.

	1st year (CZK)	2nd year (CZK)	3rd year (CZK)
Software development	817 000	332 000	112 000
iPad app	330 000	0	0
Android app	0	250 000	0
website administration	355 000	0	0
product website	70 000	0	0
developer fee (Apple)	2 000	2 000	2 000
server hosting	60 000	80 000	110 000
Marketing	557 000	140 000	70 000
3 free restaurants for year	0	0	0
free iPads for 3 restaurants	267 000	0	0
print brochures (1000pcs., design)	20 000	10 000	0
PPC	120 000	60 000	30 000
SEO	120 000	70 000	40 000
promo video	30 000	0	0
Maintenance and update	243 000	351 000	351 000
system maintenance	108 000	216 000	216 000
updates	135 000	135 000	135 000
Operation & administration	1 373 000	1 308 000	1 308 000

|			
project manager	600 000	600 000	600 000
sales manager	420 000	420 000	420 000
office rent	180 000	180 000	180 000
communication services	24 000	24 000	24 000
office goods	24 000	24 000	24 000
notebooks	60 000	0	0
software	5 000	0	0
accounting	60 000	60 000	60 000
Total	2 990 000	2 131 000	1 841 000

Table 1 - Costs, own calculation

6. 3. 2.   Revenues

Projected revenues are based on four different price levels. For the first year it is counted that the highest share will have monthly fees, because the project will be starting and customers will be testing the new product. In the second and third year is planned the portfolio transformation to long terms fees, especially annual fee which will have the highest share.

	1st year	2nd year	3rd year
monthly fee	1 500 CZK	1 500 CZK	1 500 CZK
# monthly fees	300	600	600
semi-annual fee	9 000 CZK	9 000 CZK	9 000 CZK
# semi-annual fees	100	400	700
annual fee	16 200 CZK	16 200 CZK	16 200 CZK
# annual fees	20	250	600
2 years fee	28 800 CZK	28 800 CZK	28 800 CZK
# 2 years fees	5	75	100
Total	1 818 000 CZK	10 710 000 CZK	19 800 000 CZK

Table 2 - Revenues, own calculation

Share of each fee
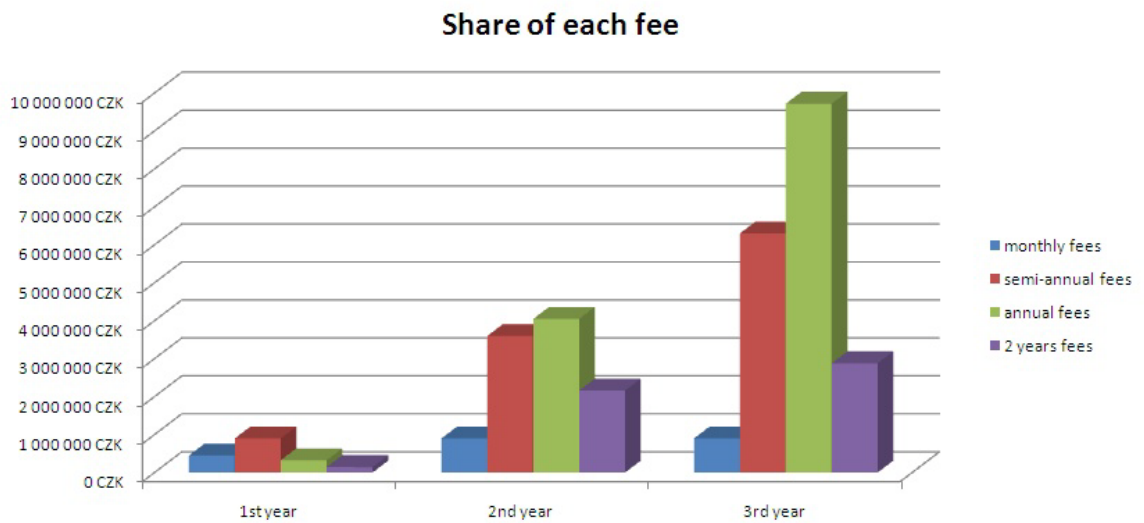
Graph 2 - own calculation

6. 3. 3.   Profit / loss

In the Table 3 is shown the profit / loss calculation. For the first year is predicted loss of 1 172 000 CZK, but in the second year is planned the turnover into black numbers by achieving profit of almost 8.6 million CZK and targeting cumulative profit of 7.4 million CZK. In the third year total revenues are still increasing which will result to profit of 18 million CZK with cumulative profit of 25.4 million CZK.

	1st year (CZK)	2nd year (CZK)	3rd year (CZK)
Total costs	2 990 000	2 131 000	1 841 000
Total revenues	1 818 000	10 710 000	19 800 000
Profit	-1 172 000	8 579 000	17 959 000
Cumulative profit	-1 172 000	7 407 000	25 366 000

Table 3 - Profit / loss, own calculation

6. 3. 4.   Loan

The initial capital for the start up of the project in an amount of almost 3 million CZK can be covered by entrance of an investor or by taking a loan. In Table 4 is presented calculation for a loan for 4 years with an interest of 3.95% with respect to the interest tariff rates of Raiffeisen Bank Czech Republic for companies. Payment term of 4 years should be sufficient due to calculations in revenues, where is counted with high profit from the second year of running so there is a possibility of complete ahead of schedule repayment.

Year	Remaining principle (CZK)	Interest (CZK)	Principal repayment (CZK)	Payment (CZK)	Remaining principle (CZK)
1.	3 000 000	105 805	600 431	706 236	2 293 764
2.	2 293 764	77 398	657 244	734 642	1 559 122
3.	1 559 122	47 850	716 342	764 192	794 930
4.	794 930	17 112	777 818	794 930	0
Total		248 165	2 751 835	3 000 000	

Table 4 - Loan, calculation http://www.finance.cz/uvery-a-pujcky/financni-kalkulacky/splatkovy-kalkulator/, interest rate http://www.rb.cz/o-bance/informacni-a-online-sluzby/urokove-sazby/#upp, accessed both on 4.4.2011

6. 4.   Management and organization

The organizational structure of the project is simple and straightforward due to relatively independent resources on number of clients. With the growth of the project there should be adopted some necessary changes in the structure resp. number of employees.

Management should consist of technical specialist, sales and marketing specialist and investor. All these roles could be represented by one person or each one separately. Second level consists of project and sales manager. These people should be hired and with the increasing number of clients and revenues these positions got sublevels, where managers should educate their successors.
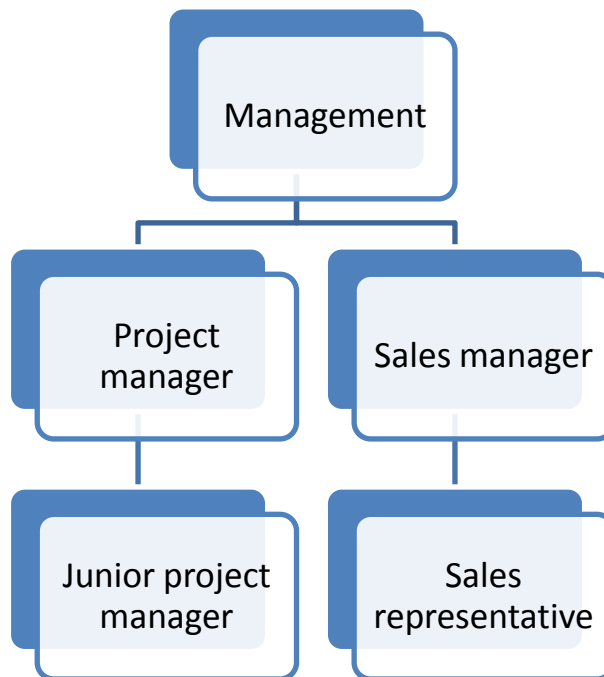
The project needs young motivated professionals, which can speak at least English and got advanced computer skills. Second language such as Germany is advantage. Very important affection is responsibility and willingness to build something new and perspective.

6. 5.   Market analysis

6. 5. 1.   Customer profile

iPad menu's customers are luxury restaurants worldwide. Restaurants which want to be different, want to attract new clients and be innovative. Our customers require modern and professional design, which can be exactly satisfied by a custom application layout.

Technologizer.com made a survey (Graph 3) between 6 000 iPad owners and asked them how they are satisfied with it. The results show that more than 90% are satisfied, which confirm the popularity of iPad and the use of iPad menu will attract new customers to the restaurants. It is about connecting two superior things – luxury restaurant and precious device.

Considering everything, how satisfied are you with your iPad?
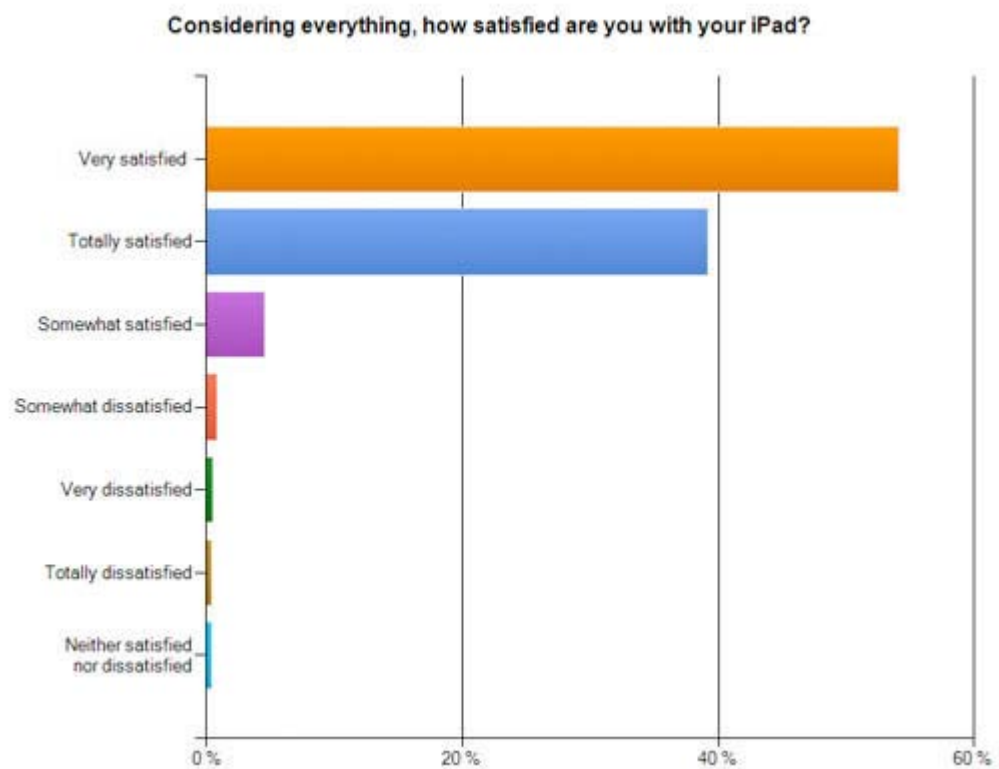
6. 6.   SWOT

SWOT analysis identifies internal and external factors that are favourable and unfavourable for the project. Internal are strengths and weaknesses, opportunities and threats are external factors. The most valuable internal positive factors are worldwide use and ready to use solution. The project got no limitations in a term of

country borders, which create a possibility for high number in revenues. Under term ready to use solution is understood that customer buys iPad, easily install application and in a few steps create its menu on the website administration. In a couple of hours customer have complete solution of electronic menu. The most unfavourable internal factor is the necessity to buy additional device. Customers have to make a decision about the investment and for someone could be the investment too high.

The most significant opportunity of the project is the possibility of spreading the portfolio for all kinds of restaurant not only luxury ones. It can be achieved by developing application for different operating system such as Android. There is a possible way of a custom manufacturing of cheap tablets and selling them with software part of the product. The most impending threat is all the positive estimates of growing tablets' market share and their purchased volume. It can be overestimated.

Strengths	Weaknesses
- ready to use solution	- necessity to buy additional device
- worldwide use	- high iPad price
- easy to update	- internet dependent service
- modern solution	
- custom layout creation	

Opportunities	Threats
- increasing share of tablets	- increase of competitors
- relatively low start-up costs	- AppStore terms of use
- possibility to develop app for different and cheapest devices	- wrong estimates of tablets' increasing market share
- market for product's accessories	

6. 7.   Competitors

6. 7. 1.   MenuPad

MenuPad is Australian company established in 2010, which offer restaurants' and cafe's menus in iPad. The biggest difference from iPad menu is that MenuPad got online ordering system, which means that clients can order meal directly to the kitchen. So this application tries to reduce human resources needed in the restaurant.

Picture 6 - MenuPad, https://www.menupad.com/images/editor/editor.introduction.jpg, accessed on 3.4.2011

The pricing model is based on licences per device. There are two basic levels – up to 3 licences for $180 AUD per year per device and 5 to 20 licences for $120 AUD

per year per device. For small number of devices MenuPad is cheaper, but with number of devices higher than 5, iPad menu is cheaper.

Main differences:

- online ordering
- pricing per device per year
- stuff menu in iPad application
- free 7 day trial

Price comparison for licences per year			
	1 device	3 devices	20 devices
iPad menu	16 200 CZK	16 200 CZK	16 200 CZK
MenuPad	3 300 CZK	9 900 CZK	66 000 CZK

Table 5 - https://www.menupad.com/pricing

6. 7. 2.   Incentient

Incentient is United State of America based company, which provides wide "smarttouch" solutions. They offer solutions from hotels, restaurants and bars to arenas. Their main feature is that they rent devices so no capital investments are needed from customer's side. Their significant advantage is their position on the market in the US, where they got very popular customers.

Incentient's software also offers detailed statistics of orders, because it is equipped by online ordering. This feature can be very useful for the restaurant's owners.

6. 7. 3.   ipadMENU

ipadMENU is another Australia based company offering menus on iPads. They offer similar features to iPad menu. There is potential law case with similar names, which would probably ended by changing the name of the project.

6. 8.   Marketing and pricing strategy

6. 8. 1.   Marketing strategy

Marketing mix

- Product
    - iPad application white labelled with customer's brand
    - website administration for creating and editing content
    - Android application white labelled with customer's brand
    - iPad accessories
- Price
    - monthly fee for 1 500 CZK
    - semi-annual fee for 9 000 CZK
    - annual fee for 16 200 CZK
    - two years fee 28 800 CZK
    - adhoc calculation for custom layouts
- Place
    - worldwide
- Promotion
    - product website
    - PPC advertisements such as Google Adwords targeted on keywords
    - SEO optimization targeted on main keywords
    - printed brochures for potential clients
    - promo video presenting how the system is working in the restaurant (one of our clients)

6. 8. 2.   Pricing strategy

The iPad application will be distributed through Apple's AppStore and will be free of charge. Customers must login to use all the features of the system.

Pricing is divided into two categories – regular and custom prices. Regular prices are fixed and set per customer per specific time period. Customers do not pay for each device on which the application is running, but they buy only the licences for the using of the software. Clients can choose from monthly, semi-annual, annual and two years fees. Monthly fee is the base price per month for the calculation all the other. With annual fee is offered 10% discount and 20% discount for two years fee.

iPad menu pricing		
Licence	Price	Discount
monthly fee	1 500 CZK	0%
semi-annual fee	9 000 CZK	0%
annual fee	16 200 CZK	10%
2 years fee	28 800 CZK	20%

Table 6

Custom pricing is not set, because it is based on customer's specific requests such as custom application layout or when customer got more restaurants.

6. 9.   Application development

6. 9. 1.   Functional specifications

iPad application

iPad application is the user's application, which will be directly in touch with the restaurant's customers. The main use case is to easily browse through the offer of the restaurant with a possibility to find detailed information about each item.

Functions

- login / logout
- meal / drink menu
- wine offer
- item's detail
- order
- language selection

Login / logout

- restaurant's identification to the website service
- login information are username and password
- login in to the application will be permanent, only possibility of logout will be uninstalling of the application
- the application will send to the web service UDID of the device

Meal / drink menu

- item's list with basic information
    - title

- - short description
  - amount
  - price
  - add to order
  - item's detail
- item's detail information contains in addition
  - long description
  - photo gallery
  - group
  - linked wines
- item's are grouped into categories
  - categories are created in the administration
  - order of the categories can be set in the administration
- item's detail function will be present only by items, which got fulfilled detailed information
- amount is variable depending on the condition of the item

Wine offer

- wine offer is separated from the meal / drink menu
- item's list with basic information
  - title
  - short description
  - amount
  - price
  - year
  - country of origin
  - add to order
  - item's detail

- item's detail information contains in addition
  - long description
  - photo gallery
  - viniculture
  - viniculture's website
  - linked meals
  - email
- possibility of sending an email with the item's detail
- links are shown by "InAppBrowser"
- item's are grouped into categories
  - categories are created in the administration
  - order of the categories can be set in the administration
- item's detail function will be present only by items, which got fulfilled detailed information

Order

- list of ordered items
- possibility of deleting items by one or clear the whole list
- ordered items are presented on the list as they are presented on meal / drink menu or wine offer
- possibility of accessing item's detail if present

Language selection

- possibility of language change
- language content is created in the administration
- language selection depends on the setting and fulfilled content in the administration

Website administration

Website administration is the web service for the iPad application and also the content editor for the restaurants. Main function is the creation of the content, but it also serves as a restaurant's profile settings.

Functions

- login / logout
- profile
- administration language selection
- categories
- meal and drink menu
- wine offer

Login / logout

- restaurant's identification to the website service
- login information are username and password

Profile

- restaurants contact information
- licence validity and history of purchased
    - list of invoices with their status
- language settings
    - adding and deleting of languages from the offer
    - language can be added, but to appear on the iPad application must be also activated

- o   when is only added not activated, the content can be created
- list of UDID of synchronized iPads
  - o   each UDID can be can be blocked

Administration language selection

- selection of the administration language
  - o   English
  - o   German
  - o   French

Categories

- adding, editing and deleting of categories
- category is created by name, order number and level
- possibility of creating 3 levels
- possibility of adding some default category
  - o   Soups
  - o   Starters
  - o   Chicken
  - o   Beef
  - o   Fish
  - o   Vegetarian
  - o   Side dish
  - o   Deserts
  - o   Beers
  - o   Red wine
  - o   White wine
  - o   Appetizer

- o Shots
- o Non-alcoholic
- o Hot drinks

Meal / drink menu

- adding, editing and deleting of items
- items are listed by categories as they are presented in the iPad application
- item contain
    - o title
    - o short description
    - o amount
    - o price
    - o long description
    - o photo gallery
    - o linked wines
- if more languages are supported, for each language special field is present

Wine offer

- adding, editing and deleting of items
- items are listed by categories as they are presented in the iPad application
- item contain
    - o title
    - o short description
    - o amount
    - o price
    - o year
    - o country of origin

- o long description
- o photo gallery
- o viniculture
- o viniculture's website
- o linked meals
- if more languages are supported, for each language special field is present

Back office administration

This is an administrator's access to the whole website and web service. Administrator can see each restaurants and their content. He / she can create, edit or delete the content, languages and users. Main use case is helpdesk.

Functions

- Administration languages
- Languages
- Users

Administration languages

- adding, editing and deleting of administration user interface languages
- possibility of uploading a flag (picture) for the language
- language can be added, but to appear in the restaurant's administration offer must be activated

Languages

- adding, editing and deleting of the iPad application's user interface language

- language can be added, but to appear in the restaurant's administration offer must be activated
- language cannot be deleted if any restaurant uses this language

Users

- adding, editing and deleting users with their basic information
- possibility of accessing all data for each client

6. 9. 2. Development schedule

In Supplement 1 is the structure of projected development schedule starting from 2nd May 2011. It is scheduled for almost 3 months and all important milestones are listed there. The development is divided into two parts – website administration and iPad application. The reason for doing that is the difference in programming languages, where website part will be in ASP.NET Microsoft's platform and iPad application in Cocoa Touch Apple's platform. Another reason is the saving of some time while both applications can be developed together.

Website administration got six milestones and iPad application five. Detailed specifications are concrete and specified functional specifications, where word by word is described what each application's screen contains. Graphical user interface (GUI) consists from user interface (UI) and graphical user interface design. User interface is one of the most important parts in an application design. It is the way how the application communicates with the user and how easily user understands it. Do not matter how brilliant functions applications have, when the user interface is badly designed, the whole success of the application is not within sight.

Development milestones are the "real" programming parts. In the website administration the development is spread into two groups related to the content –

client and admin section. Coding is special milestone in the website part and it is highly connected with graphical user interface and development. Coding takes cropped output of graphical user interface and codes in into the output of programming. There are used technologies such as Cascading Style Sheets (CSS), Hyper Text Markup Language (HTML) or JavaScript.

Application protocol interface (API) is mentioned in the schedule only in the iPad section, but there is necessity of programming on the website side. XML protocol is strictly defined communication channel between iPad application and web service. According to the XML protocol the application protocol interface is developed.

Last common milestone is testing. Testing is very important and is structured into several approaches. First controls whether the developed results match to the detailed specifications. Second tests whether the graphical user interface was met in all details. Third approach is random testing, where is the application tested by uncommitted user. After each approach there is an implementation of bugs.

The development schedule was created with Gantter[12] tool, which is web-based project management tool with Google Docs[13] integration. Gantter tool generates easy to survey Gannt charts, which help to see the actual progress of the project and what is already done. All milestones with its subcategories are projected to the timeline and each task occupies relevant number of man days. On Graph 4 is also clearly visible the connection between each tasks and milestones.

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[12] Gantter - free web-based project management tool, http://www.gantter.com, accessed on 26.3.2011

[13] Google Docs, http://docs.google.com, accessed on 26.3.2011
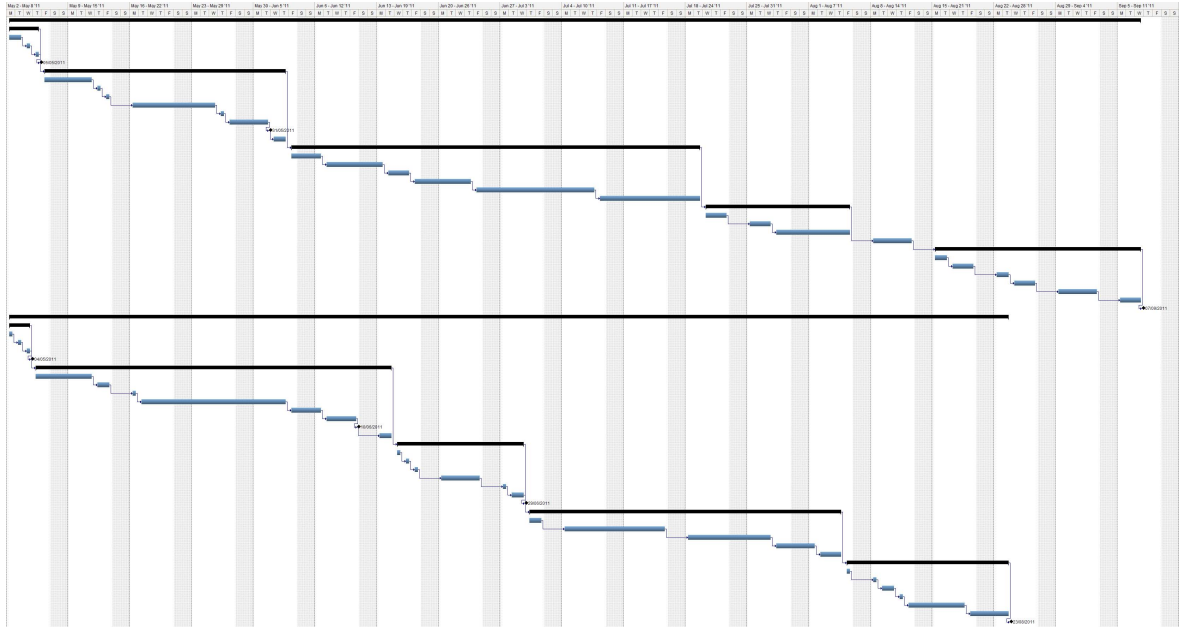
6. 9. 3.   AppStore Submission

To start distributing iPad application in AppStore, developer has to have user account specifically for iOS developing. This account is charged by Apple by $99 per year. After fulfilling the registration form and submitting it, Apple proceeds your application and verify submitted data. Often they call on mentioned number to check real existence of the company.

After registration it is ready for submitting the application. The whole submitting process starts with fulfilling general information regarding the application:

- Application name
  - iPad menu
- Application description
  - iPad menu is offering restaurants easy and cheap way how to transform their paper based menus into intuitive and modern iPad menu. The creation of the menu is simple and can be enriched by detailed description and photos. Restaurants will achieve higher sales

due to better presentation of meals and wines and will receive more positive reviews. Also the application is environmentally friendly, because it reduces all the papers, which have to be printed out for the classic menus. Restaurants also do not have to wait for making any change in their menus. As they save it in the website administration it will reflect on iPad. Changes are done on the fly. Such an easy and simple way.

- Primary and secondary category
  - business
  - lifestyle
- Subcategories
  - none
- Copyright
  - uLikeIT s.r.o. © 2011
- App Rating
  - 4+
- Keywords
  - menu, restaurant, wine, order
- SKU Number
  - available after upload
- Application URL
  - www.ipadmenu.com
- Screen shots
  - screen shots must be in RGB mode, at least 72 DPI, formatted as .jpg, .tif or .png and in at least one of these pixel dimensions
    - 1024 x 768
    - 768 x 1024
    - 1004 x 768
    - 748 x 1024

- Support URL
  - www.ipadmenu.com
- Support email address
  - info@ipadmenu.com
- End User Licence Agreement
  - standard iTunes' end user licence agreement
- Pricing, Available Date, Territories
  - free
  - directly after release
- Large App Icon 512 x 512
  - small icons that are 72 x 72 and 50 x 50 must be included in binary
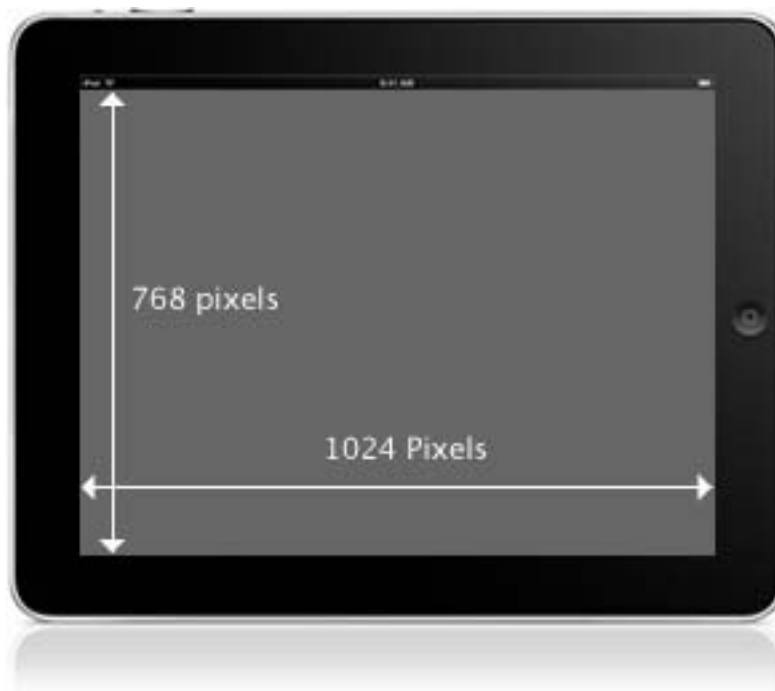
When are all information submitted, the binary can be uploaded. The binary must be signed by distribution certificate and is uploaded from Xcode. Now is application waiting for the Apple's review, whether it does not break AppStore licence agreements. This application review takes approximately from 5 to 10 working days. If the application is reviewed with success, it is ready for distribution in AppStore. If it is rejected with some problem, application must be corrected, uploaded again and the whole review process starts again.

7. Conclusions

The main objective of the creation step by step business plan with a ready to sell solution was met. There were met all necessary points and standards, which should superior business plan contain. The application was detailed described in a way of functional specifications that are divided into three main parts – website administration, back office administration and iPad application. The development schedule was projected included Gannt chart, which will make the development process easier. The time needed for application development was projected for three months.

Second objective was to give an advice whether to realize the project. Projected costs are relatively low and can be covered by an investor entrance or taking a loan. Mentioned loan for 3 million CZK scheduled on four years is sufficient. According to estimated revenues and second year's cumulative profit of 7.4 million CZK there is a possibility of prepayment.

The biggest problem in the first year I see in high initial costs for customers due to high price of iPad. I would recommend developing both applications at the same time or switching their order. This will spread the number of possible customers and the market entrance will be easier. The highest competition is on the US and Australian market, where the market penetration will be the hardest. But the main competitive advantage is lower fees. I would also recommend to start from the beginning the selling of accessories, which is something extra in comparison with competitors.

To sum it up I recommend the realization of this project but with respect of above mentioned changes and recommendations.

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8. 3.   Pictures

8. 4. Tables

8. 5. Graphs

9. Supplements

Supplement 1 – Development schedule starting on 2nd May 2011

		Name		Duration	Start	Finish	Predecessors
1		⊟**Website administration**		**93d**	**02/05/2011**	**07/09/2011**	
2		⊟**Detailed specifications**		**4d**	**02/05/2011**	**05/05/2011**	
3		Detailed specifications design		2d	02/05/2011	03/05/2011	
4		Detailed specifications design feedback		1d	04/05/2011	04/05/2011	3
5		Detailed specifications design feedback implementation		1d	05/05/2011	05/05/2011	4
6		Final detailed specifications		0d	05/05/2011	05/05/2011	5
7		⊟**GUI**		**20d**	**06/05/2011**	**02/06/2011**	**2**
8		UI design		4d	06/05/2011	11/05/2011	
9		UI design feedback		1d	12/05/2011	12/05/2011	8
10		UI design feedback implementation		1d	13/05/2011	13/05/2011	9
11		GUI design		8d	16/05/2011	25/05/2011	10
12		GUI design feedback		1d	26/05/2011	26/05/2011	11
13		GUI design feedback implementation		3d	27/05/2011	31/05/2011	12
14		Final GUI layout		0d	31/05/2011	31/05/2011	13
15		GUI cropping		2d	01/06/2011	02/06/2011	14
16		⊟**Development - client**		**33d**	**03/06/2011**	**19/07/2011**	**7**
17		Login/logout		2d	03/06/2011	06/06/2011	
18		Profile		5d	07/06/2011	13/06/2011	17
19		Administration language selection		3d	14/06/2011	16/06/2011	18
20		Categories		5d	17/06/2011	23/06/2011	19
21		Meal/drink menu		10d	24/06/2011	07/07/2011	20
22		Wine offer		8d	08/07/2011	19/07/2011	21
23		⊟**Development - admin**		**13d**	**20/07/2011**	**05/08/2011**	**16**
24		Administration languages		3d	20/07/2011	22/07/2011	
25		Languages		3d	25/07/2011	27/07/2011	24
26		Users		7d	28/07/2011	05/08/2011	25
27		Coding		5d	08/08/2011	12/08/2011	23
28		⊟**Testing**		**18d**	**15/08/2011**	**07/09/2011**	**27**
29		Detailed specifications testing		2d	15/08/2011	16/08/2011	
30		Testing results implementation		3d	17/08/2011	19/08/2011	29
31		GUI testing		2d	22/08/2011	23/08/2011	30
32		Testing results implementation		3d	24/08/2011	26/08/2011	31
33		Random testing		5d	29/08/2011	02/09/2011	32
34		Testing results implementation		3d	05/09/2011	07/09/2011	33
35		Final website		0d	07/09/2011	07/09/2011	28
36		⊟**iPad app**		**82d**	**02/05/2011**	**23/08/2011**	
37		⊟**Detailed specifications**		**3d**	**02/05/2011**	**04/05/2011**	
38		Detailed specifications design		1d	02/05/2011	02/05/2011	
39		Detailed specifications design feedback		1d	03/05/2011	03/05/2011	38
40		Detailed specifications design feedback implementation		1d	04/05/2011	04/05/2011	39
41		Final detailed specifications		0d	04/05/2011	04/05/2011	40
42		⊟**GUI**		**29d**	**05/05/2011**	**14/06/2011**	**37**
43		UI design		5d	05/05/2011	11/05/2011	
44		UI design feedback		2d	12/05/2011	13/05/2011	43
45		UI design feedback implementation		1d	16/05/2011	16/05/2011	44
46		GUI design		13d	17/05/2011	02/06/2011	45
47		GUI design feedback		2d	03/06/2011	06/06/2011	46
48		GUI design feedback implementation		4d	07/06/2011	10/06/2011	47
49		Final GUI layout		0d	10/06/2011	10/06/2011	48
50		GUI cropping		2d	13/06/2011	14/06/2011	49
51		⊟**API**		**11d**	**15/06/2011**	**29/06/2011**	**42**
52		XML protocol specifications design		1d	15/06/2011	15/06/2011	
53		XML protocol specifications design feedback		1d	16/06/2011	16/06/2011	52
54		XML protocol specifications design feedback implementation		1d	17/06/2011	17/06/2011	53
55		API development		5d	20/06/2011	24/06/2011	54
56		API testing feedback		1d	27/06/2011	27/06/2011	55
57		API testing feedback implementation		2d	28/06/2011	29/06/2011	56
58		Final functional API		0d	29/06/2011	29/06/2011	57
59		⊟**Development**		**26d**	**30/06/2011**	**04/08/2011**	**51**
60		Login/logout		2d	30/06/2011	01/07/2011	
61		Meal/drink menu		10d	04/07/2011	15/07/2011	60
62		Wine offer		8d	18/07/2011	27/07/2011	61
63		Order		3d	28/07/2011	01/08/2011	62
64		Language selection		3d	02/08/2011	04/08/2011	63
65		⊟**Testing**		**13d**	**05/08/2011**	**23/08/2011**	**59**
66		Detailed specifications testing		1d	05/08/2011	05/08/2011	
67		Testing results implementation		1d	08/08/2011	08/08/2011	66
68		GUI testing		2d	09/08/2011	10/08/2011	67
69		Testing results implementation		1d	11/08/2011	11/08/2011	68
70		Random testing		5d	12/08/2011	18/08/2011	69
71		Testing results implementation		3d	19/08/2011	23/08/2011	70
72		Final iPad app		0d	23/08/2011	23/08/2011	65

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