

IT development in catering

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Abstract—This paper presents the developing process and market induction of CaterMaster which is a professional catering management software. The purpose of the development was to create an application, which using state-of-the-art technology, and contains all the modules needs in catering.

Keywords—catering; management; software; development; business

I. INTRODUCTION

Nowadays a company is unimaginable without IT-support, while managing on paper the incoming and outgoing stuffs, bills is very circumstantial, there is no time for writing bills by hand or leading everything in excel-files. The more your administration, the slower the process, and that could take time from the significant tasks and threaten the customer satisfaction. Now it's already basic requirement to use management software in order to achieve a higher level of control.

For catering [1] places it is determinatively significant that how fast and how the costumers are served, and how can they ease the work of employers. It's important to be able to gain the relevant information by one click, including how effective are the processes, what kind of supply is needed week by week, what about the daily closing, what about the store, and so on. Every process is highly important to be controllable by decent accounting, and quantified statements. Today it is necessary that these processes could be in computerized environment checked and controlled.



Figure 1. An old DOS program developed in 1984.

Management programs [1] are developed by several companies worldwide, but typically these are with lower specifications. It is relevant that a host shouldn't choose an average program without any specifications, but a kind of software what is developed specifically for the target market. For example a supermarket has totally different processes compared with a restaurant or a pub.

It is essential in case of such software to support all processes, what can occur during working including stockpiling, billing, and statistics. The world is changing faster and faster, that's why those will be more successful, who improve faster. Anyway with modern esthetic software working is totally different experience, than with one from the last century.

II. BACKGROUND

We carried out surveys in many Hungarian cities, at different catering places to get positive and negative properties of catering software. Several programs were made in 1980's; these DOS applications are out of date. (See Figure 1.) There is some newer software that meets exceptions but has huge disadvantage: the user interface is very unfriendly. So it takes a lot of time to learn the usage of these programs.

In catering there is a need for software, which was developed by using state-of-the-art technology and a modern user interface.

Our company has developed an application that contains all functions and methods to serve the needs of the highest standard restaurants and bars.

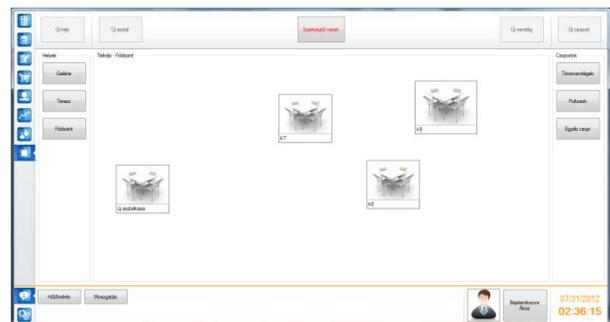


Figure 2. The Visual Table Map module in CaterMaster

The general requirements of our software are the following:

- Modular structure that divides the application into several smaller modules, so users are not limited to the functionality built into the base product. They can customize it to their needs by installing different plugins, modules. (Visual Table Module shown on Figure 2.)
- Touch screen friendly user interface, that means buttons are bigger than in a usual application. Multi-touch recognizes the presence of two or more points of contact with the surface to control the application in easy way.
- Fast and easy user identifying to discern users with different privileges. A lot of software use passwords which are a slow way instead of RFID or face recognition.

A. The company

Our company called MunitioMaster Ltd. was found in June 2011 at Székesfehérvár, Hungary with leaders Tamás Boór and Ákos Hámori. Our main ... is software-developing. Most of ours software are unique, and we focuses on our customers special ideas. In the nearest future we would like to break in into the international market and deploy CaterMaster for customers abroad so we requested European Tax Number too.

B. Market research

First of all we investigated a lot of time for market research to find out what customers would like to see in a brand-new catering management software.

We have collected software from the market to compare all the advantages and disadvantages. We have focused on the top ten of the market leader applications to find out what modules need to be upgraded, redesigned or disregarded to reach a higher standard. We have analyzed these components and validated the results with managers working in the catering business.

To reach a good solution we had to adept the laws, the work flow, and the technical terms of the catering business. To name a few: economics and logistics [2] of the catering business, stock-taking, data on the recipe, etc. We have thoroughly studied the catering business, as well as studying the literature and consulting with business leaders.

C. Preparations of the development

Before we begin we had to determine the platform, the programming language, the design pattern, the necessary number of developers and testers for the software.

The first step was to determine that we develop a server based online service or an offline PC application. We have chosen the second solution because there is a lack of internet accessibility in many bars and restaurants. Furthermore there are always security risks in a web-based service and the chance of data loss is very high. In according to the information security an offline PC application can

protect confidentiality, integrity and availability of information (C.I.A.).

We have chosen Microsoft Windows operating system, Microsoft .NET Framework [3], and Microsoft Visual Studio [4] development environment¹. See Figure 3. Furthermore we have collected all of the tools, hardware we needed like desktop PC, Subversioning system [5], etc.

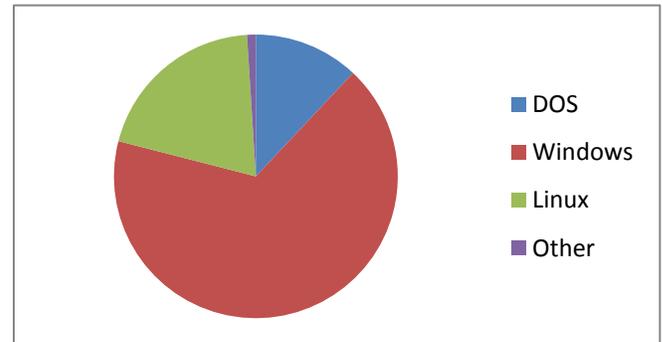


Figure 3. Operating Systems used in catering

D. Marketing strategy

Besides developing our software it was necessary to discover the potential customers for our product. As first steps we have designed an aesthetic DVD case and cover to have our software distinguishable from others. See Figure 4.

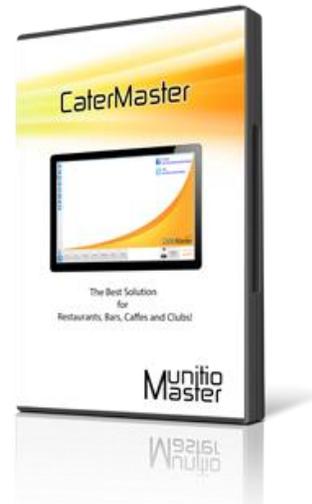


Figure 4. The DVD cover of CaterMaster

We are also providing support for our new software through our self-developed website. Our website is also capable of online marketing i.e. advertising our software with the use of pictures, videos, brochures. Our website will take part also in Google© Adwords campaign.

¹ Microsoft Windows, Microsoft .NET Framework and Microsoft Visual Studio (c) 2012 Microsoft Corporation

Besides we are going to publish our references and we'll ensure a seeded place on the homepage for their presumable positive feedback. We keep very significant advantage that anybody can try the software with all functions freely for a month. That way they can get to know our service and get to like it. After the thirty free days we can see them about the further cooperation.

Towards the elegant appearance it is essential to have touchable promotional tools that we can give in our customer's hand. This means a folder with aesthetic design (Figure 5.) according to the image of the company containing brochure with image illustrations that introduce the advantages and functions of the software, and besides it gives pivot about the purchase, setup and the hardware requirements. In addition we are going to make promotional videos and share it on the web.

And we should pay attention to personal presentations as well. This will be done by qualified salesmen who are familiar with the software.

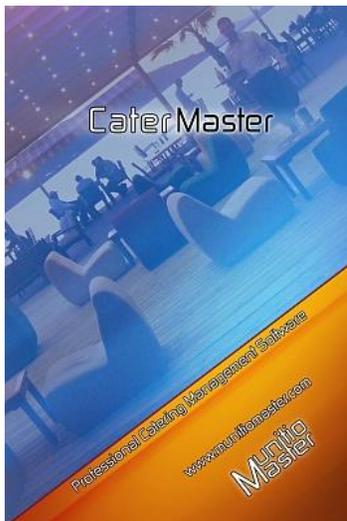


Figure 5. The folder of the company

III. SOFTWARE AND HARDWARE

The following are the steps of our software design:

- specifying problems
- structural partitioning
- programming
- testing
- creating documentation

We used Rapid application development [6] (RAD) as precept and *extreme programming technique* to make easier and shorter the developing. Extreme Programming is a software development technique which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints where new customer

requirements can be adopted. During the software development phase, we met some of our future clients, who helped us improving the quality of the application.

A. Software

During the software design – creating UML diagrams, structures, and flowing charts – we had lot of problems, which we solved after a lot of discussion.

The software has a modular architecture. The modules are to name a few: *Map of tables, Stand improvement, Invoicing, Income/Outgo, Stock Control, Delivery,* and *Product Editor.* These modules are divided into different groups. These groups representing different catering services i.e. fast food, restaurant, bar, etc. Our customers can chose between these modules according to their profile. In the programming technology developing dynamic software architecture is a very demanding task. We have chosen the plug-in computing to achieve this dynamic architecture. We have implemented these plugins [7] in dynamic libraries (DLL) which makes the update procedure fast and convenient. Furthermore these plugins are interchangeable which means it is easy to turn a software developed for bars into another software which is used in fast-food restaurants.

Even though our software is offline PC based, online features like updates and real-time support are provided.

Our software utilizes state-of-the-art security technology to prevent illegal use and redistribution of it. It is also including software activation methods.

We have implemented a supervisor application which is used to identify and track already sold software copies. Our salesmen can also use this program to track their own productivity.

B. Hardware

It's evident that there is no place in the catering business who could induct CaterMaster software without computer, tablet (See Figure 6.) and other tools. Towards improving the service of MunitioMaster we made a contract with a distributor, who is dealing with hardware suited requirements of restaurants, pubs, cafes, etc. Thanks to this agreement, we can provide adequate hardware solutions to our customers as well.

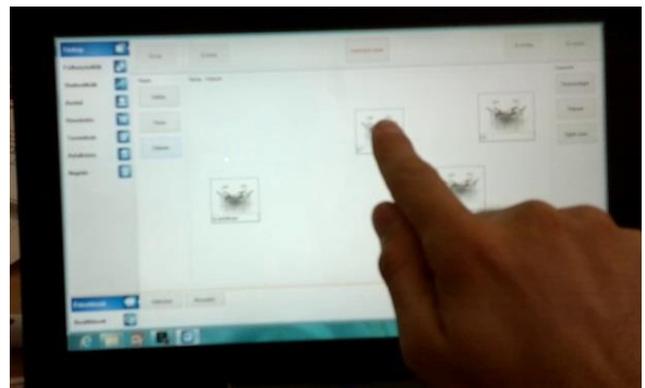


Figure 6. CaterMaster is running on a tablet

IV. RESULTS

Our catering software, the CaterMaster is ready to sale. (Figure 7.) The manufacturing of the required devices is to be done in the near future. We have a prototype hardware and software setup in certain catering units and they are intending to use the final version.



Figure 7. The preview of the software

V. CONCLUSIONS

Because this project is still ongoing partial conclusions can be deducted.

Our main goal was to serve as many catering unit as we can. Our solution is modernizing and making the processes more convinient in the catering business.

Our future plans are to further develop this catering software and equip it with new features, and maintain constant support for our customers.

REFERENCES

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