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THE NEW CUSTOMISABLE ELECTRONIC ADMINISTRATION USER INTERFACE IN HUNGARY

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Abstract

The Act No. CCXXII. of 2015 on general rules of electronic administration and trust services, (hereinafter 'eAdministration Act'), defined the concept of customisable electronic administration user interface (hereinafter 'SZÜF').

The purpose of establishing the SZÜF portal was to create a single gate entry point (as a starting page) for electronic administration of central and local government, linking the various IT systems of different institutions.

The new customisable electronic administration user interface was launched in January 2018. According to the plans, it will shortly replace the former magyarorszag.hu portal as the point of single contact portal of Hungary. The new SZÜF portal has a more modern and pure design as well as a life-situation based approach to publish existing eGovernment services.

The electronic administration services are available to the client after electronic identification and authentication by the Central Authentication Agent. Services can be used by natural persons (citizens) and organisations (including public administrations, businesses). The identified client can access their digital post-box, can manage their personal calendar, and can save their favourite services among the eGovernment services available on the portal.

The SZÜF portal provides infrastructure and applications services to the connected organisations supporting the electronic administration process. For the connected service providers (public administration bodies designated by eAdministration Act) the SZÜF provides specific content and service management solutions. These services may be integrated in the SZÜF or be outside the SZÜF. Currently there are big differences in the quality of services. As a first step, the collection of e-administration information and services was completed. The next task is to ensure uniformity, service-oriented platform and interoperability.

The purpose of this study is to present the areas for further development of the services of the SZÜF portal while presenting the results achieved. Achieved goals: a single gate entry point for electronic services for natural persons and organizations on a customisable interface with new online request submission options (e-Paper, iForm). Further development is needed: unification, interoperability and integration of services, connection of additional organizations, possibility of situation-based administration.

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1 Introduction

January 1, 2018 is an important milestone in the history of Hungarian e-administration. Decades of development resulted in new levels of e-administration.

- 1950-1989. Beginnings, computerisation. Computing is a tool for solving administrative tasks.[5] At that time, the one-way administration model was developed [11], [7], which could only be implemented in practice in the 2000s.

- 1990-2000. Development of government informatics. Information technology (IT) becomes an essential element of public administration's development. [12], [13] In Hungary, the development of back office systems in support of public tasks has taken place.

- 2001-2011. Model based on Central System (KR). The development of front office services is launched. As a result of the development of the legal environment, e-administration has become an equivalent to paper-based administration, but the heavily centralized, closed framework required by law could not be adapted to the evolving technology.

- 2012-2017. SZEÜSZ[2] model. The reform of the regulation of electronic administration[3] aims to create a client-centric, decentralised model. Administrative procedures can be subdivided into elements and individual SZEÜSZ supports the solution of these subareas. The services may be built from the SZEÜSZ modules. The priority of administrative developments is to ensure that client relationships are really one-stop-shop, to enable citizens, businesses and organisations to manage their cases electronically. [16], [20]

- From 2018. Default electronic communication and administration. The business entities, the state, the local government, the budget authority, the public prosecutor, the notary, the public body, other administrative authorities and the legal representative of the client are required for electronic administration. [2, 9. §] For natural persons, electronic administration is possibility unless otherwise provided by law. [2, 8-9. §.]

The eAdministration Act [2] and the Administrative Procedure Act [3] have created a legal basis for the life-situation based, one-stop shop e-administration, allowing the combined management of the related procedures. On January 2, 2018 a new administrative interface (in Hungarian: SZÜF) was launched, with KÖFOP[4] support, for the renewal of the eGovernment Portal. [17], [18]

2 The new SZÜF

2.1 The SZÜF - service, application and user interface

The SZÜF can be defined in several aspects:

[2] Regulated Electronic Administration Services (in Hungarian: SZEÜSZ)
[3] Main legislation:
Act CCXXII of 2015 on the general rules for electronic administration (eAdministration Act)
451/2016 (XII. 19.) Government decree on the related rules of electronic administration (eAdministration Decree).
Act CL of 2016 on general administration procedures (Administrative Procedure Act).
[4] KÖFOP-1.0.0-VEKOP-15-2016-00025 Provision of central application level services for the standard access and interoperability of specialized public administration systems (https://nisz.hu/en/projektek/provision-central-application-level-services-standard-access-and-interoperability)

- Central Electronic Administration Service (in Hungarian: KEÜSZ)
- Customisable Internet application provided by a designated service provider that supplies the identified client with a centralized access to fulfilment of e-administration declarations, procedural acts, and other obligations and to use the e-administration services available to the client.
- Portal[5], statutory public electronic information platform (user interface) and the central collection of e-administration services. [2, 1. §., 38. §.], [1, 34. §., 128. §]

Compliance with e-administration obligations poses a challenge for the majority of organisations, so the SZÜF provides support services to the e-administration processes for organisations. Such services of the SZÜF may be its own services, specialised applications for the processing of a particular case, and support applications (e.g. form filler applications), SZEÜSZ and KEÜSZ services. The method of connection depends on several factors (e.g. customer base size, number of administrative processes, automation of processes, own administrative interface, or the support of e-administration by specialist systems).

Connection levels:

- Basic level (loose connection): Access to the service provider interface and applications of the connecting organisation is available via the SZÜF link.
- Incorporation (close connection) The connected organisation provides its own application through the SZÜF framework.
- Full integration: Form-filling support services operating in the SZÜF infrastructure.[6]

2.2 The SZÜF portal

Main expectations:

- The starting point for electronic administration.
- For natural and legal persons, organisations without legal personality, and authorised agents.
- Central Government Service Bus-based, unified service platform (framework) that ensures the access to Regulated and Central Electronic Administrative Services (SZEÜSZ, KEÜSZ) and specialist systems.
- Unified identification and authentication, role-based privileges.
- Uniform appearance (simplicity, transparency, quick and easy access, responsiveness).

[5] Initially web-lak.hu, ekozig.magyarorszag.hu, from 2018 known as szuf.magyarorszag.hu

[6] For information on the service, connection documents on the https://szeusz.gov.hu/szuf website are available after registration.

- Customisable for identified clients[7].
- Support for client-situation-based search.

Portal users may include:

- Client-side end-users (anonym and registered users with SZÜF account),
- Administrators (users acting on behalf of connected organisations),
- Application developers,
- Operators.

2.3 Public interface

The public information interface of SZÜF portal (https://szuf.magyarorszag.hu) is available for everyone. [1, 34. §.]

Portal structure:

- Left menu (navigation): login, favourites, messages, calendar, administration (browser), help, operation (information), authentication, The Client Setting Register (link).
- Top menu: News, contact (access to the Governmental Hotline), presentation (SZÜF interface).
- Main part: Cases, services, applications.

The case descriptions are required to be prepared by the connected organisations, on the basis of predefined principles for the editorial interface of the SZÜF. It is expected that the description of the case is fully comprehensive, but should be simple, brief, concise and easy understand. It is important that users without legal, administrative knowledge, and experience to understand the description. The cases/services are divided into 15 main categories. In addition to navigation, free text Search helps to find a relevant case or application.

The professional background of the information is supported by a knowledge base based on artificial intelligence. [1, 38-39. §.] [10]

There are three types of links (buttons) that can be added to the case description according to the way the case is handled: electronically (external link, ÁNYK, iForm, or applet), by phone, personally.

The client-situation/life-situation[8] based administration is currently not provided, although it is possible to assign a particular case to situation or event.

[7] Except services of loose connection

[8] Life-situation e.g. birth, illness, accident, school start, marriage, change of name, job search, starting business, working abroad, start of industrial, commercial activities, transport services, construction, home creation, operation of the vehicle, travel, settlement, obtaining of citizenship, loss of card, social need, retirement, crime, death. The client situations include a list of cases that may be based on each other.[15]

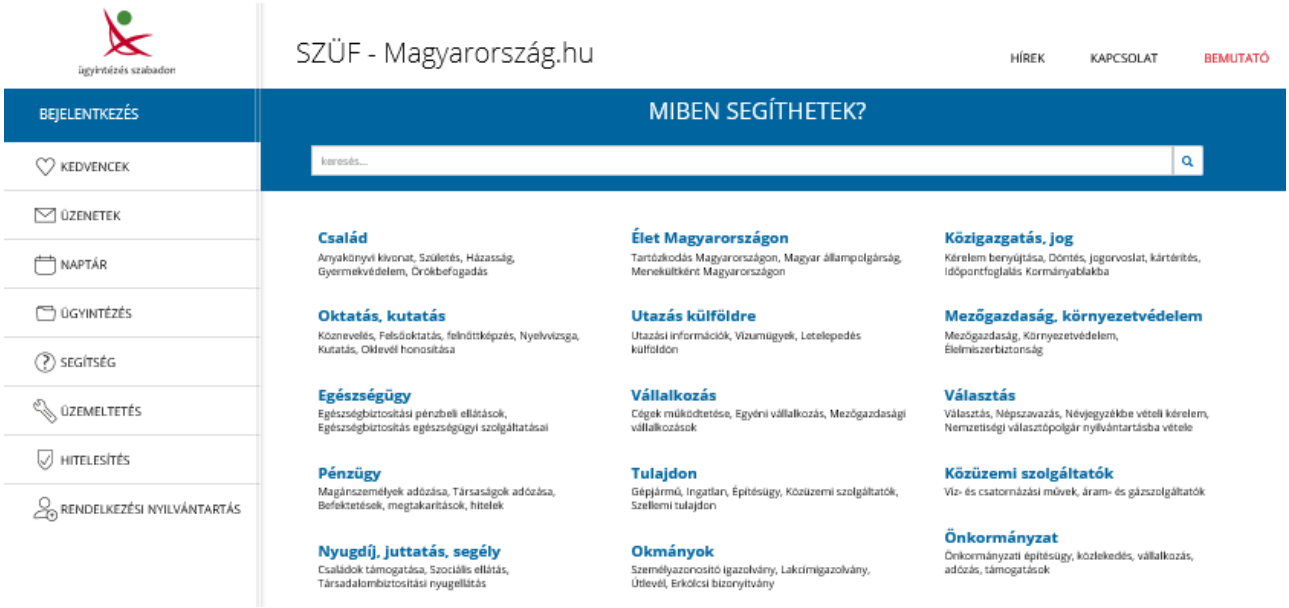

Figure 1: Public interface of SZÜF
Source: https://szuf.magyarorszag.hu/szuf_fooldal#fooldal (02 Jan 2019)

2.4 Identification and storage

You can use the services of the Central Client Authentication Agent (in Hungarian: KAÜ) to log in:

- Client Gate
- electronic identification service by electronic identity card containing a storage unit (eID card)
- Partial Code Telephone Authentication (in Hungarian: RKTA)

The issue of identification and authentication has been extensively studied in recent years. [19], [21], [8], [14] Although the eID card number is over 4 million[9], and the number of client gate registration is 3.7 million[10], clients have still primarily used client gate to log in.

From October 2017, the authentic digital post service is available, providing a unified interface and storage space[11] for citizens, office gates and the company gates.

After the successful identification of a natural person, it is possible to manage organizational assignments. To do this, the system also uses data from several records (authorization, role, person-to-organisation). Identified users have access to SZÜF account services (profile management, storage management, mailing, messaging, calendar management, and querying activities).

[9] http://www.kormany.hu/hu/belugyminiszterium/hirek/eszemelyiforgalomban (23 Jan 2019)
[10] https://ugyintezes.magyarorszag.hu/dokumentumok/mohustat.xls (23 Jan 2019)
[11] https://tarhely.gov.hu/levelezes (02 Jan 2019)

The default storage space can be personal (KÜNY[12]-registration), office (for connected organisations), or company gate (for business entities). [1, 84-90. §] Storage of office or company gate is a common mailbox, where stakeholders and authorized persons have access to official documents of the organization or company in one place.

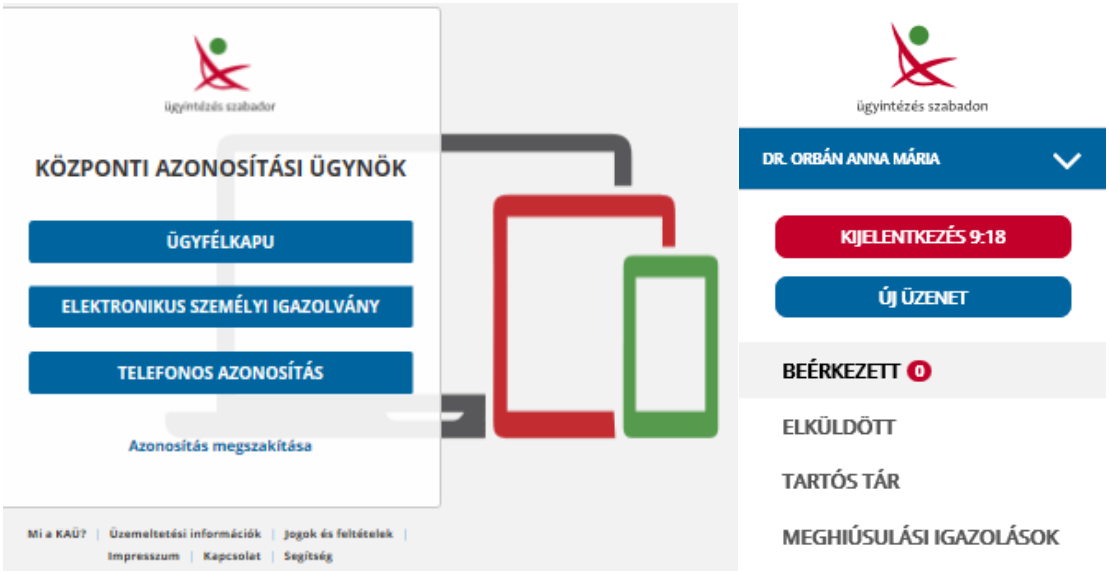

Figure 2: Identification with KAÜ and storage space

Source: https://kau.gov.hu and https://tarhely.gov.hu/levelezes (02 Jan 2019)

You can use the New Message menu item to upload encrypted (. kr) files created with the General Form Filler (in Hungarian: ÁNYK). Uploaded documents are available in the Sent folder (for 30 days). Documents not received within 5 business days will be notified to the Failure Certificates folder (for 180 days). The Inbox folder displays documents (replies, receipts) sent by the agencies (for 30 days). These documents can be downloaded, deleted, or placed in the Permanent Storage by the user.

3 Research data and analysis

Electronic administration is now possible on a number of administrative portals. I have been looking at services available on three interfaces, mainly from client side, and have been tested in practice in recent years.

The main aspects of the study are:

- content of case descriptions,
- choice of administrative channels, especially electronic solutions,
- requests, management of forms.

[12] Central Client Registration Database (in Hungarian: KÜNY)

The KÖFOP project was closed at the end of 2018. Therefore, in this study I present the status of the e-administration user interface and published cases/services in January 2019. By reviewing the descriptions of services, case types, you can see:

- eGovernment Portal (magyarorszag.hu)
    - The case description (case 233) and services (400) are in a different menu item.
    - The advantage of case descriptions is that they summarize cases related to a given life-situation[13], with legislative references (pointing to the current state of time, to a given paragraph), the disadvantage is the official language and the often outdated legal environment.
    - Services are in alphabetical order, for the selected service there is short information and redirection to the interface of the given service, if necessary, by calling the client gate identification.
- Web Assistant application system
    - The interface changed in the autumn of 2018, aligned with the SZÜF image.
    - The disadvantage of the change is that English description are no longer available in the framework[14].
    - The case descriptions are drafted in plain language and do not contain legal references.
- SZÜF
    - Case descriptions are in plain language but with differing levels of details.
    - The user is not informed about what happens when the electronic channels are selected.
    - Legislative references are not aligned with the current time; they do not point to a given paragraph.

The problem is that the same case is described differently on the three interfaces.

There are three types of administration channels available on the SZÜF interface: electronically, by telephone, personally. The links (buttons) are not complete. The description often refers to other options (e.g. post), but personal administration does not display in all cases.

86 of the 708 case descriptions are included in the titles of that ‘information’. These cases are usually handled only personally. In reality, the number of information is 117, which is in 2 cases of email sending option, and 8 cases refers to a possibility (electronically from January 1, 2019), which is not yet working because the forms are not yet available.

[13] Personal life (22), Property (18), Work (17), Social Security (14), Finances (12), Education (10), Law (56), Consumer Protection (2), Public administration (9), Business (68), Documents (5) (https://ugyintezes.magyarorszag.hu/ugyek)

[14] But they still available on the website (http://www.nyilvantarto.hu/en/web_assistant)

	eGovernment Portal (magyarorszag.hu)	**Web Assistant** (nyilvantarto.hu/ugyseged)	**SZÜF** (szuf.magyarorszag.hu)
Possibility of e-administration	from 2005	from 2013	from 2018
Clients	natural persons	natural persons	natural and non-natural persons
Services, case types	400	49[15]	708
from these requires identification	142	45	527
Identification	Client Gate	Client Gate, from 2016 KAÜ	KAÜ
Unified framework	not	yes	yes
Description of cases	official languages with legal references (https://net.jogtar.hu/)	plain language without legal references	plain language with legal regulations (http://njt.hu)
Client situation-based administration	only in the case description	not	planned
Multilingualism	prescribed (eAdministration Decree 34. §)	until 2018 in framework, now on the website	planned

Table 1: Comparison of the e-administration user interfaces (January 2, 2019)

Category	**Number of cases**	**Electronically**	**Personally**	**By phone**	**By post**
Family	14	4	11	0	1
Education, Research	20	13	9	0	1
Health	11	6	7	0	0
Finance	25	21	6	0	0
Retirement, Allowance, Aid	28	20	15	2	4
Life in Hungary	6	0	6	0	0
Traveling abroad	8	5	4	0	0
Business	106	74	52	3	3
Property	41	36	18	1	0
Documents	26	19	13	4	1
Administration, Law	169	139	73	8	42
Agriculture, Environment	100	99	81	0	30
Election	12	11	6	1	8
Utilities providers	31	31	9	3	0
Municipality[16]	111	89	81	0	0
All:	**708**	**567**	**391**	**22**	**90**

Table 2: Cases and administrative channels by category on the SZÜF portal (January 2, 2019)

[15] Mandate may be entered in the Client Setting Register for 80 cases

[16] A very small proportion of municipal cases is available from the current interface (only 7 municipalities have connected).

Most of the electronically handled cases (567) require identification (527). The method of identification depends on how the organisation connects. 402 cases require KAÜ or client gate identification, which is followed by further identification in 22 cases (e.g. TAJ number[17], service registration). In 24 cases the service can be used by registering on the website of the connected organization. Other methods of identification are also found (e.g. received code after form filling, study ID, tax number, document data or number). Unfortunately, multiple logins may be required. For example, the SZÜF login is not enough to use the Web Assistant, and you must log on again after the redirection.

Most of the cases (80%) may be handled electronically, more than half of the cases refer to the possibility of personal administration. The number of cases that may be handled by phone (3%) and post (13%) is low.

More than 40% of electronically handled cases are redirected to another interface (loose connection). For example, Web Assistant, Hungarian State Treasury, National Tax and Customs Administration, National Health Insurance Fund, Government Offices, Government Windows and Utilities providers. Unfortunately, the redirect is one-sided, not a back-link.

There are essentially three options for filling and submitting requests and forms.

General Form Filler Program (in Hungarian: ÁNYK)
From the beginning, the forms used in the official procedure may be filled by the ÁNYK program. ÁNYK is a JAVA-based framework program that must first be installed on a computer. The forms required for each cases can be installed on the program. After filling out forms and attaching PDF documents, verification and authentication (AVDH[18]) can be available. The submission may be by identification with client gate (KAÜ, company or office gate). The .kr forms (data in XML format) can be sent as a new message within the mailbox system. Users can read information about installing the ÁNYK program and forms in a pop-up window. Users may be informed of the availability of the necessary forms from description.

e-Paper - a General-Purpose Application Form Service
The e-Paper is a new, authenticated messaging application available on the online interface (https://epapir.gov.hu/). SZÜF is calling it an external application. The interface is similar to an email. The personal data of the identified client is automatically filled in (name, birth name, mother name, place and date of birth). It also supports the use of the Company Gate. The theme group, the case type, or the recipient may select from list. Reference can also be made to the history of office administration. The subject and text of the letter is a free-text field. There you can enter the content of the mail. You can attach documents to your mail (authentication with AVDH). The finalized letter can be sent. The message is also a ZIP file (. krx), with XML data content.

iForm – Form Filler Web Application
There are three areas of iForm technology: form management, form editing (design), form filling. With the iForm form designer, the connected organisation can create the form template and then publish it. The form management handles form-specific data. The SZÜF provides support services

[17] The social security identification number (TAJ number)
[18] -Identification Based Document Authentication (in Hungarian: AVDH)

(full integration). The submitted data is also in XML format[19]. The technology can be integrated into many systems (e.g. the municipal ASP system, MUKER, IKR).

	ÁNYK	e-Paper	iForm
Start use	from 2000	from 2017	2016
Interface	installed program and forms	online	online
Form	designed	free-text content	designed
Attachments	PDF	multiple format	multiple format
Identification	Client Gate, KAÜ	KAÜ	KAÜ

Table 3: Compare of form filler application (January 2, 2019)

All three applications produce authenticated XML-formatted documents. The online form fills are planned. At present, the ÁNYK is still the most widespread. For cases initiated from the SZÜF interface, the following forms are used: ÁNYK (168), e-Paper (133) and iForm (68).

4 Summary and recommendations

Requirements	Evaluation and recommendations
All e-administration services are concentrated in one place and can be made available to customers in a unified framework.	This is only partially realized. It can be seen that the local authorities have the biggest lag, although more than 90% of municipalities have joined the ASP system. The fragmentation of cases is also a problem[20]. In the longer term, the number of cases needs to be reduced and standardized. It is recommended to insert mobile applications in the interface.
Customisable services.	It is implemented only in the services provided through the SZÜF framework and infrastructure. There are two possibilities in the longer term. Either large organisations provide personalized services on their own interface, either they modify their connection.
Life-situation based administration.	It is included in the plans, but not in practice. This also requires cooperation among several organisations and the reorganisation of administrative processes. As a first step, it is recommended creating situation-based search, facilitating customer orientation. In the longer term, it should be possible to start cases related to situations at one point.
Interoperability.	One of the main aspects is the cooperation of SZEÜSZs, KEÜSZs and specialist systems. The improvements also require the renewal of the specialist systems.
Platform independence.	The SZÜF portal is responsive. Providers' own interfaces, including external applications should ensure that they can be used alongside computers on mobile devices.
Privacy and security.	Highly managed area. Compliance with legislation (especially GDPR [9]) and standards are assured.

Table 4: Realisation of requirements in practice (January 2, 2019)

[19] The ÁNYK compatible XML format ensures collaboration with old specialist systems.

[20] E.g. 8 cases are related to the complaint announcement, separate cases per organisation.

In practice, the requirements of the SZÜF portal and framework have only been partially realised.

An intensive marketing campaign and education [6] would also be needed to disseminate e-administration as widely as possible. At present, very few people are familiar with the SZÜF portal, even the majority of administrative staff do not know the interface.

All in all, it can be concluded that the SZÜF is a key element in the implementation of client-based administration. In addition to its many advantages, it requires further development.

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Cyber security has become a key issue in virtually all domains of public sector ICT. High profile incidents have put the topic also high on the political agenda. The view of cyber security over time has changed; from an add-on to existing systems to an integral part of system design, implementation, operation and management. The General Data Protection Regulation heightened this even more. Cyber security however is not only a technical endeavour – which is challenging enough in itself – but also understood as an administrative and organizational challenge, which ensures that technological solutions are leveraged to the best of their abilities and in a sustainable way. This ultimately makes cyber security a cross-platform and multi-disciplinary approach, which spans the entire domain of eGovernment and eDemocracy solutions.

Beyond this focal topic, the conference continues to address the whole breadth of ICT in the public sector and democratic decision making, with a particular focus on the specificities of the Danube Region. This year's volume therefore again attempts to contribute to the exchange of academic knowledge and practical experience in this domain among the countries of the region.

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