Comparison of Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Central State Administration Bodies in the Slovak Republic between the Years 2014 and 2017

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Abstract: The study focuses in its main aim on seeking of differences in deficits relating to applying the skip navigation mechanism on the websites of the central state administration bodies in the Slovak Republic in the context of improving the websites accessibility between the years 2014 and 2017. It consists of two separate parts. The first part presents a basic introduction to the questions of skip navigation links, with the key attention paid to the following three main areas: applying of skip navigation links, visual hiding of skip navigation links, and web browsers' bug related to skip navigation links. The second part of the study concentrates on the basis of a temporal analysis of differences in applying the skip navigation links on the websites of the central state administration bodies in the Slovak Republic on the processes focused on detection of potential deficits and gaps in the websites' accessibility or related possible non-compliance with the legislation in force.

Key Words: Websites; Websites' Accessibility; Skip Navigation Links; Public Administration; Central State Administration Bodies; Compliance with Legislation in Force; Analysis; Period between Years 2014 and 2017; the Slovak Republic.

Introduction

The on-line form of presentation and communication of the public administration authorities via Internet belongs not only to the most effective forms of communications – in relation to the territorial impact of the communicated information, but also to the most problematic – in the context of technical realisation due to a number of specific standards required by handicapped web users with various forms of disabilities. In the following study the author focuses on the questions of applying the skip navigation links as key elements by building the websites.

While sighted web users use their eyes as a built-in skip navigation mechanism which enables them to bypass several links with only one click or to move directly to the link they want to reach with the mouse, for users with some forms of visual or motor disabilities means bypassing the navigation links or direct browsing the website a very serious technical problem. Importance and wide-social interest in solving this problem is reflected also in the adopted related legislation which is in the Slovak Republic represented by the latest Ministerial Decree of the Ministry of Finance of the Slovak Republic No. 55/2014 Coll. of Standards for Information Systems of Public Administration issued on March 4th, 2014, and effective from March 15th, 2014.[1]

The aim of the study is to analyse the differences in applying the skip navigation links on the websites of the central state administration bodies in the Slovak Republic between the years 2014 and 2017. In the context of the research questions we define the main hypothesis as follows: *Homepages of the central state administration bodies in the Slovak Republic have applied the skip navigation links mechanism technically more correctly in year 2017 than in year 2014*.

Skip navigation links

The following part of the study familiarizes the readers with the main questions of applying of skip navigation links, visual hiding of skip navigation links, and web browsers' bug related to skip navigation links.

Applying of skip navigation links

The idea of applying the skip navigation links is simple: they serve to provide a link at the top of the webpage which jumps the user down to an anchor or target at the beginning of the main content. For the most part it seems to be easy, though there is more than one way to accomplish the goal. From the technical view the process of creating the skip navigation link could be explained through a HTML code as it is shown in the following example:[2]

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[1] See *Výnos Ministerstva financií Slovenskej republiky č. 55/2014 Z.z. o štandardoch pre informačné systémy verejnej správy zo 4. marca 2014* [Ministerial Decree of the Ministry of Finance of the Slovak Republic No. 55/2014 Coll. of Standards for Information Systems of Public Administration issued on March 4th, 2014].

[2] "Skip Navigation" Links. In: *WebAIM: Web Accessibility in Mind* [online]. 2013-10-25 [cit. 2017-03-01]. Available at: http://webaim.org/techniques/skipnav/; and KOPRLOVÁ, J. Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Cen-

➕ HTML code:
```
<body>
<a href="#main-content">Skip to Main Content</a>
…
<main id="main-content">
  <h1>Heading</h1>
  <p>This is the first paragraph.</p>.
```

Visual hiding of skip navigation links

By building the website the most required form of applying the skip navigation mechanism is to make it invisible. For hiding the skip links there are several techniques to be applied. Two parallel conditions should be necessarily taken into account in this process: the first one means the requirement of visual hiding of the skip links content, and the second one represents the requirement of accessibility of the skip links content for screen readers. Nowadays, the best known and most often used CSS code *"visibility: hidden;/display: none;"* satisfies the only first one from the two above mentioned conditions and so it cannot be recommended in relation to its non-visibility and inaccessibility for screen readers. An effective solution of this problem, satisfying the both conditions, offer the following HTML and CSS codes:[3]

➕ HTML code:
```
<div class="hidden">This text is hidden.</div>;
```
➕ CSS code:
```
.hidden {
  position: absolute;
  left: -10000px;
  top: auto;
  width: 1px;
  height: 1px;
```

---

tral State Administration Bodies in the Slovak Republic. *Societas et iurisprudentia* [online]. 2014, roč. 2, č. 2, pp. 134-135 [cit. 2017-03-01]. ISSN 1339-5467. Available at: http://sei. iuridica.truni.sk/archive/2014/02/SOCIETAS-ET-IURISPRUDENTIA-2014-02.pdf.

[3] CSS in Action: Invisible Content Just for Screen Reader Users. In: *WebAIM: Web Accessibility in Mind* [online]. 2014-12-11 [cit. 2017-03-01]. Available at: http://webaim.org/techniques/css/invisiblecontent/; and KOPRLOVÁ, J. Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Central State Administration Bodies in the Slovak Republic. *Societas et iurisprudentia* [online]. 2014, roč. 2, č. 2, p. 135 [cit. 2017-03-01]. ISSN 1339-5467. Available at: http://sei.iuridica.truni.sk/archive/2014/02/SOCIETAS-ET-IURISPRUDENTIA-2014-02.pdf.

```
overflow: hidden;
}.
```

By a generally recommended requirement to make the skip naviga-tion links invisible until they receive keyboard focus, the following HTML and CSS codes should be applied:[4]

- HTML code:
  ```
  <div id="hidden"><a href="#main-content">Skip to Main Content </a></div>;
  ```
- CSS code:
  ```
  #hidden a {
    position: absolute;
    left: -10000px;
    top: auto;
    width: 1px;
    height: 1px;
    overflow: hidden;
  }
  #hidden a:focus {
    position: static;
    width: auto;
    height: auto;
  }.
  ```

This means a very useful solution which could be preferred above all for sighted keyboard users those cannot use a mouse.

Web browsers' bug related to skip navigation links

The recommended above mentioned skip navigation links related solu-tions are working effective in most web browsers, but nowadays there still exists one bug which lowers the efficiency of their applying through disrupting the logical order by browsing or reading the webpage links. This makes the webpage browsing with keyboard distortable or even non-effective. An appropriate solution for healing this bug offers the HTML code as follows:[5]

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[4] CSS in Action: Invisible Content Just for Screen Reader Users. In: *WebAIM: Web Accessibil-ity in Mind* [online]. 2014-12-11 [cit. 2017-03-01]. Available at: http://webaim.org/tech-niques/css/invisiblecontent/.

[5] Skip Navigation Links (Updated 6/19/2009). In: *JimThatcher.com* [online]. 2014-03-07 [cit. 2017-03-01]. Available at: http://www.jimthatcher.com/skipnav.htm; and KOPRLO-

➕ HTML code:
```
<body>
<a href="#main-content">Skip to Main Content</a>
…
<main id="main-content" tabindex="-1">
  <h1>Heading</h1>
  <p>This is the first paragraph.</p>.
```

Analysis of differences in applying the skip navigation links on the websites of the central state administration bodies in the Slovak Republic between the years 2014 and 2017

Our analysis of applying the skip navigation links on the websites of the central state administration bodies in the Slovak Republic has been legislatively based on the Ministerial Decree of the Ministry of Finance of the Slovak Republic No. 55/2014 Coll. of Standards for Information Systems of Public Administration issued on March 4th, 2014, and effective from March 15th, 2014, with the main attention laid on the § 14 Websites' Accessibility (in the Slovak original "§ 14 Prístupnosť webových stránok"), including related appendix Guideline 13. Providing Clear Navigation Mechanisms (in the Slovak original "Pravidlo 13. Poskytovanie prehľadného mechanizmu navigácie").[6]

Our analysis was realised in the early March 2017 by applying web browser Internet Explorer 11 (with style sheets and active elements turned off). Complete sample was represented by all websites of all the central state administration bodies in the Slovak Republic, while research

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VÁ, J. Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Central State Administration Bodies in the Slovak Republic. *Societas et iurisprudentia* [online]. 2014, roč. 2, č. 2, pp. 136-137 [cit. 2017-03-01]. ISSN 1339-5467. Available at: http://sei.iuridica.truni.sk/archive/2014/02/SOCIETAS-ET-IURISPRUDENTIA-2014-02. pdf.

[6] Compare with KOPRLA, M. and J. KOPRLOVÁ. Analýza prístupnosti webových stránok vybraných webových sídiel verejnej správy z pohľadu administratívno-správneho členenia Slovenskej republiky. *Societas et res publica* [online]. 2013, roč. 2, č. 1, pp. 93-160 [cit. 2015-09-01]. ISSN 1338-6530. Available at: http://serp.fsv.ucm.sk/archive/2013/01/SOCIETAS-ET-RES-PUBLICA-2013-01.pdf; and with KOPRLA, M. Prístupnosť webových stránok ako významný faktor zvyšovania konkurencieschopnosti. In: K. ĎURKOVÁ, A. BOBOVNICKÝ and A. ZAUŠKOVÁ, eds. *Inovácie a vedomostná spoločnosť/digitálny marketing – udržateľný rast a návrat investícií* [CD-ROM]. 1. vyd. Trnava: Univerzita sv. Cyrila a Metoda v Trnave, Fakulta masmediálnej komunikácie, 2012, pp. 49-63. ISBN 978-80-8105-454-9.

sample was defined by all homepages of all the central state administration bodies in the Slovak Republic, namely of:[7]

- Ministry of Economy of the Slovak Republic (http://www.economy.gov.sk/);
- Ministry of Finance of the Slovak Republic (http://www.finance.gov.sk/);
- Ministry of Transport and Construction of the Slovak Republic (http://www.mindop.sk/);
- Ministry of Agriculture and Rural Development of the Slovak Republic (http://www.mpsr.sk/);
- Ministry of Interior of the Slovak Republic (http://www.minv.sk/);
- Ministry of Defence of the Slovak Republic (http://www.mosr.sk/);
- Ministry of Justice of the Slovak Republic (https://www.justice.gov.sk/);
- Ministry of Foreign and European Affairs of the Slovak Republic (https://www.mzv.sk/);
- Ministry of Labour, Social Affairs and Family of the Slovak Republic (https://www.employment.gov.sk/);
- Ministry of Environment of the Slovak Republic (http://www.minzp.sk/);
- Ministry of Education, Science, Research and Sport of the Slovak Republic (https://www.minedu.sk/);
- Ministry of Culture of the Slovak Republic (http://www.culture.gov.sk/);
- Ministry of Health of the Slovak Republic (http://www.health.gov.sk/);
- Government Office of the Slovak Republic (http://www.vlada.gov.sk/);
- Antimonopoly Office of the Slovak Republic (http://www.antimon.gov.sk/);
- Statistical Office of the Slovak Republic (http://www.statistics.sk/);
- Geodesy, Cartography and Cadastre Authority of the Slovak Republic (http://www.skgeodesy.sk/);

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[7] See *Zákon č. 575/2001 Z.z. o organizácii činnosti vlády a organizácii ústrednej štátnej správy v platnom znení* [Act No. 575/2001 Coll. on Organization of the Activities of the Government and Organization of the Central Public Administration, as amended].

- Nuclear Regulatory Authority of the Slovak Republic (http://www.ujd.gov.sk/);
- Slovak Office of Standards, Metrology and Testing (http://www.unms.sk/);
- Office for Public Procurement (https://www.uvo.gov.sk/);
- Industrial Property Office of the Slovak Republic (https://www.indprop.gov.sk/);
- State Material Reserves of the Slovak Republic (http://www.re-serves.gov.sk/);
- National Security Authority (http://www.nbusr.sk/);
- Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic (https://www.vicepremier.gov.sk/).

Ministry of Economy of the Slovak Republic

Next figure displays homepage of the Ministry of Economy of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Figure 1 Website (with style sheets and active elements turned off) of the Ministry of Economy of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Economy of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.economy.gov.sk/.

Analysing the homepage of the Ministry of Economy of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[8]

- Number of links before the main content: 2014: 150 links/2017: 214 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Ministry of Economy of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Ministry of Finance of the Slovak Republic

Next figure displays homepage of the Ministry of Finance of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Analysing the homepage of the Ministry of Finance of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[9]

- Number of links before the main content: 2014: 48 links/2017: 56 links;
- Number of skip links: 2014: 2 links/2017: 2 links;
- Number of links before the first skip link: 2014: 2 links/2017: 2 links;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:
  ```
  <li class="hidden">
    <a href="#sectionLeft">Prejsť na obsah stránky</a>
  </li>
  <span class="hidden">
    <a href="#main">Preskočiť vrchnú navigáciu</a>
  </span>
  ```

---

[8] Source code of the website of the *Ministry of Economy of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.economy.gov.sk/.

[9] Source code of the website of the *Ministry of Finance of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.finance.gov.sk/.

```
<div id="main">
  ...
</div>
<div id="sectionLeft">
  ...
</div>;
```
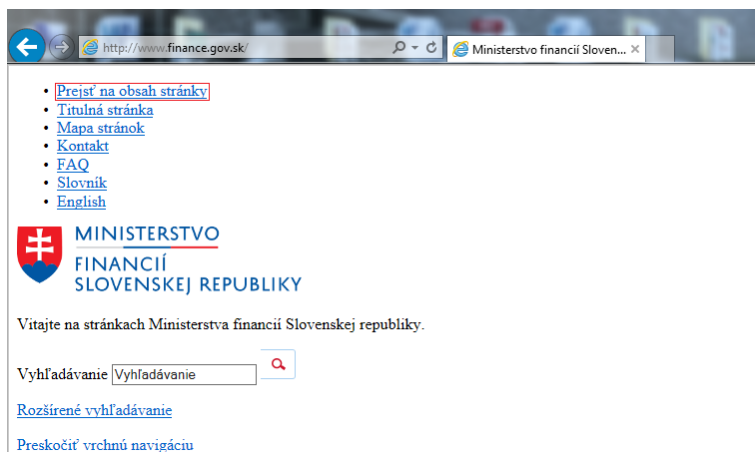CSS code of skip links:
```
.hidden {
  display: none !important;
}.
```

Figure 2 Website (with style sheets and active elements turned off) of the Ministry of Finance of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Finance of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.finance.gov.sk/.
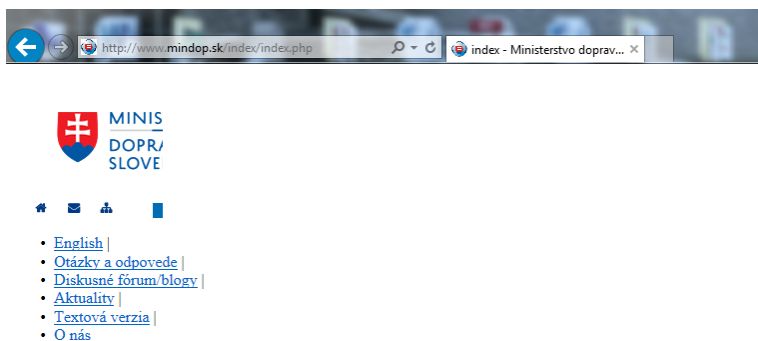
According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Finance of the Slovak Republic, but it works technically incorrectly. In relation to our finding we can recommend to add the attribute *tabindex="-1"* to website's target elements and to replace CSS code *"display: none !important;"* with CSS code in accordance with the model examples shown in the previous parts of the study named "Visual hiding of skip navigation links" and "Web browsers' bug related to skip navigation links", with the aim, firstly, to make the skip navigation links content accessible/visible for screen readers and, secondly, to eliminate the dis-

rupted logical order by browsing or reading the webpage links that oc-
curs by most of web browsers.

Ministry of Transport and Construction of the Slovak Republic

Next figure displays homepage of the Ministry of Transport and Con-
struction of the Slovak Republic, with style sheets and active elements
turned off. There is no skip link applied.

Figure 3 Website (with style sheets and active elements turned off) of the Ministry of
Transport and Construction of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of
Transport and Construction of the Slovak Republic* [online]. 2017 [cit. 2017-03-01].
Available at: http://www.mindop.sk/.

Analysing the homepage of the Ministry of Transport and Construc-
tion of the Slovak Republic in context of using the skip navigation links
following key findings could be detected:[10]

⁜ Number of links before the main content: 2014: 36 links/2017:
   35 links;
⁜ Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no
skip navigation mechanism applied on the analysed homepage of the
Ministry of Transport and Construction of the Slovak Republic. In rela-

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[10] Source code of the website of the *Ministry of Transport and Construction of the Slovak Re-
public* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.mindop.sk/.

tion to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Ministry of Agriculture and Rural Development of the Slovak Republic

Next figure displays homepage of the Ministry of Agriculture and Rural Development of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 4 Website (with style sheets and active elements turned off) of the Ministry of Agriculture and Rural Development of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Agriculture and Rural Development of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.mpsr.sk/.

Analysing the homepage of the Ministry of Agriculture and Rural Development of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[11]

🞢 Number of links before the main content: 2014: 97 links/2017: 98 links;
🞢 Number of skip links: 2014: 1 link/2017: 1 link;
🞢 Number of links before the first skip link: 2014: 0 links/2017: 0 links;

---

[11] Source code of the website of the *Ministry of Agriculture and Rural Development of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.mpsr.sk/.

- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:

```
<div id="contentjump">
  <a href="#obsah">Preskočiť na obsah</a>
</div>
<a name="obsah"></a>;
```

- CSS code of skip links:

```
#contentjump {
  font-size: 150%;
  font-weight: bold;
  display: none;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Agriculture and Rural Development of the Slovak Republic, but it works technically incorrectly. In relation to our finding we can recommend to add the attribute *tabindex="-1"* to website's target element and to replace CSS code *"display: none;"* with CSS code in accordance with the model examples shown in the previous parts of the study named "Visual hiding of skip navigation links" and "Web browsers' bug related to skip navigation links", with the aim, firstly, to make the skip navigation links content accessible/visible for screen readers and, secondly, to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Ministry of Interior of the Slovak Republic

Next figure displays homepage of the Ministry of Interior of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Ministry of Interior of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[12]

- Number of links before the main content: 2014: 56 links/2017: 47 links;
- Number of skip links: 2014: 1 link/2017: 0 links.

---

[12] Source code of the website of the *Ministry of Interior of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.minv.sk/.

Figure 5 Website (with style sheets and active elements turned off) of the Ministry of Interior of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Interior of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.minv.sk/.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Ministry of Interior of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Ministry of Defence of the Slovak Republic

Next figure displays homepage of the Ministry of Defence of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Analysing the homepage of the Ministry of Defence of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[13]

➕ Number of links before the main content: 2014: 82 links/2017: 88 links;

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[13] Source code of the website of the *Ministry of Defence of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.mosr.sk/.

- Number of skip links: 2014: 5 links/2017: 5 links;
- Number of links before the first skip link: 2014: 2 links/2017: 2 links;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:

```
<ul id="skratky" class="screenreader">
  ...
  <li>
    <a href="#page" accesskey="0">Skočiť na obsah</a>
  </li>
  <li>
    <a href="#topmenu">Skočiť na hlavné menu</a>
  </li>
  <li>
    <a href="#right">Skočiť na pravý informačný panel</a>
  </li>
</ul>
<p class="hide">
  <a href="#topmenu" class="hide">Skočiť na hlavné menu</a>
</p>
<p class="hide">
  <a href="#topmenu" class="hide">Skočiť na hlavné menu</a>
</p>
<div id="topmenu">
  ...
</div>
<div id="page">
  ...
</div>
<div id="right">
  ...
</div>;
```

- CSS code of skip links:

```
.screenreader,
.hidescr,
.scrhide {
  height: 1px;
  left: -9999em;
  overflow: hidden;
  position: absolute;
```

```
top: auto;
width: 1px;
}.
```

Figure 6 Website (with style sheets and active elements turned off) of the Ministry of Defence of the Slovak Republic
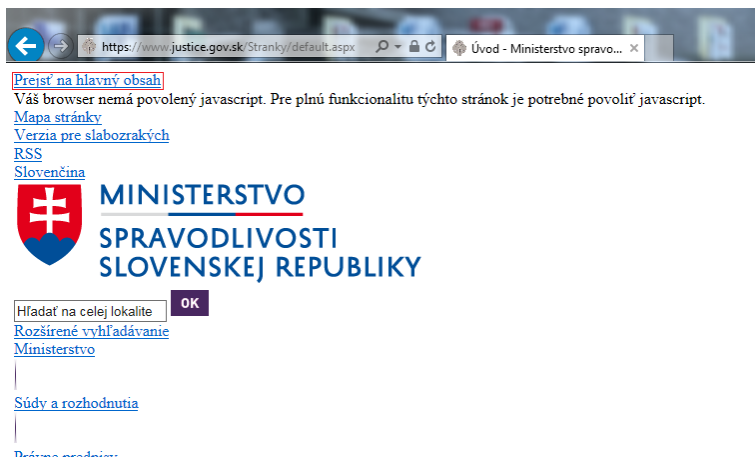

Source: Website (with style sheets and active elements turned off) of the *Ministry of Defence of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.mosr.sk/.

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Defence of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to move the applied skip navigation links to the top of the website and to add the attribute *tabindex="-1"* to website's target elements in accordance with the model example shown in the previous part of the study named "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Ministry of Justice of the Slovak Republic

Next figure displays homepage of the Ministry of Justice of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 7 Website (with style sheets and active elements turned off) of the Justice of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Justice of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.justice.gov.sk/.

Analysing the homepage of the Ministry of Justice of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[14]

- Number of links before the main content: 2014: 14 links/2017: 19 links;
- Number of skip links: 2014: 0 links/2017: 1 link;
- Number of links before the first skip link: 2014: –/2017: 0 links;
- Visual display of skip links: 2014: –/2017: hidden/focusable;
- HTML code of skip links:
  Prejsť na hlavný obsah
  <div id="content">
     …
  </div>;
- CSS code of skip links:
  a.skip-main {
     left: -999px;

---

[14] Source code of the website of the *Ministry of Justice of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.justice.gov.sk/.

```
    position: absolute;
    top: auto;
    width: 1px;
    height: 1px;
    overflow: hidden;
    z-index: -999;
}
a.skip-main:focus,
a.skip-main:active {
    color: #000000;
    background-color: #FFF;
    left: 0px;
    top: auto;
    width: 300px;
    height: auto;
    overflow: auto;
    margin: 10px 40%;
    padding: 20px;
    border: 5px solid #482760 !important;
    text-align: center;
    font-size: 1.2rem;
    z-index: 999;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Justice of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to remove attribute *tabindex="0"* and to add the attribute *tabindex="-1"* to website's target element in accordance with the model example shown in the previous part of the study named "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Ministry of Foreign and European Affairs of the Slovak Republic

Next figure displays homepage of the Ministry of Foreign and European Affairs of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 8 Website (with style sheets and active elements turned off) of the Ministry of Foreign and European Affairs of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Foreign and European Affairs of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.mzv.sk/.

Analysing the homepage of the Ministry of Foreign and European Affairs of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[15]

- Number of links before the main content: 2014: 14 links/2017: 44 links;
- Number of skip links: 2014: 1 link/2017: 1 link;
- Number of links before the first skip link: 2014: 0 links/2017: 9 links;
- Visual display of skip links: 2014: hidden/2017: hidden/focusable;
- HTML code of skip links:
  ```
  <a href="#main-content-a" id="skip-to-content">Preskoč na ob-
  sah</a>
  <div id="main-content-a" class="portlet-layout row-fluid">
    ...
  </div>;
  ```
- CSS code of skip links:
  ```
  #skip-to-content {
  ```

---

[15] Source code of the website of the *Ministry of Foreign and European Affairs of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.mzv.sk/.

```
    clip: rect(0 0 0 0);
    position: absolute;
}
.aui #skip-to-content:focus {
    clip: rect(auto auto auto auto);
    margin-top: 35px;
    right: 5px;
    z-index: 200;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Foreign and European Affairs of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to move the applied skip navigation link to the top of the website, then to add the attribute *tabindex="-1"* to website's target element and to replace CSS code *"clip: rect(0 0 0 0); clip: rect(auto auto auto auto); right: 5px;"* with CSS code in accordance with the model examples shown in the previous parts of the study named "Visual hiding of skip navigation links" and "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Ministry of Labour, Social Affairs and Family of the Slovak Republic

Next figure displays homepage of the Ministry of Labour, Social Affairs and Family of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Ministry of Labour, Social Affairs and Family of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[16]

- Number of links before the main content: 2014: 62 links/2017: 63 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Ministry of Labour, Social Affairs and Family of the Slovak Republic. In

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[16] Source code of the website of the *Ministry of Labour, Social Affairs and Family of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.employment.gov.sk/.

relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Figure 9 Website (with style sheets and active elements turned off) of the Ministry of Labour, Social Affairs and Family of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Labour, Social Affairs and Family of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.employment.gov.sk/.

Ministry of Environment of the Slovak Republic

Next figure displays homepage of the Ministry of Environment of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Ministry of Environment of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[17]
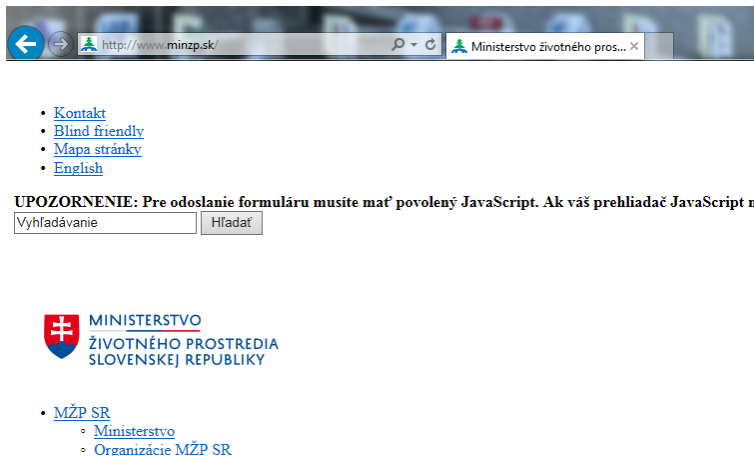
- Number of links before the main content: 2014: 57 links/2017: 83 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the

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[17] Source code of the website of the *Ministry of Environment of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.minzp.sk/.

Ministry of Environment of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Figure 10 Website (with style sheets and active elements turned off) of the Ministry of Environment of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Environment of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.minzp.sk/.

Ministry of Education, Science, Research and Sport of the Slovak Republic

Next figure displays homepage of the Ministry of Education, Science, Research and Sport of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Analysing the homepage of the Ministry of Education, Science, Research and Sport of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[18]

- Number of links before the main content: 2014: 91 links/2017: 96 links;
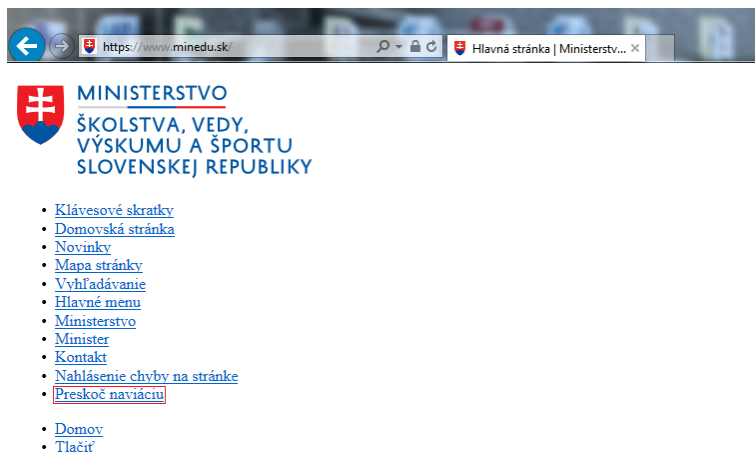- Number of skip links: 2014: 3 links/2017: 3 links;

---

[18] Source code of the website of the *Ministry of Education, Science, Research and Sport of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.minedu.sk/.

- Number of links before the first skip link: 2014: 11 links/2017: 11 links;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:

```
<ul id="skratky" class="hide">
  ...
  <li>
    <a href="#search" accesskey="4">Vyhľadávanie</a>
  </li>
  <li>
    <a href="#topmenu" accesskey="5">Hlavné menu</a>
  </li>
  ...
  <li>
    <a href="#page" accesskey="S">Preskoč naviáciu</a>
  </li>
</ul>
<input accesskey="4" title="Vyhľadávanie" id="search-input"
name="search" size="18" class="text-input" value="Vyhľadávanie"
onblur="if(this.value == '') { this.value='Vyhľadávanie'}" onfocus="if
(this.value == 'Vyhľadávanie') {this.value=''}" type="text" />
<div id="topmenu">
  <div id="dropdown-menu" name="topmenu">
    ...
  </div>
</div>
<div id="page">
  ...
</div>;
```

- CSS code of skip links:

```
.hide {
  height: 1px;
  left: -9999em;
  overflow: hidden;
  position: absolute;
  top: auto;
  width: 1px;
}.
```

Figure 11 Website (with style sheets and active elements turned off) of the Ministry of Education, Science, Research and Sport of the Slovak Republic
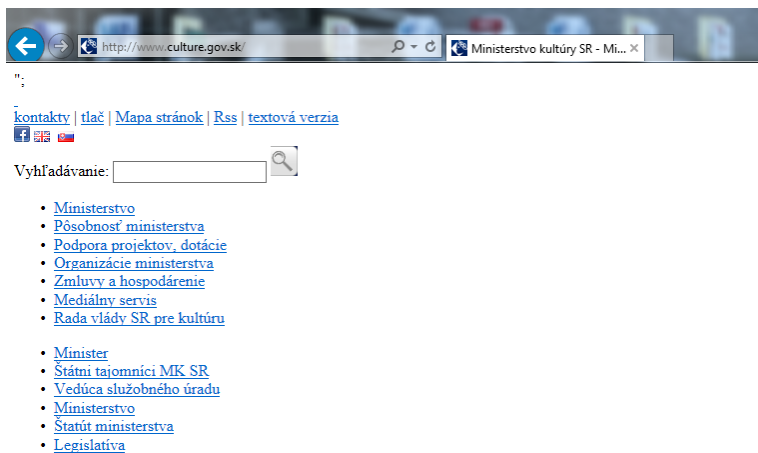

Source: Website (with style sheets and active elements turned off) of the *Ministry of Education, Science, Research and Sport of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.minedu.sk/.

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Ministry of Education, Science, Research and Sport of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to move the applied skip navigation links to the top of the website, then to remove the duplicate target attribute *name="topmenu"* and to add the attribute *tabindex="-1"* to website's target elements in accordance with the model example shown in the previous part of the study named "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Ministry of Culture of the Slovak Republic

Next figure displays homepage of the Ministry of Culture of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Figure 12 Website (with style sheets and active elements turned off) of the Ministry of Culture of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Culture of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.culture.gov.sk/.

Analysing the homepage of the Ministry of Culture of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[19]

+ Number of links before the main content: 2014: 38 links/2017: 39 links;
+ Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Ministry of Culture of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

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[19] Source code of the website of the *Ministry of Culture of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.culture.gov.sk/.

Ministry of Health of the Slovak Republic

Next figure displays homepage of the Ministry of Health of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Figure 13 Website (with style sheets and active elements turned off) of the Ministry of Health of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Ministry of Health of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.health.gov.sk/.

Analysing the homepage of the Ministry of Health of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[20]

- Number of links before the main content: 2014: 86 links/2017: 90 links;
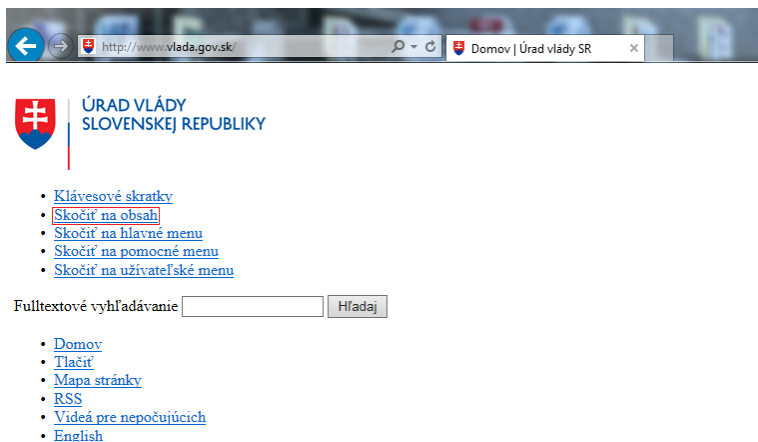- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Ministry of Health of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

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[20] Source code of the website of the *Ministry of Health of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.health.gov.sk/.

Government Office of the Slovak Republic

Next figure displays homepage of the Government Office of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 14 Website (with style sheets and active elements turned off) of the Government Office of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Government Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.vlada.gov.sk/.

Analysing the homepage of the Government Office of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[21]

- Number of links before the main content: 2014: 68 links/2017: 69 links;
- Number of skip links: 2014: 4 links/2017: 4 links;
- Number of links before the first skip link: 2014: 2 links/2017: 2 links;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:
  <ul id="skratky" class="screenreader">
  ...

---

[21] Source code of the website of the *Government Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.vlada.gov.sk/.

```
<li>
  <a href="#page" accesskey="0">Skočiť na obsah</a>
</li>
<li>
  <a href="#topmenu">Skočiť na hlavné menu</a>
</li>
<li>
  <a href="#left">Skočiť na pomocné menu</a>
</li>
<li>
  <a href="#right">Skočiť na užívateľské menu</a>
</li>
</ul>
<div id="topmenu">
  …
</div>
<div id="page">
  …
</div>
[Missing selector id="#left"]
<div id="right">
  …
</div>;
```

- CSS code of skip links:
```
.hide,
.hidden,
.screenreader {
  height: 1px;
  left: -9999em;
  overflow: hidden;
  position: absolute;
  top: auto;
  width: 1px;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Government Office of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to move the applied skip navigation links to the top of the website and to add the attribute *ta-*

bindex="-1" to website's target elements in accordance with the model example shown in the previous part of the study named "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Antimonopoly Office of the Slovak Republic

Next figure displays homepage of the Antimonopoly Office of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 15 Website (with style sheets and active elements turned off) of the Antimonopoly Office of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Antimonopoly Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.antimon.gov.sk/.

Analysing the homepage of the Antimonopoly Office of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[22]

+ Number of links before the main content: 2014: 68 links/2017: 84 links;
+ Number of skip links: 2014: 1 link/2017: 1 link;

---

[22] Source code of the website of the *Antimonopoly Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.antimon.gov.sk/.

- Number of links before the first skip link: 2014: 1 link/2017: 1 link;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:

```
<ul class="hide">
  ...
  <li>
    <a href="#content" accesskey="0">Na obsah stránky</a>
  </li>
</ul>
<section id="content" class="content" role="main">
  ...
</section>;
```

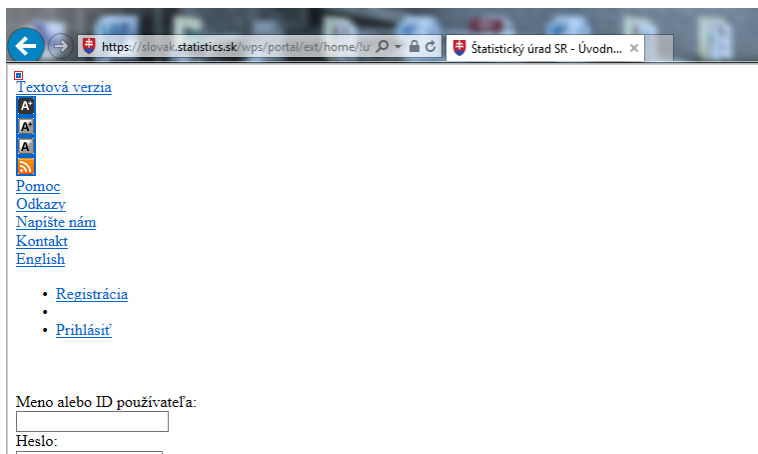- CSS code of skip links:

```
.hide,
.screenreader {
  height: 0;
  left: -9999em;
  overflow: hidden;
  position: absolute;
  top: auto;
  width: 0;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Antimonopoly Office of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to move the applied skip navigation link to the top of the website, then to remove the duplicate target selector *class="content"*, to add the attribute *tabindex="-1"* to website's target element and to replace CSS code *"height: 0; width: 0;"* with CSS code in accordance with the model examples shown in the previous parts of the study named "Visual hiding of skip navigation links" and "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Statistical Office of the Slovak Republic

Next figure displays homepage of the Statistical Office of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Figure 16 Website (with style sheets and active elements turned off) of the Statistical Office of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Statistical Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.statistics.sk/.

Analysing the homepage of the Statistical Office of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[23]

- Number of links before the main content: 2014: 34 links/2017: 43 links;
- Number of skip links: 2014: 1 link/2017: 1 link;
- Number of links before the first skip link: 2014: 1 link/2017: 0 links;
- Visual display of skip links: 2014: hidden/2017: hidden;
- HTML code of skip links:
  ```
  <a href="#lotusMainContent" accesskey="S" class="lotusAccess">
    <img src="/portal_dojo/v1.4.3/dojo/resources/blank.gif"
  alt="Preskočiť na odkaz na hlavný obsah pomocou prístupového
  kľúča S." />
  </a>
  <a id="lotusMainContent" name="lotusMainContent"></a>;
  ```
- CSS code of skip links:
  ```
  .lotusui .lotusAccess {
  ```

---

[23] Source code of the website of the *Statistical Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.statistics.sk/.

```
position: absolute;
top: -3000px;
width: 500px;
}.
```

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Statistical Office of the Slovak Republic which works technically correctly. In relation to our finding we can recommend to replace element *"<a href="#lotusMainContent" accesskey="S" class="lotusAccess">"* with element *"<a href="#tabContent" accesskey="S" class="lotusAccess">"*, then to remove element *""*, to add the attribute *tabindex="-1"* to website's target element and to replace CSS code *"top: -3000px; width: 500px;"* with CSS code in accordance with the model examples shown in the previous parts of the study named "Visual hiding of skip navigation links" and "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

Geodesy, Cartography and Cadastre Authority of the Slovak Republic

Next figure displays homepage of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.
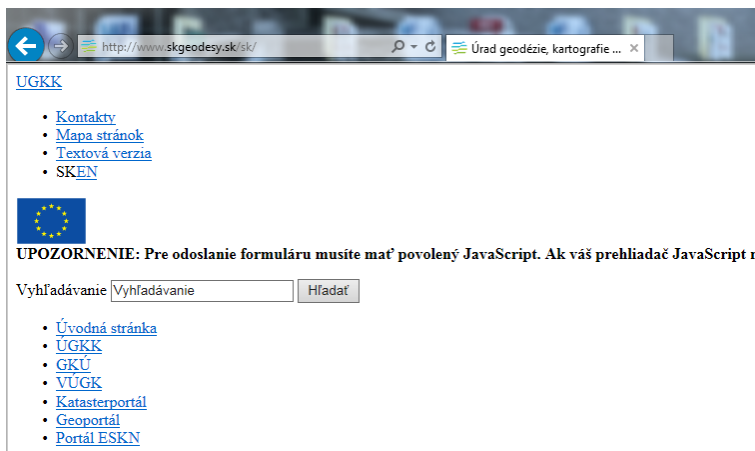
Analysing the homepage of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[24]

- Number of links before the main content: 2014: 23 links/2017: 25 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

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[24] Source code of the website of the *Geodesy, Cartography and Cadastre Authority of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.skgeodesy.sk/.

Figure 17 Website (with style sheets and active elements turned off) of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Geodesy, Cartography and Cadastre Authority of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.skgeodesy.sk/.

Nuclear Regulatory Authority of the Slovak Republic

Next figure displays homepage of the Nuclear Regulatory Authority of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Nuclear Regulatory Authority of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[25]
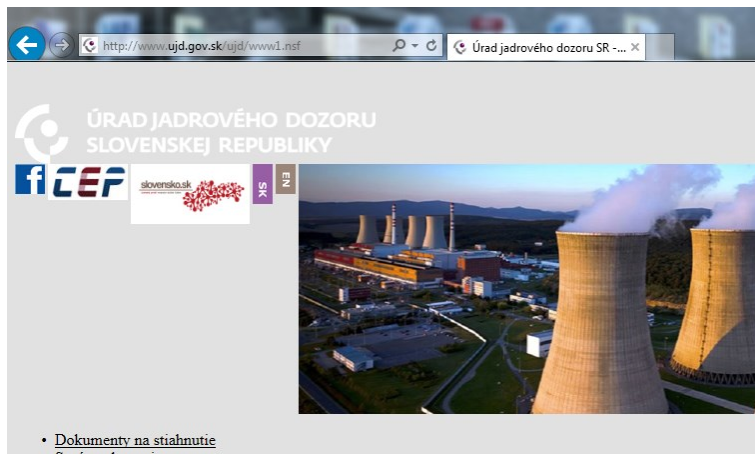
- Number of links before the main content: 2014: 44 links/2017: 128 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Nuclear Regulatory Authority of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance

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[25] Source code of the website of the *Nuclear Regulatory Authority of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.ujd.gov.sk/.

with the model examples shown in the previous part of the study named "Skip navigation links".

Figure 18 Website (with style sheets and active elements turned off) of the Nuclear Regulatory Authority of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Nuclear Regulatory Authority of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.ujd.gov.sk/.

Slovak Office of Standards, Metrology and Testing

Next figure displays homepage of the Slovak Office of Standards, Metrology and Testing, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Slovak Office of Standards, Metrology and Testing in context of using the skip navigation links following key findings could be detected:[26]

- Number of links before the main content: 2014: 36 links/2017: 43 links;
- Number of skip links: 2014: 1 link/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Slovak Office of Standards, Metrology and Testing. In relation to this finding

---

[26] Source code of the website of the *Slovak Office of Standards, Metrology and Testing* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.unms.sk/.

we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Figure 19 Website (with style sheets and active elements turned off) of the Slovak Office of Standards, Metrology and Testing

Source: Website (with style sheets and active elements turned off) of the *Slovak Office of Standards, Metrology and Testing* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.unms.sk/.

Office for Public Procurement

Next figure displays homepage of the Office for Public Procurement, with style sheets and active elements turned off. There is no skip link applied.

Analysing the homepage of the Office for Public Procurement in context of using the skip navigation links following key findings could be detected:[27]
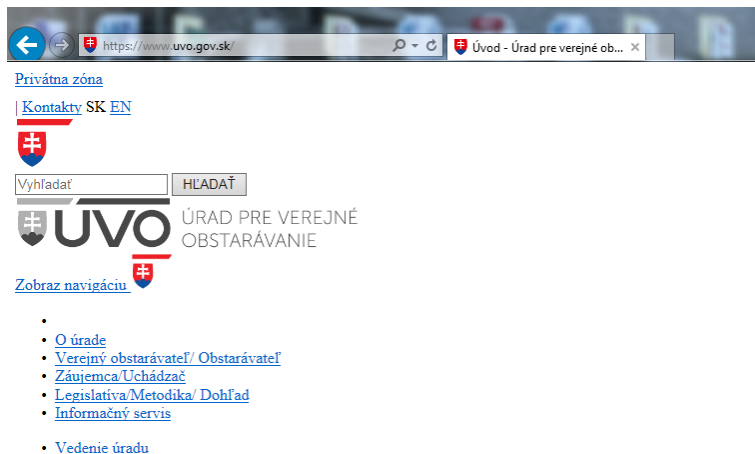
- Number of links before the main content: 2014: 33 links/2017: 412 links;
- Number of skip links: 2014: 1 link/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Office for Public Procurement. In relation to this finding we can recommend

---

[27] Source code of the website of the *Office for Public Procurement* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.uvo.gov.sk/.

to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Figure 20 Website (with style sheets and active elements turned off) of the Office for Public Procurement

Source: Website (with style sheets and active elements turned off) of the *Office for Public Procurement* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.uvo.gov.sk/.

Industrial Property Office of the Slovak Republic

Next figure displays homepage of the Industrial Property Office of the Slovak Republic, with style sheets and active elements turned off. The analysed skip link is marked by red rectangle.

Analysing the homepage of the Industrial Property Office of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[28]

- Number of links before the main content: 2014: 43 links/2017: 41 links;
- Number of skip links: 2014: 1 link/2017: 1 link;
- Number of links before the first skip link: 2014: 0 links/2017: 0 links;
- Visual display of skip links: 2014: hidden/2017: hidden;

---

[28] Source code of the website of the *Industrial Property Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.indprop.gov.sk/.

- HTML code of skip links:

```
<A id=top href="#obsah">Preskočiť na obsah</A>
<H1 id=obsah>Aktuality</H1>;
```

- CSS code of skip links:

```
#top {
  color: #ffffff;
  display: block;
  height: 20px;
  font-size: 80%;
  margin: 0 auto;
  overflow: hidden;
  text-decoration: none;
  width: 200px;
}
#top:hover {
  color: #B2B2B2;
}.
```

Figure 21 Website (with style sheets and active elements turned off) of the Industrial Property Office of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Industrial Property Office of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.indprop.gov.sk/.

According to the presented results we can conclude that there is a skip navigation mechanism applied on the analysed homepage of the Industrial Property Office of the Slovak Republic which works technically

correctly. In relation to our finding we can recommend to replace elements *"<DIV class=mainbody><H1 id=obsah>Aktuality</H1>"* with elements *"<DIV class=mainbody id=obsah><H1>Aktuality</H1>"*, then to add the attribute *tabindex="-1"* to website's target element and to replace CSS code *"#top:hover"* with CSS code *"#top:focus, #top:hover"* in accordance with the model example shown in the previous part of the study named "Web browsers' bug related to skip navigation links", with the aim to eliminate the disrupted logical order by browsing or reading the webpage links that occurs by most of web browsers.

State Material Reserves of the Slovak Republic

Next figure displays homepage of the State Material Reserves of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Figure 22 Website (with style sheets and active elements turned off) of the State Material Reserves of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *State Material Reserves of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.reserves.gov.sk/.

Analysing the homepage of the State Material Reserves of the Slovak Republic in context of using the skip navigation links following key findings could be detected:[29]

---

[29] Source code of the website of the *State Material Reserves of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.reserves.gov.sk/.

- Number of links before the main content: 2014: 96 links/2017: 92 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the State Material Reserves of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

National Security Authority

Next figure displays homepage of the National Security Authority, with style sheets and active elements turned off. There is no skip link applied.

Figure 23 Website (with style sheets and active elements turned off) of the National Security Authority

Source: Website (with style sheets and active elements turned off) of the *National Security Authority* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.nbusr.sk/.

Analysing the homepage of the National Security Authority in context of using the skip navigation links following key findings could be detected:[30]

---

[30] Source code of the website of the *National Security Authority* [online]. 2017 [cit. 2017-03-01]. Available at: http://www.nbusr.sk/.

- Number of links before the main content: 2014: 22 links/2017: 24 links;
- Number of skip links: 2014: 0 links/2017: 0 links.

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the National Security Authority. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic

Next figure displays homepage of the Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic, with style sheets and active elements turned off. There is no skip link applied.

Figure 24 Website (with style sheets and active elements turned off) of the Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic

Source: Website (with style sheets and active elements turned off) of the *Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.vicepremier.gov.sk/.

Analysing the homepage of the Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic in context of using the skip navigation links following key findings could be detected:

- Number of links before the main content: 2014: –/2017: 31 links;
- Number of skip links: 2014: –/2017: 0 links.[31]

According to the presented results we can conclude that there is no skip navigation mechanism applied on the analysed homepage of the Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic. In relation to this finding we can recommend to add the skip navigation links in accordance with the model examples shown in the previous part of the study named "Skip navigation links".

Conclusion

In the study "Comparison of Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Central State Administration Bodies in the Slovak Republic between the Years 2014 and 2017" we have paid our attention in accordance with its main aim to seeking of differences in deficits relating to applying the skip navigation mechanism on the websites of the central state administration bodies in the Slovak Republic in the context of improving the websites accessibility between the years 2014 and 2017. In the context of our research questions we defined the main hypothesis as follows: *Homepages of the central state administration bodies in the Slovak Republic have applied the skip navigation links mechanism technically more correctly in year 2017 than in year 2014.*

According to the results and key findings presented in previous parts of our study we can underline the following final conclusions (valid as of March 1st, 2017), divided in to three separate groups:

Homepages with the technically correctly working skip navigation mechanism – for this group we can recommend to add the attribute *tabindex="-1"* to website's target elements which relates namely to these institutions:

- Ministry of Defence of the Slovak Republic;
- Ministry of Justice of the Slovak Republic;
- Ministry of Foreign and European Affairs of the Slovak Republic;
- Ministry of Education, Science, Research and Sport of the Slovak Republic;
- Government Office of the Slovak Republic;

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[31] Source code of the website of the *Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic* [online]. 2017 [cit. 2017-03-01]. Available at: https://www.vicepremier.gov.sk/.

- Antimonopoly Office of the Slovak Republic;
- Statistical Office of the Slovak Republic;
- Industrial Property Office of the Slovak Republic.

Homepages with the technically incorrectly working skip navigation mechanism – for this group we can recommend to add the attribute *tabindex="-1"* to website's target elements and to replace CSS code *"display: none;"* with CSS code in accordance with the exactly in our study presented model examples. These recommendations relate namely to following institutions:

- Ministry of Finance of the Slovak Republic;
- Ministry of Agriculture and Rural Development of the Slovak Republic.

Homepages with no skip navigation mechanism applied – for this group we can recommend to add skip navigation links, then to add target elements, to add the attribute *tabindex="-1"* to website's target elements and to avoid applying CSS code *"display: none;"* in accordance with the exactly in our study presented model examples. These recommendations relate namely to following institutions:

- Ministry of Economy of the Slovak Republic;
- Ministry of Transport and Construction of the Slovak Republic;
- Ministry of Interior of the Slovak Republic;
- Ministry of Labour, Social Affairs and Family of the Slovak Republic;
- Ministry of Environment of the Slovak Republic;
- Ministry of Culture of the Slovak Republic;
- Ministry of Health of the Slovak Republic;
- Geodesy, Cartography and Cadastre Authority of the Slovak Republic;
- Nuclear Regulatory Authority of the Slovak Republic;
- Slovak Office of Standards, Metrology and Testing;
- Office for Public Procurement;
- State Material Reserves of the Slovak Republic;
- National Security Authority;
- Deputy Prime Minister's Office for Investments and Informatization of the Slovak Republic.

Finally, as for verifying the set main hypothesis of the study we can conclude that the hypothesis is not valid, so we have to reject it, because from the 24 analysed homepages of the central state administration bodies in the Slovak Republic only 8 homepages were technically correctly

working and were in compliance with legislation in force[32] (state valid as of March 1st, 2017).

According to the results of analysing the differences in applying the skip navigation links on the websites of the central state administration bodies in the Slovak Republic between the years 2014 and 2017 we can underline the following final conclusions, divided in to two separate groups:[33]

Homepages with improved accessibility – which relates namely to these institutions:

+ Ministry of Justice of the Slovak Republic;
+ Ministry of Foreign and European Affairs of the Slovak Republic.

Homepages with worsen accessibility – which relates namely to following institutions:

+ Ministry of Interior of the Slovak Republic;
+ Slovak Office of Standards, Metrology and Testing;
+ Office for Public Procurement.

The final key finding that highlights the necessity of applying the skip navigation mechanism presents the number of links before the main content, which has significantly increased between the years 2014 and 2017.

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[32] See *Výnos Ministerstva financií Slovenskej republiky č. 55/2014 Z.z. o štandardoch pre informačné systémy verejnej správy zo 4. marca 2014* [Ministerial Decree of the Ministry of Finance of the Slovak Republic No. 55/2014 Coll. of Standards for Information Systems of Public Administration issued on March 4th, 2014].

[33] See KOPRLOVÁ, J. Applying the Skip Navigation Links in the Context of the Websites' Accessibility of Central State Administration Bodies in the Slovak Republic. *Societas et iurisprudentia* [online]. 2014, roč. 2, č. 2, pp. 133-178 [cit. 2017-03-01]. ISSN 1339-5467. Available at: http://sei.iuridica.truni.sk/archive/2014/02/SOCIETAS-ET-IURISPRUDEN-TIA-2014-02.pdf.

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