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ALL PLATFORM DIGITAL COLLECTIONS PRESENTATION:
A SIMPLE SOLUTION

Abstract: **A** solution for online and offline access to the scanned images is presented. It is intended primarily for manuscript collections, but could be also used for periodicals and some special collections.
Key words: digital document, digital collection, software solution, HTML, DHTML, JavaScript, metadata, Internet presentation

1. Introduction

National Library of Serbia started the digitization process in 2002. In these three years the most attention has been paid to the scanning of library materials, not much to the presenting of digital collections. However, the bigest challenge in digital libraries building is to make right solution for aceess to the digital contents, for both - online and offline users. One of the rare advantages of the "late digitization" is a huge experiance of the others, mostly available on the Internet.

There are a lot of commercial software packages that are producing new formats of digital documents, better for viewing on the screen, faster for download, such as DejaVu, MrSid and others. Usually, it is necessary for users to download the plugins for reading these files. The more conventional formats of digital documents (DOC, PDF ...) are often too large to be accessed on Internet.

Open-source systems such as Greenstone, for constructing, presenting and maintaining digital collections present good choice, but often don't allow the full control of digital contents presenting.

2. Requirements

The initial requirements for the software solution for presenting the digital collections in National Library of Serbia were:
- *Universal accessibility*: The presentation should be visible on all (or almost all) present hardware/software platforms. The special attention should be paid to Windows and Linux operating systems, and the most popular Internet browsers – Internet Explorer, Netscape, Opera, Mozilla etc.
- *Suitability for Internet presentation*: The presentation should be suited for presenting on Internet.
- *Suitability for offline presentation*: The presentation should be suitable for presenting on an offline medium (CD, DVD, offline view on local computer or Intranet).

- *Suitability for presenting various kinds of digital collection*: It should be possible to present various kinds of digital materials: manuscripts, printed books, photographs, newspapers etc.
- *Use of widely accepted format*: "Exotic" presentation formats should be avoided as much as possible in order to preserve future readability and usability.
- *Possibility of automatic code generation*: It should be possible to generate presentation from internal database containing metadata about digital collection. The process should be automated, in order to avoid manual user intervention as much as possible.
- *Use of widely available programming tools*: Programming tools to make presentation with should be chosen from one of widely accepted ones. This should minimize probability of changing programming tools should the chosen one became obsolete.

3. Choosing Solution Technology: Fulfilling All Requirements

Requirements for universal accessibility and *suitability for Internet* have leaded to choice of almost the only one possible format: HTML with client JavaScript. It also fulfills the requirement to *use the widely accepted format*.

Suitability for offline presentation caused any web server technologies (like ASP or PHP) to be avoided. Using server technology is usually connected with some database system on server. Although all of these could be installed locally on (almost) any computer and operating system, it could be inconvenient and too complicated for most end users.

Suitability for presenting various kinds of digital collection could be achieved by careful design of presentation solution no matter what technology is used.

Automatic code generation and use of widely available programming tools have leaded to choice of JavaScript scripting language that is very suitable for dynamic Internet pages.

4. Solution features

Implemented solution has the following features:
- Navigation through the collection by means of buttons for *first*, *last*, *previous* and *next* page.
- Jump to any page of collection using *goto* button
- Jump to any part of the collection using *contents* button
- Display metadata about collection as a whole
- Display metadata about every page of collection
- Zoom function
- Choice among different skins enabling different look 'n feel for various kind of digital collection
- Multilanguage user interface
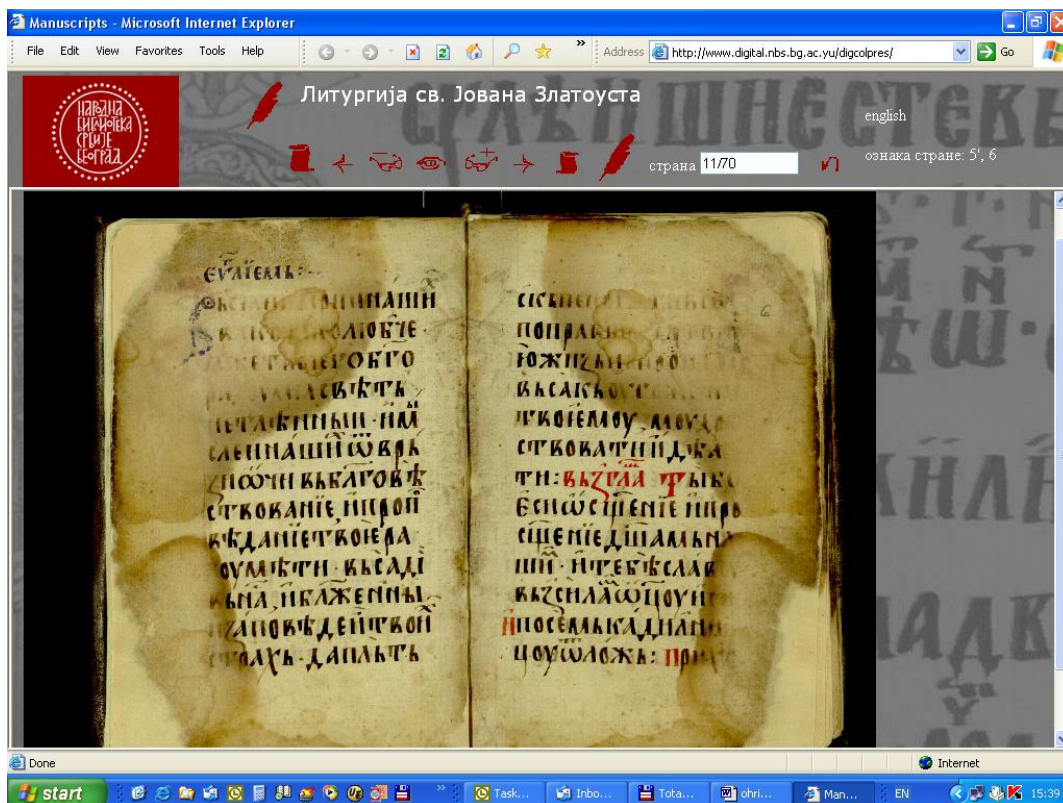- The same code is used for online and offline usage

Fig. 1. Page 11 of the Manuscript, generated in IE (interface in Serbian)

5. Some elements of the code for *dynamic page loading*

```
<img    src="image/Naredna.gif"    width="25"    height="40"    name="narednaStrana"
id="narednaStrana"
   onMouseover="document.images['narednaStrana'].src='image/NarednaOver.gif'"
   onMouseout="document.images['narednaStrana'].src='image/Naredna.gif'"
   onClick="nadjiStranu(brTekuceSt+1);">
function nadjiStranu(brStr)
{
      var ime,brS;
      brS=parseInt(brStr);
      ime=vratiImeFajla("strana",brS);
      if (ime!=0)
      {
            top.frames["donjiDesniFrejm"].slika.src=ime;
            brTekuceSt=brS;
            parent.gornjiDesniFrejm.stranaU.value=brTekuceSt+"/"+brStrana;
      }
      else{
            parent.gornjiDesniFrejm.stranaU.value=brTekuceSt + "/" + brStrana;
      }
      top.frames["donjiLeviFrejm"].opis.innerHTML="";
   nadjioznaku();
```
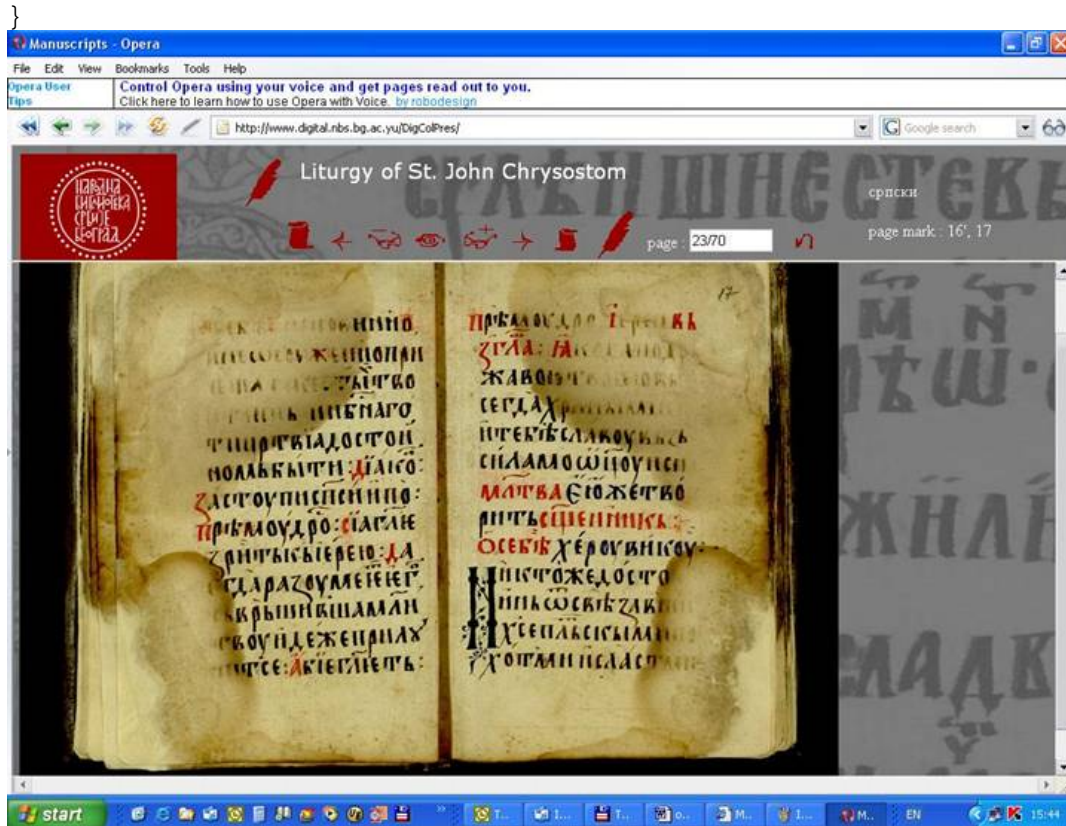
```
}
```


Fig. 2. Page 23 of the Manuscript, generated in Opera (interface in English)

6. Some elements of the code for Navigation Data

```
var strana=new Array;
var brStrana=0;
var brTekuceSt=1
var tekuciJezik="srp";

brStrana++;
strana[brStrana]=new Object;
strana[brStrana].imeFajla="cover_foto/PEC_079_000.JPG";
strana[brStrana].gradja="stara knjiga";
strana[brStrana].oznaka="listic";
strana[brStrana].opis=0;

brStrana++;
strana[brStrana]=new Object;
strana[brStrana].imeFajla="cover_foto/PEC_079_001.JPG";
strana[brStrana].gradja="stara knjiga";
strana[brStrana].oznaka="slikak";
strana[brStrana].opis=0;
...
```
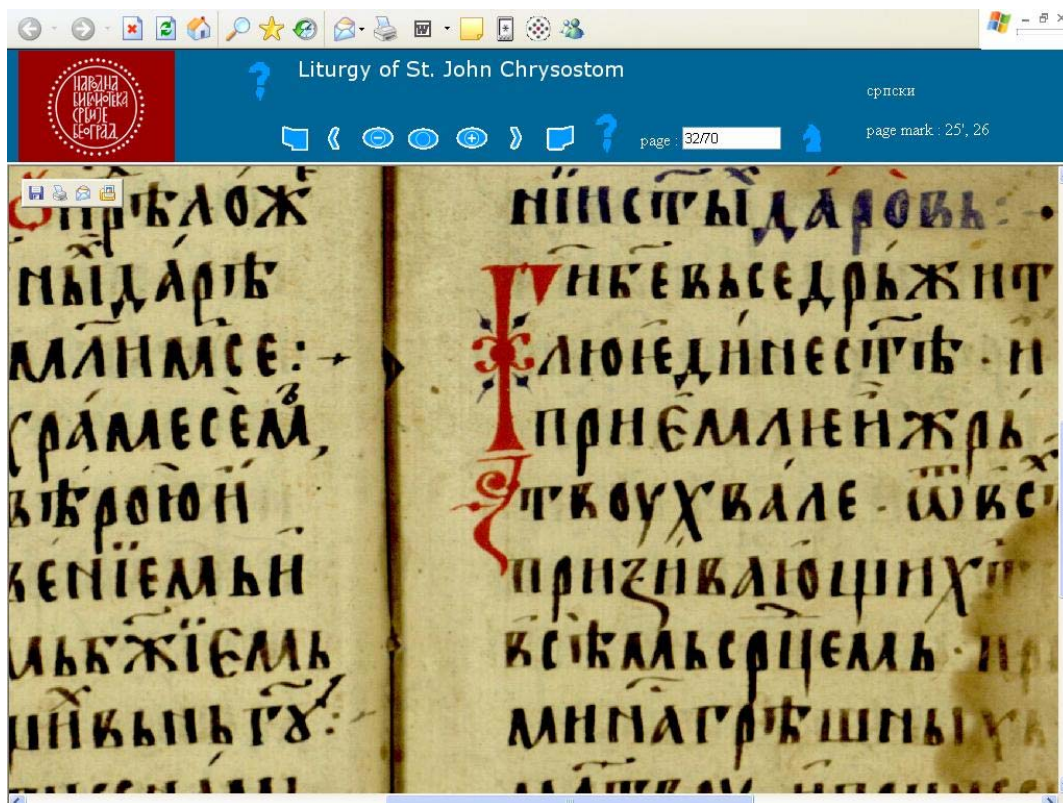
Fig. 3. Page 32 of the Manuscript zoomed in, interface in English

7. More technical details

Presentation solution is written in DHTML and client-side JavaScript. No server technology is used. This enables making offline version of the presentation very easy.

All data about digital materials are contained in multidimensional static arrays in JavaScript code that is downloaded to user computer together with Internet page.

When the user selects a page to view, arrays are searched for the data about the requested page. The page is downloaded from server (or from a local folder in case of an offline presentation) and loaded into viewing frame.

Since no server technology is used, preparing an offline version is very easy. All Internet pages are just copied to an offline medium and delivered to the user.

8. Conclusion

This simple solution for digital collection presentation is based on basic requirements tending to simplify process of preparing and viewing digital collection. Its main advantages are:

- Platform independency – user is only supposed to have software for viewing standard Internet presentation
- Cheap and fast process of preparing digital collection for presentation.

- Possibility of automatic generation of presentation from various format of metadata
- No additional conversion from online version to offline version are needed

The implemented solution has some disadvantages:

- Used technology has limited means of digital material presentation since it is based on standard HTML
- Not all kinds of digital material are suitable for presenting (i.e. multimedia collection)
- Metadata are embedded into code. Some work (manual or automatic) is necessary to convert metadata to the form required by this solution.

Saying in one sentence, the implemented solution is not ideal, but is optimized in many aspects.

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