

# The Role of the First Macedonian Internet portal “Macedonia Search” in Enhancing of the Development of Digital Communication and the Associated Problems

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**Abstract:** One of the often-overlooked aspects of today's modern electronic information spread is that not all people speak English. Since the software applications are mainly made for areas where they sell best, smaller and poorer nations with a local language and alphabet are often ignored and forgotten by the software industry. The situation today is that the people who do not speak English and would like to use their own language are somewhat deprived and as a result - sometimes quite reluctant to start using electronic communication.

This paper concerns itself with the sources, consequences and means to solve this problem. The issue is discussed in regard to real-life example of situations with the use of the Macedonian language and a comparative analysis of the solutions applied. The examples concentrate on Internet publishing using the Macedonian language and its effects and popularity among the Macedonian-speaking individuals.

The paper provides an analysis of the current situation from which conclusions applicable to other cultures can be extracted.

*“Welcome to our first global village. It is Macedonian because it is ours, and we are proud of it. It is global because it connects all of us, it brings us together to unity much more powerful than each of us. No matter what we are, or how much we have achieved in our lives, we are here together. To show our cultural heritage. To show what we know and what we have inherited from the past generations. However, we are here to learn too, to go forward and to leave much more for the generations to come. Still, we have to fill the gap left by the five hundred years slavery, humiliation and tyranny.*

*In this small village you will find a bit of everything and a lot of warmth. It is well categorized and, although the communism ended, it is self-governed. Don't abuse it. Look at the richness it has.*

*Don't leave quickly from our village. We are a hospitable nation. Have a chat with us or with those who have the same interests in the discussion groups. Even if you don't have much time, have a peek - they may brighten your day.*

*Even if you have a business to do, there is something for you. Send faxes, paging and SMS messages, or call the World. Yes, we want to see you happy whatever you do.*

*For our own good.”*

*- Welcome words of Macedonia Search, [www.org.mk](http://www.org.mk)*

## 0. Introduction

About a year and a half ago, on 1 January 2000, the first Macedonian “Yahoo” was born. It was called, and still is called “**Macedonia Search**”, a then small Internet portal developed in the very similar fashion as Yahoo – two student programmers and a vision. That was a vision for a better, brighter future. There was no commercial company, no registered non-profit organization, just two students: Zdravko Stafilov and Zoran Gligorov in a virtual company called “The Imperial Network”.

Macedonia saw its first Internet portal more than half a decade after the World saw Yahoo. Why is Macedonia so late? Some may argue that this is due to the general latency of things in Macedonia. There are strong facts holding this theory. However, we don’t believe that this is the main reason of the half-decade latency. That is why this paper is written; and that is why **Macedonia Search** believes the future is bright.

*“We, the team of **Macedonia Search**, believe that the Internet is the best chance for Macedonia. Chance for the common Macedonian citizen to overcome the barriers present in this region for so long. Maybe the biggest gain of Internet is the proven great influence in building an individual, democratic consciousness. Totalitarian forces, censorship and racial hate cannot stay for long. That is why we believe that exactly the Internet, if it becomes an everyday tool for every Macedonian citizen, will incredibly help solving the current, quite serious problems in the country. In the same time, Internet is a tremendous chance for our economy. Still, chances come and go and it is up to us to grab them and prosper, or leave behind crying and mourning.”*

## 1. What are the main concerns of an electronic publisher?

1. Input of the information, so it can be processed (using keyboard, speech-recognition software or any other method).
2. The compatibility of the product – can their published material be accessible and will it look the same on every computer and on every platform?
3. Providing the right content to right visitors.
4. Payment methods – can the user easily purchase the information required?

The basic conditions of the situation are that the Macedonian language is not English and uses an alphabet different than English. This is not uncommon, there are between three and four thousand languages spoken in the world today. It has been said that living in the world and speaking only one language is somewhat equivalent to living in an enormous mansion and staying in only one room. Thus, the problems and solutions apply to other non-English languages, too.

### 1.2 Background information

Macedonian language uses its own version of the Cyrillic alphabet, which has few characters different from the other Cyrillic alphabets (Russian, Serbian, Bulgarian). It is spoken by 2 million people, mainly in Macedonia, the neighbouring countries, Australia, Canada and the USA.

English is taken as a referral point because the standards for computer use, the software applications and the hardware itself are mainly designed by persons who use English Latin alphabet and speak English as a first language. This may have changed a

little in the last years, having software engineering in India, Asia and Eastern Europe. However, the biggest share of the electronic publishing market today is the Western world and America, and one of the reasons for it is that the electronic publishing products have no difficulty to reach its *target audience in its own language*.

Language is one of the foundations of the culture because it is a tool that people use for thinking, and the success of the electronic publishing in non-English countries/cultures depends on the obvious, but often overlooked fact that it has to be done in the local language.

Although the English language is the lingua franca of computer technology and more and more people learn it as a second language, an electronic publisher in a non-English country cannot afford to set as a target only those persons who know it – there are simply not enough of them. This situation is evident in most developing countries and the countries of Central and Eastern Europe, including the Republic of Macedonia. In order to purchase a product, especially an intellectually related one, the user must be comfortable about using it with ease. This can only be accomplished if the local language is used.

This set of circumstances puts the speakers of Macedonian in a difficult position to make full use of the new technology. The majority of the problems appear to be in the user-computer communication. That is, when the information is entered using a keyboard that is not designed for that alphabet and when the viewing software cannot show the appropriate characters.

The problem has been partially solved by the makers of the operating systems initially designed to communicate in English. Some of them evolved and became more international, by supporting other languages. Unfortunately, all vendors invented their character sets for encoding the non-English alphabets, so today there are quite a few “standards” for encoding the Cyrillic alphabet. Only one has gone through the normal process of standardization, which is ISO 8859-5. However, the most common computers in Macedonia are Intel based PCs with Microsoft Windows operating systems. Microsoft seems to like its own Cyrillic encoding standard more, so Windows-1251 is the most used and best-supported standard for encoding the Cyrillic alphabet.

**Macedonia Search** conducted series of compatibility tests to find the perfect standard for encoding of the Cyrillic alphabet. The tests were performed on Windows, Linux and other operating systems and were discussed in the Macedonian discussion boards. No perfect standard was found, but three standards were found to be acceptable: Windows 1251, ISO 8859-5 and Unicode. All popular browsers had no problems presenting pages in those standards. However, serious problems appeared while trying to enter information using some of the standards. Those using Internet Explorer could write in Windows 1251, but sometimes some of the characters encoded with ISO were damaged. Netscape Navigator and Netscape Messenger showed similar results.

**Macedonia Search** prefers Windows-1251 for encoding Cyrillic text on the Internet.

## 2. Providing content in Macedonian

Choosing the standard is only the first step toward localised electronic publishing. The standard is only a tool to store and retrieve content. But who is going to provide the content? Furthermore, can we provide the right content to satisfy the interests of our visitors?

**Macedonia Search** started with its own search engine. All Macedonian Internet sites were indexed automatically, using a web spider. Care was taken to support all encoding standards, but results were shown using Windows-1251 standard only. The search engine was used to search only sites based in Macedonia, sites in Macedonian and sites for and about Macedonians. Those who wanted to perform wider searching were passed to the well-known search engines like Google, Alta Vista, Infoseek, Yahoo, etc.

The need for having a web portal with categorized links to all local sites was obvious. Categorizing the web sites is a completely different experience than programming a web spider or a search engine. It has to be done by hand, and in the case of **Macedonia Search**, with very limited human resources (i.e. two student programmers), so it took a while. Fortunately, doing something that has already been invented is an easier task and lessons can be learned without running into the same trouble as Yahoo or other similar services.

As a growing Internet portal, **Macedonia Search** started providing common services like web search, categories, free e-mail, weather forecast and discussion groups. It was increasingly popular, too. However, there was very little interaction with the visitors – they came, they saw what they were looking for and they went on. There were a few reasons for this: Too little right content for visitors' interests and general lack of interest to communicate with others on local basis.

How can a visitor be attracted to spend more time on a (localised) web site? How can a visitor be attracted to contribute to a web site? Web statistics show that 86 per cent of the visitors of **Macedonia Search** are located in Macedonia. The rest come mainly from the United States and Australia. This is not a common type of visitors. Some fields of interest are fairly easy to foresee. For example, a person living in Macedonia would not be that interested to see the weather forecast in New York, or London, but would be interested to see the local weather forecast. The same is true with the cultural or entertainment events. By providing informational resources such as the local cinema schedule, news, local weather forecast, games and entertainment, the popularity of **Macedonia Search** was up to over 2000 visitors per day.

### 2.1 Background information

Macedonia, a country of 2 million citizens, has between 20000 and 30000 Internet user accounts. Up to 4 000 of them are users who spend more than an hour per day on Internet. These are unofficial estimates.

### 3. Right tools in the right hands

As stated above, the majority of the problems appear to be in the user-computer communication. The standards for computer use, the software applications and the hardware itself are mainly designed by persons who use English Latin alphabet and speak English as first language. We, in **Macedonia Search**, believe that providing the right tools in the right language and with the right design will set up an incredible boost of the electronic publishing in the developing countries. Statistics show that Macedonia, although a developing country, has a fairly good production of engineers every year. Unfortunately, many of them leave the country in search for better jobs. Well, lets see if two engineers can do the job.

The web offers an incredible power to outstrip distances. There are many Macedonian engineers, writers, designers etc. around the world. Just like in any other

developing country, many of the best people usually emigrate to Western Europe and the USA. However, we believe we can make them do something good for their own motherland.

**Macedonia Search** has developed a system for document storage, classification and retrieval. It is called "Knowledge Base", a place on the World Wide Web where all kinds of documents in Macedonian are stored. The interface is simple and straightforward, so anyone who speaks Macedonian can search, as well as add documents in many categories. Categories vary from science and technology to medicine, arts and entertainment. To add on quality, some of the top university professors stored their papers and books here. By providing good service free of charge **Macedonia Search** earned thousands regular users every day. A "user" is not just a visitor, but also a human who receives the information, and also thinks and transmits information to other fellow humans. It is a great pleasure to see the discussion groups very active and irc (Internet Relay Chat) chat rooms full.

Statistical analyses show that our most frequent users are high school and university students. We are very pleased to have an audience so curious and so full of energy. That is the reason why many of our services are aimed toward the interests of the secondary school and high school students. Further statistics are shown below:

*Table 1: General stats for the period 11 May 2000 - 21 February 2001.*

GENERAL STATISTICS	PERIOD 11 MAY 2000 - 21 FEBRUARY 2001
Total number of visits	7896331
Total visitors	294724
Total data transferred	19.92 gigabytes
Average hits per user	26.79
Average users per day	2518
Average hits per day	27513.35
Average data transferred per day	95 megabytes
Total unique IP addresses	46350

*Table 2: Geographical location.*

GEOGRAPHICAL LOCATION	PERCENTAGE
Macedonia (.mk)	86.14%
USA, commercial domains (.com)	3.00%
Australia	2.10%
USA, network domains (.net)	1.48%
Holland (.nl)	0.98%
Russia (.ru)	0.88%
USA, educational domains (.edu)	0.70%
USA, non-profit domains (.org)	0.57%
United Kingdom (.uk)	0.49%

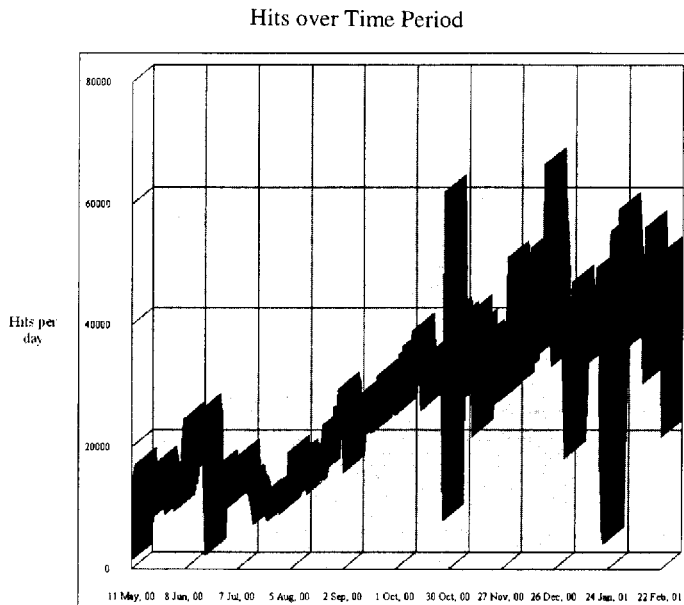


Fig. 1: Visitors per day between 11 May 2000 and 22 February 2001.

#### 4. Payment methods – can the user easily purchase the information required?

What is the point of publishing a commercial product electronically, if there is no effective and friendly mechanism for collecting the payments? The USA and some of the Western Europe saw a great boom of e-commerce due to the well-organized systems for collecting credit-card payments. Even in the most developed countries there are flaws and changes to be done. Maybe the most important step forward was the electronic signature law, a law that promises a lot, but not just yet.

Although an electronic signature law has recently been passed in Macedonia too, a whole infrastructure has yet to be built. Macedonia is a country with a few bank scandals in the previous years, and many of the citizens prefer to keep the money “under a pillow” and not in banks. Credit cards are quite new to the population. However, most families with employed members have cheque accounts. The Macedonian Post also offers a pay on door services when the customer pays for the product when it is delivered. So there are means of selling goods and “atoms” as Nicholas Negroponte refers all objects that are actually delivered to your door.

Paying for electrons, i.e. information delivered by wire is not straightforward in Macedonia. The local banks do not offer means of collecting payments electronically, however a foreign service can be hired to handle the transactions. This will change, hopefully. A recent conference on e-commerce showed a great interest for providing the legal and technical tools for starting e-commerce in Macedonia.

## 5. Conclusion

The example of **Macedonia Search** shows that there is great potential for electronic publishing in the smaller developing countries, as well as an undiscovered potential customer base in countries with ethnic communities from these countries. This potential can be used if we access the nation's necessity for preserving its cultural identity.

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