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THE MODERN TECHNOLOGICAL CAPABILITIES THAT CAN BE USED TO EFFECTIVELY IMPLEMENT PUBLIC ADMINISTRATION AT THE LEVEL OF THE TERRITORIAL COMMUNITIES (BASED ON THE USE OF THE ANDROID-PROGRAM)

Abstract. The article details the use of the Android application as a technological solution to ensure the interconnection between the territorial community and the authorities within the framework of public administration. The main requirements of the structure and functionality of the proposed application are considered, and the main existing variants of using mobile applications for the effective implementation of public administration at the level of territorial communities on the example of other countries of the world. Additionally, an analysis has been made that confirms the most effective use of the Android application within the framework of implementing public administration and administration. The main technological aspects and interrelations between local authorities and participants of territorial communities are considered. A separate part of the article is devoted to the possibilities of public control by the territorial communities and to the improvement of the efficiency of local self-government bodies.

Development of modern technologies was put before society a number of questions from which one of the major is the requirement in increase of labor productivity, and reduction of time expenditure. These components are a key indicator which distributes the developed countries, and developing countries on level of life quality [1–10].

In Ukraine historically developed system of local authorities functioning and respectively the system of their cooperation with territorial community, is constructed on a large number of manual skills.

Respectively for effective public management the system in the existing state will demand either increases in number of officialdom and expenses on its maintenance that will create additional load of the working segments of the population which are a part of territorial communities, or change of an operating procedure of this structure.

This article seeks to analyse a possibility of technical improvement of work of local authorities and, respectively, public management by means of technology use of mobile applications which will provide fast and effective communication between society and the power.

Keywords: public administration and administration, technological implementation, decentralization, territorial communities, public control, implementation of public administration.

СУЧАСНІ ТЕХНОЛОГІЧНІ МОЖЛИВОСТІ, ЯКІ МОЖУТЬ ВИКОРИСТОВУВАТИСЯ ДЛЯ ЕФЕКТИВНОЇ РЕАЛІЗАЦІЇ ПУБЛІЧНОГО УПРАВЛІННЯ НА РІВНІ ТЕРИТОРІАЛЬНИХ ГРОМАД (НА ПРИКЛАДІ ВИКОРИСТАННЯ ANDROID-ДОДАТКУ)

Анотація. Детально розкрито проект використання Android-додатку як технологічного рішення для забезпечення взаємозв'язку територіальної громади та органів влади в рамках публічного управління. Розглянуто основні вимоги структури та функціонал запропонованого додатку, та основні існуючі варіанти використання мобільних додатків для ефективною реалізації публічного управління на рівні територіальних громад на прикладі інших країн світу. Додатково здійснено аналіз, який підтверджує найбільшу ефективність використання Android-додатку в рамках впровадження публічного управління і адміністрування. Розглянуто основні технологічні аспекти та взаємозв'язки місцевих органів влади та учасників територіальних громад, можливості публічного контролю з боку територіальних громад і підвищення ефективності роботи місцевих органів самоврядування.

Розвиток сучасних технологій поставив перед суспільством низку питань, з яких одним з найважливіших є вимога збільшення ефективності праці, та зменшення витрат часу. Саме ці складові є головним показником, що розподіляє розвинені країни, та країни, що розвиваються за рівнем якості життя [1–10].

В Україні історично складена система функціонування місцевих органів влади і відповідно система їх співпраці з територіальною громадою, побудована на великій кількості ручної праці.

Відповідно для ефективного публічного управління система в існуючому стані потребуватиме або збільшення кількості бюрократичного апарату та витрат на його утримання, що створюватиме додаткове навантаження на працюючі верстви населення, що входять до складу територіальних громад або зміни порядку роботи даної структури.

Проаналізовано можливість технічного вдосконалення роботи місцевих органів влади і, відповідно, публічного управління за допомогою використання технології мобільних додатків, що забезпечуватиме швидкий та ефективний зв'язок між громадою та владою.

Ключові слова: публічне управління та адміністрування, технологічне впровадження, децентралізація, територіальні громади, публічний контроль, впровадження публічного управління.

СОВРЕМЕННЫЕ ТЕХНОЛОГИЧЕСКИЕ ВОЗМОЖНОСТИ, КОТОРЫЕ МОГУТ ИСПОЛЬЗОВАТЬСЯ ДЛЯ ЭФФЕКТИВНОЙ РЕАЛИЗАЦИИ ПУБЛИЧНОГО УПРАВЛЕНИЯ НА УРОВНЕ ТЕРРИТОРИАЛЬНЫХ ОБЩИН (НА ПРИМЕРЕ ИСПОЛЬЗОВАНИЯ ANDROID-ПРИЛОЖЕНИЯ)

Аннотация. Подробно раскрыто проект использования Android-приложения как технологического решения для обеспечения взаимосвязи между территориальной общиной и органами власти в рамках публичного управления. Рассмотрены основные требования структуры и функционал предложенного приложения, и основные существующие варианты использования мобильных приложений для эффективной реализации публичного управления на уровне территориальных общин на примере других стран мира. Дополнительно проведен анализ, подтверждающий наибольшую эффективность использования Android-приложения в рамках внедрения публичного управления и администрирования. Рассмотрены основные технологические аспекты и взаимосвязи между местными органами власти и участниками территориальных общин. Отдельная часть статьи посвящена возможностям публичного контроля со стороны территориальных общин и повышению эффективности работы местных органов самоуправления.

Развитие современных технологий поставило перед обществом ряд вопросов, из которых одним из важнейших является требование в увеличении эффективности труда, и уменьшении затрат времени. Именно эти составляющие являются основным показателем, который разделяет развитые страны, и развивающиеся страны по уровню качества жизни [1–10].

В Украине исторически система функционирования местных органов власти и, соответственно, система их сотрудничества с территориальной общиной, построена на большом количестве ручного труда.

Соответственно для эффективного публичного управления система в существующем состоянии требует или увеличения количества бюрократического аппарата и расходов на его содержание, что создает дополнительную нагрузку на работающие слои населения, входящие в состав территориальных общин, или изменения порядка работы данной структуры.

Проанализирована возможность технического совершенствования работы местных органов власти и, соответственно, публичного управления посредством использования технологии мобильных приложений, обеспечивающих быструю и эффективную связь между обществом и властью.

Ключевые слова: публичное управление и администрирование, технологическое внедрение, децентрализация, территориальные общины, публичный контроль, внедрение публичного управления.

Statement of a problem. Development of modern technologies was put before society a number of questions from which one of the major is the requirement in increase of labor productivity, and reduction of time expenditure. These components are a key indicator which distributes the developed countries, and developing countries on level of life quality [1–10].

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public management by means of technology use of mobile applications which will provide fast and effective communication between society and the power.

Analysis of the last researches and publication. Most in detail questions of modern technologies use by means of mobile applications within effective realization of public management at the level of territorial communities are analysed in work of Za Abil Nukara and Michel Nouri “The effective government for a new century” [1]. According to data of the conducted research, in many countries of the world the technology of mobile applications is already used for exchange of information and rendering of services to territorial communities according to what “the electronic government” or “E-government” already becomes a reality.

However, the most important condition for effective use of opportunities of the E-government is achievement of a situation at which the mobile application is the standard and primary instrument of communication between the power and a territorial community [10].

According to the statistical report of the UN in 2016 nearly 90 % of the population of the earth [6] became owners of mobile communication. In fact, the main number of owners of mobile devices are the share of developing countries and because of the specifics have a much bigger mobile communication covering in comparison with a standard covering of the Internet.

Owing to historical specifics Ukraine falls into the category to such segment of the countries.

Additional factor is projects on providing the conditional and free mobile Internet – so until 2020 in this branch two most technological monsters compete – Tesla corporation and Google. According to it irrespective of the fact which of the corporations will dominate in granting the satellite Internet, nearly 100 % of the population of Ukraine will have a possibility of easy access to the Internet with high speed.

According to it all prerequisites for introduction of mobile Android-application as an element of interaction of authorities and territorial communities within public management, are technologically formed.

Examples of successful use of mobile applications for public management implementation. Thanks to development of modern technologies, a specific place is held by progress in the field of mobile applications use for public management in the USA. Since 2001 the Federal U.S. Government has created the specialized catalog of the mobile applications improving interaction between a territorial community and the power which is placed to the address: <https://www.usa.gov/mobile-apps>

However various service reference books or applications for trade with the state enterprises are the main contingent of applications.

In Sweden process of E-government creation has begun much earlier according to what the majority of electronic services is carried out owing to the mobile menu and SMS. This system also is progressive, however tools that can be realized by means of SMS and DCS of mobile inquiries is sufficiently restricted [1].

It is separately possible to allocate the UAE. Since 2013 the UAE has centrally accepted the strategy of transition to “the mobile government” at the state level. The initiative of “The mobile government” is constructed on wide use of mobile phones and modern technologies for rendering of services. In 2014 in the UAE the state shop of mobile applications for interaction with authorities has been activated. The shop consists from more than 100 mobile applications for Android and IOS and allows to provide to citizens of more than 700 various services – from submission of the reporting and requests for obtaining references of utility payment documents, a call of masters for repair, and so forth.

Article purpose. To render the practical offer concerning use of modern technologies in the field of public management and interaction of local authorities with territorial communities. The basic principles of the offered technological mechanism of this idea realization within increase in overall performance of local authorities are considered.

To accumulate the gathered international experience for allocation of

the main aspects of the practical embodiment of modern technologies at the heart of interaction process of society with public institutions and local authorities.

Presentation of basic material of the research. Structure of Android – the application that is offered to be used for effective realization of public management at the level of territorial communities.

Creation of any mobile application begins with planning process. In this case some of the major elements take place [2]:

1. The client is actually functionality with which the representative of territorial community cooperates. The interface which is used in the Client gives to the user an opportunity to make data exchange with local authority.

2. The server is the technological place including located in “a cloudy segment” where processing of inquiries from the Client takes place. The server also may contain Clients for “the front processing of the obtained data with the purpose of further use in the means of documentation processing and office-work used in authorities (ASKOD program, tax base, etc.).

3. Data basis (DB) is the place of data storage which has an opportunity to continuous updating and cooperation with external data sources and providing data submission to the Client on the search processed by the server. In option of a mobile application that is considered is offered the following [4]:

1. Creation of the Client which installer is placed on the state resources and allows users to take in free access advantage of cooperation with public

authorities of the power by means of a mobile application.

2. Creation of server structure that will allow, on the one hand automatically to generate through the Client installed on the mobile device of the member of territorial community, and with another – to send from the server inquiries of the Client concerning various polls, inquiries, expressions of opinions, petitions, and so forth:

- the inquiries aren't demanding intervention from operators and also formed by means of giving of the corresponding inquiry from the member of territorial community (excerpts from F-3, inquiry concerning homeowners, request for existence of arrest on property and another);
- the inquiries demanding processing by the operator – the person with the subsequent moving of information to the operating system of office-work in public authorities (complaints, offers, draft budgets of public use, other inquiries of specific character);
- inquiries which are formed from the server and demand the return information from the Client (various polls, informing, information requests);
- creation of the database as uniform source of final information storage.

Within consideration the application as computing system it is possible to identify three groups of the functions focused on the solution of various tasks:

1. Functions of input and display of data (provide interaction with the user).

2. Applied functions characteristic of area of interaction between the member of territorial community and local authority.

3. Resource management functions (file system, database, etc.).

Features of authorization, safety and data exchange. Security settings, localizations and functions of data exchange is the major element of the offered mobile application.

Security settings. Considering the growing threats of the cyber attacks connected with presence of the aggressively disposed “northern neighbor” requirements to safety is nearly the most important element of the offered application. Accordingly, it is offered to make a start not from development of the safety module “from scratch”, and from use of already existing solutions of safety.

Pursuant thereto, it is offered to use already operating system of natural person’s authorization, used for functioning in Privat network. Use of this system is already actively carried out at the level of the city at registration on KCGA website and when giving inquiries in tax and other public institutions.

Considering coverage of Privatbank network of nearly 80 % to the population of Ukraine, use of elements of a code (apu) from this developer is offered.

Data exchange. Today the ordered data on users are separately collected and provided within various resources: website tax, register of the enterprises and organizations of Ukraine, land registry, and so forth. Besides, separate elements of office-work by inquiries of citizens is realized in ASKOD program

that provides document flow in all public institutions.

It is offered to create, first of all, a possibility of the semi-automatic addressing data of base of public institutions for increase in efficiency of document flow.

At the second stage it is offered to adjust semi-automatic exchange of information with the commercial and state enterprises providing utilities to citizens – members of communities: Ukrtelecom, Kiyevenergo, Housing and Utility Management Unit and apartment building co-owners association, and so forth. Inclusion of such opportunities not only will accelerate information processing, but also will provide to citizens who address to these institutions of additional protection as participation as the third party (though at the level of server inquiry) of local authority considerably will increase probability not to violate basic rights and freedoms of citizens.

Increase in appeal of a mobile application to installation to the member of community will be additional plus of such combination of bases, as it will give him (her) an opportunity to resolve own issues with smaller expense of time.

Operating procedure with Android-application. Primary element of the application, considering its specifics and need of the person identification there has to be an identification with the help “Privat 24”.

Function of accounts connection of social networks for urgent informing the citizen in case of events has to be additionally provided important for territorial community.

The starting desktop which is available to work in case of the available au-

thorization has to be the following element. The starting desktop will provide the list of the organizations with which the citizen can correspond by means of this application.

The main advantage at the same time is that the inquiry, first of all, is provided in electronic form at the same time to local authority with the copy to the legal entity and, secondly, the inquiry on its registration and contents corresponds to the Law of Ukraine “About addresses of citizens” that additionally protects the rights of the person, who has sent it.

The separate element it is proposed existence of a possibility of transition to payments after their verification (at the same time there will be a transition to functionality of “Privat 24”, intended for processing of payments).

At the same time for receiving feedback from residents of the district it isn't necessary to carry out actions of promoting of the local budget. Electronic mailing on a mobile application is enough. Comparison of resource spend of information processing during the work with the application in comparison with the existing system.

1. Providing inquiry in the Form-3 (the list of the persons registered in the apartment)

Existing order	By means of the application
<u>On the part of the person:</u> <ul style="list-style-type: none"> - to submit an inquiry (to come to administration, to wait in line); - 7 days on processing; - to receive inquiry (to come to administration, to wait in line) 	<u>On the part of the person:</u> <ul style="list-style-type: none"> - to submit an inquiry through the application; - 3 days on processing; - to receive inquiry through the application
<u>On the part of the administration:</u> <ul style="list-style-type: none"> - the operator accepts and checks inquiry; - the operator prints inquiry; - the operator moves inquiry to archive; - the operator provides result for the signature; - the signer signs; - the signer provides to the operator; - the operator provides inquiry to the person 	<u>On the part of the administration:</u> <ul style="list-style-type: none"> - check and digital signature

2. Providing inquiry concerning the Certificate of lack of criminal proceedings

Existing order	By means of the application
<u>On the part of the person:</u> <ul style="list-style-type: none"> - to submit an inquiry (to come to the Ministry of Internal Affairs, to wait in line); - 7 days on processing; - to receive inquiry (to come to the Ministry of Internal Affairs, to wait in line) 	<u>On the part of the person:</u> <ul style="list-style-type: none"> - to submit an inquiry through the application; - 3 days on processing; - to receive inquiry through the application
<u>On the part of MIA:</u> <ul style="list-style-type: none"> - the operator accepts and checks inquiry; - the operator prints inquiry; - the operator moves inquiry to archive; - the operator provides result for the signature; - the signer signs; - the signer provides to the operator; - the operator provides inquiry to the person 	<u>On the part of MIA:</u> <ul style="list-style-type: none"> - check and digital signature

3. Verification of indicators of hot water counter

Existing order	By means of the application
<p><u>On the part of the person:</u></p> <ul style="list-style-type: none"> – to submit an inquiry (to come to Kyivenergo, to wait in line); – 7 days on processing; – to receive inquiry (to come to Kyivenergo, to wait in line) 	<p><u>On the part of the person:</u></p> <ul style="list-style-type: none"> – to submit an inquiry through the application; – 3 days on processing; – to receive inquiry through the application
<p><u>On the part of Kyivenergo:</u></p> <ul style="list-style-type: none"> – the operator accepts and checks inquiry; – the operator prints inquiry; – the operator moves inquiry to archive; – the operator provides result for the signature; – the signer signs; – the signer provides to the operator; – the operator provides inquiry to the person 	<p><u>On the part of Kyivenergo:</u></p> <ul style="list-style-type: none"> – check and digital signature

Thus, at external similarity of operations, we see improbable saving tens of hours of both the certain citizen, and government.

However, there are things which remain out of sight: expenses of the personnel salary of bodies, expenses on their placement, heating, repair, providing with office equipment and stationery, and so forth.

And the main thing – existence of such system will stimulate development of more effective segments of the population.

It is possible to allocate with separate plus reduction of a window of opportunities to corruption – the lack of personal contact between the performer and the customer actually levels existence “to bribe for the solution of a question.

Conclusions. As we see from article, modern hi-tech decisions open new opportunities both for management of local authorities in general, and for public management from territorial communities in a separate case. At the same time besides considerable economy of means, increase in overall perfor-

mance of the existing personnel and opportunities of its reduction we receive one major plus – we form at citizens consciousness of own responsibility for a situation that is created around as it is inherent line of all citizens in the developed countries of the world.

REFERENCES

1. *Abouchakra R., Khoury M.* (2016). Government for a New Age [Effektivnoe pravitelstvo dlya novogo veka]. Moscow: Olimp–Biznes [in Russian].
2. *Rozanov A.* Who holds the wealth of nations? Central Banking Journal, 15, 4. Retrieved from <https://www.centralbanking.com/central-banking-journal/feature/2072255/holds-wealth-nations> [in English].
3. *Redmadrobot* (December 25, 2014). Arkhitekturnyy dizayn mobilnykh prilozheniy [Architectural design of mobile applications]. habrahabr.ru. Retrieved from <https://habrahabr.ru/company/redmadrobot/blog/246551/> [in Russian].
4. *Anatolyev A. G.* (December 06, 2013). Komponenty setevogo prilozheniya. Klient-servernoe vzaimodeystvie i roli serverov [Components of the network

- application. Client-server interaction and server roles]. [www.4stud.info](http://www.4stud.info/networking/lecture5.html). Retrieved from <http://www.4stud.info/networking/lecture5.html> [in Russian].
5. *Wilkinson R. G., Pickett K.* (2009). *The Spirit level: Why More Equal Societies Almost Always Do Better*. London: Allen Lane [in English].
 6. *Kresina I. et al* (2011). *Reformuvannia administrativno-terytorialnoho ustroiu: ukrainskyi ta zarubizhnyi dosvid* [Reforming the administrative-territorial system: Ukrainian and foreign experience]. n.p. [in Ukrainian].
 7. *Surmin Yu. P., Bakumenko V. D., Mykhnenko A. M. et al.* (2010). *Entsyklopedychnyi slovnyk z derzhavnoho upravlinnia* [Encyclopedic Dictionary of Public Administration]. Yu. V. Kovbasiuk, V. P. Troshchynskyi, Yu. P. Surmin (Eds.). Kyiv: NADU [in Ukrainian].
 8. *Hlosarii Prohramy rozvytku OON* [Glossary of the UN Development Program] (n.d.). www.unpan.org. Retrieved from <http://www.unpan.org/Directories/UNPublicAdministrationGlossary> [in Ukrainian].
 9. *Likert R.* (n.d.). *Management System Theory*. www.learnmanagement2.com. Retrieved from <http://www.learnmanagement2.com/likert.htm> [in English].
 10. *Website of "World Business Council For Sustainable Development"*. www.wbcsd.org. Retrieved from <http://www.wbcsd.org/> [in English].
- ст. 90–126 [Електронний ресурс]. — Режим доступу: www.amazon.com
 2. *Rozanov Andrew.* Who holds the wealth of nations? // *Central Banking Journal*. — Vol. 15. — № 4. — May 2005.
 3. *Архитектурный дизайн мобильных приложений* [Электронный ресурс]. — Режим доступа: <https://habrahabr.ru/company/redmadrobot/blog/246551/>
 4. *Компоненты сетевого приложения. Клиент-серверное взаимодействие и роли серверов* [Электронный ресурс]. — Режим доступа: <http://www.4stud.info/networking/lecture5.html>
 5. *Wilkinson Richard G., Pickett Kate.* *The Spirit level: Why More Equal Societies Almost Always Do Better*. Allen Lane, 2009.
 6. *Реформування адміністративно-територіального устрою: український та зарубіжний досвід: монографія* (у співавт., 2011) І. Кресіна.
 7. *Енциклопедичний словник з державного управління* / уклад.: Ю. П. Сурмін, В. Д. Бакуменко, А. М. Михненко та ін.; за ред. Ю. В. Ковбасюка, В. П. Трощинського, Ю. П. Сурміна. — К.: НАДУ, 2010. — 820 с.
 8. *Глосарій Програми розвитку ООН* [Електронний ресурс]. — Режим доступу: <http://www.unpan.org/Directories/UNPublicAdministrationGlossary>
 9. *Rensis Likert.* *Management System Theory* [Електронний ресурс]. — Режим доступу: <http://www.learnmanagement2.com/likert.htm>
 10. *World Business Council For Sustainable Development* [Електронний ресурс]. — Режим доступу: www.unwater.org/statistics_use.html

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1. *За Раби Абуцакра, Мишель Хури.* Эффективный уряд в новому сторіччі,