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DEVELOPMENT OF THE WEB-BASED SYSTEM FOR ACCOUNTING OF MEDICAL PRESCRIPTIONS

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Increasing morbidity among the population, numerous outbreaks of epidemics, the COVID-19 pandemic are some of the many reasons why people urgently need medical care and medical advice (GBD, 2016). The relevance of the chosen research topic grounds on the current epidemiological situation in the world and increasing morbidity, medical treatments and subsequent trips to the pharmacy. It is becoming a regular process for everybody. The outdated way of medical prescribing by hand significantly slows down and complicates the work of both doctors and pharmacists. It is very inconvenient in today's digital age, when all paper circulation transfers to electronic form.

Scientists from different countries and industries are researching this issue nowadays (Mazurenko et al., 2021; Bozhenko, 2021; Starchenko et al., 2021; Dudchenko, 2020; Yelnikova and Barhaq, 2020; Goncharenko and Lopa, 2020; Eddassi, 2020; Ziabina et al., 2020; Chukwu and Kasztelnik, 2021; Medani and Bhandari, 2019; Samoilikova, 2020; Yarovenko et al., 2020; Mazurenko and Tiutiunyk, 2021; Pimonenko et al., 2021; Kryvych and Goncharenko, 2020; Matsenko et al., 2021; Lazorenko et al., 2021; Oleksich et al., 2021; Mamay et al., 2021; Taraniuk et al., 2020; Shkarlet et al., 2019; Vasilieva et al., 2017; Bubyk et al., 2017; Fila et al., 2020; Gallo et al., 2019). A group of scientists from European Public Health Association, Utrecht, the Netherlands composed of Anna Odone, Stefan Buttigieg, Walter Ricciardi, Natasha Azzopardi-Muscat, & Anthony Staines (Odone et al., 2019) allocates digitalization as a set of tools for improving healthcare

system. Scientists from Masaryk University, Brno, Czech Republic, like Walter Ricciardi, Pedro Pita Barros, Aleš Bourek, Werner Brouwer, Tim Kelsey, & Lasse Lehtonen (Ricciardi et al., 2019) suggest how to govern the digital transformation of health services. They suppose that the development, implementation, use and funding of digital health technologies should be carefully evaluated and monitored by government to avoid any unintended and/or negative (side) effects in the short or long term.

The process of patient reception by the doctor and subsequent patient purchasing medicines in pharmacy is still poorly automated, at least in Ukraine. The practice when doctor writes medical prescriptions by hand now exists in most health care facilities in Ukraine, whether private or public. Therefore, Ukrainian scientists are also actively studying the issue of digitalization of the healthcare sphere. Sybila Buletsa in her paper «Place of information technologies in carrying out medical activities» (Buletsa, 2020). wonders if it makes sense to introduce information technology into medicine. Natalia Friedrichson in her paper «IT technologies in medicine» (Friedrichson, 2018) suggests specific ways to introduce automation into the healthcare sector.

On April 1, 2019, the «Affordable medicines» program, administered by the National Health Service of Ukraine, started operating in Ukraine. It has become possible to prescribe electronic prescriptions for medicines (E-Ukraine, 2021). Unfortunately, this system is still not perfect, failures often occur, the list of accessible medicines is quite limited, not all pharmacies participate in the program «Affordable medicines». Limited list of medicines is a significant weakness of this system. Even though program «Affordable medicines» is funded from the State Budget of Ukraine, only a few patients can use it, and there is a need to create a more mass system.

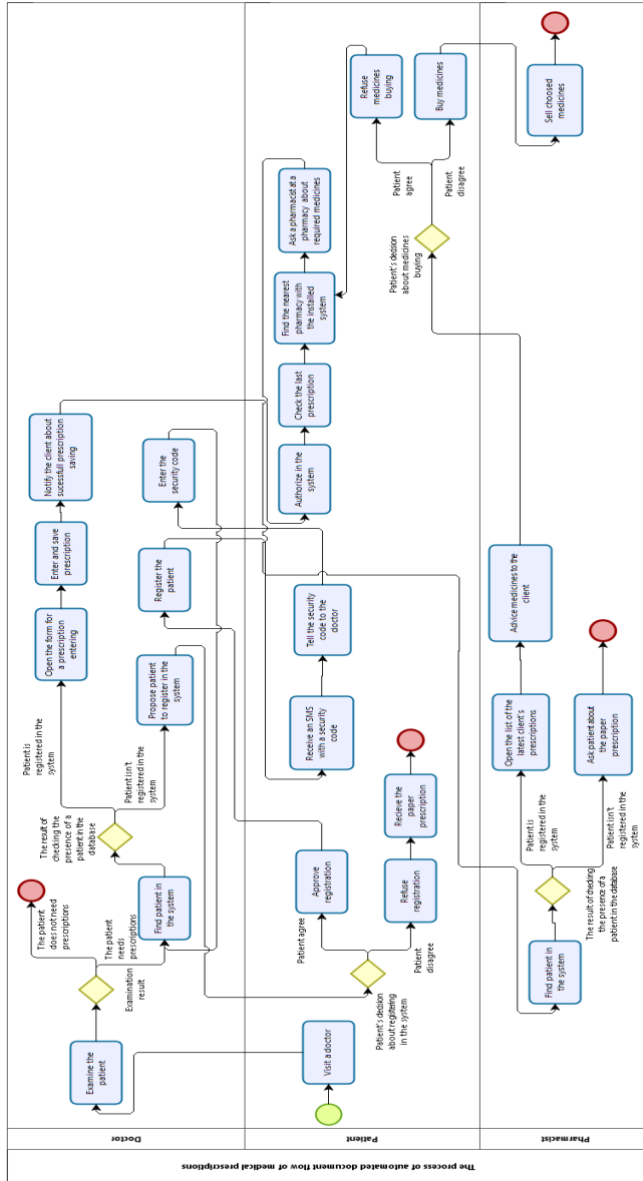


Figure 1 – Work diagram of the web-based system for accounting of medical prescriptions

Based on the above problems that take place in the healthcare sphere of Ukraine, we are aiming to develop the web-based information system for accounting of medical prescriptions, which provides the following abilities:

- reduce the service time of one customer at the checkout, which in turn increases the capacity of checkout and allows to serve more customers in pharmacy;
- increase the flow of customers to those pharmacies that use this system, due to the greater convenience of interaction between customers and pharmacists, as well as increase the credit of trust in such pharmacies;
- facilitate the process of obtaining, storing and using medicines for patients;
- make the prescriptions making process more comfortable for doctors;
- reduce the usage of paper, which is a very important environmental problem in the modern world, etc.

This system will be created in the form of a web application – software that allows the client side to interact with the web server side through a web browser interface. Web applications are created for different purposes and used by both organizations and individuals because they have many potential benefits: simultaneous access of many users to the same version of the application and work with it; one can access web application through various platforms such as PCs, laptops, mobile devices; one can access web application simultaneously from different browsers that allows simultaneous use of multiple accounts (Web application, 2017).

Analysis and modeling of business processes is a crucial stage in designing a web-based system. It is necessary to clearly define which areas of business processes, inputs, and outputs can be automated and improved. In our case business process contains a visit to the doctor, examination of the patient and prescription of medicines, also the patient's trip to the pharmacy and purchasing medicines. For visualizing and best analyzing there is a sense to create the graphic business-process

model. Business Process Modeling Notation (BPMN) – a flowchart method that allows to model the stages of business processes from start to finish and visually depicts the detailed sequence of actions and information flows. BPMN is one of the most common methods of business process modeling, and its significant advantage is that it uses standardized symbols to make process maps easier to understand for all relevant parties: management, employees and consultants. BPMN provides information in a much simpler way than data flow charts or UML activity charts, and is more suitable for process design (Kissflow, 2021). Figure 1 presents the diagram of the web-based system for accounting of medical prescriptions under BPMN.

Source: author's development.

So, in conclusion, it should be noted, that there is an urgent need for healthcare sphere automation around the world. The government of many countries, and scientists are concerned about this issue. In this paper were proposed a solution for automating the process of document circulation of medical prescriptions using a web-based system. A diagram of the process of document circulation was developed and the task on development a web-oriented system was set.

References

- Bozhenko, V. (2021). Enhancing Business Integrity as a Mechanism for Combating Corruption and Shadow Schemes in the Country. *Business Ethics and Leadership*, 5(3), 97-101. [https://doi.org/10.21272/bel.5\(3\).97-101.2021](https://doi.org/10.21272/bel.5(3).97-101.2021)
- Bublyk, M., Koval, V., Redkva, O. (2017). Analysis impact of the structural competition preconditions for ensuring economic security of the machine building complex. *Marketing and Management of Innovations*, 4, 229-240, <http://doi.org/10.21272/mmi.2017.4-20>
- Buletsa, S. (2020). Place of information technology in the performance of medical activities. *Constitutional and legal academic studies*, 2, 13–23.

- DOI: <https://doi.org/10.24144/2663-5399.2020.2.02>.
- Chukwu, A.O., Kasztelnik, K. (2021). Innovative Strategies For Social-Economic Development Financial Strategies In The Development Country. *SocioEconomic Challenges*, 5(1), 44-65. [https://doi.org/10.21272/sec.5\(1\).44-65.2021](https://doi.org/10.21272/sec.5(1).44-65.2021)
- Dudchenko, V.Yu. (2020). Interaction of Central Bank Independence and Transparency: Bibliometric Analysis. *Business Ethics and Leadership*, 4(2), 109-115. [https://doi.org/10.21272/bel.4\(2\).109-115.2020](https://doi.org/10.21272/bel.4(2).109-115.2020).
- E-Ukraine (2021). The Ministry of Health of Ukraine has launched an electronic prescription: how to get free medicine at the pharmacy. URL: <https://eukraine.org.ua/ua/news/moz-zapustilo-elektronnij-recept-yak-otrimati-bezkoshtovni-liki-v-apteci> (Retrieved 20.11.2021).
- Eddassi, H. (2020). Fiscal Regime and Tax Policy in Resource-Rich Countries In The Process Of Globalization: Literature Review. *SocioEconomic Challenges*, 4(2), 67-77. [https://doi.org/10.21272/sec.4\(2\).67-77.2020](https://doi.org/10.21272/sec.4(2).67-77.2020).
- Fila, M., Levicky, M., Mura, L., Maros, M., & Korenkova, M. (2020). Innovations for Business Management: Motivation and Barriers. *Marketing and Management of Innovations*, 4, 266-278. <http://doi.org/10.21272/mmi.2020.4-22>
- Friedrichson, N. V. (2018). IT technologies in medicine. Paper presented at the *XII All-Ukrainian Practical and Cognitive Conference «Scientific thought of the present and the future»*. URL: <https://naukam.triada.in.ua/index.php/konferentsiji/42-dvanadtsyata-vseukrajinska-praktichno-piznavalna-internet-konferentsiya/462-it-tehnologiji-v-medsini> (Retrieved 20.11.2021).
- Gallo, P., Mihalcova, B., Vegsoova, O., Dzurov-Vargova, T & Busova, N. (2019). Innovative Trends in Human Resources Management: Evidence for the Health Care System. *Marketing and Management of Innovations*, 2, 11-20. <http://doi.org/10.21272/mmi.2019.2-01>

- GBD 2015 Disease and injury incidence and prevalence collaborators (2016). Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, 388, 1545–602.
DOI: [https://doi.org/10.1016/S0140-6736\(16\)31678-6](https://doi.org/10.1016/S0140-6736(16)31678-6).
- Goncharenko, T., Lopa L. (2020). Balance Between Risk And Profit In The Context Of Strategic Management: The Case Of Ukrainian Banks. *SocioEconomic Challenges*, 4(1), 111-121. [http://doi.org/10.21272/sec.4\(1\).111-121.2020](http://doi.org/10.21272/sec.4(1).111-121.2020).
- Kissflow (2021). What is Business Process Model and Notation (BPMN): Benefits and Examples. URL: <https://kissflow.com/workflow/bpm/what-is-bpmn/> (Retrieved 20.11.2021).
- Kryvyeh, Y., Goncharenko, T. (2020). Banking strategic management and business model: bibliometric analysis. *Financial Markets, Institutions and Risks*, 4(1), 76-85. [http://doi.org/10.21272/fmir.4\(1\).76-85.2020](http://doi.org/10.21272/fmir.4(1).76-85.2020).
- Lazorenko, V., Saher, L., & Jasniewski, J. (2021). Web management as a marketing management determinant: case for pharmaceutical enterprises. *Health Economics and Management Review*, 2(2), 105-114. <https://doi.org/10.21272/hem.2021.2-10>
- Mamay, A., Myroshnychenko, Iu., & Dzwigol. H. (2021). Motivation management model and practical realization within the health care institutions. *Health Economics and Management Review*, 2(2), 23-30. <https://doi.org/10.21272/hem.2021.2-03>
- Matsenko, O., Kubatko, O., Bardachenko, V., & Demchuk, K. (2021). Transformation of the Restaurant Business as a Result of the COVID-19 Pandemic: Improving the Security of Service and Maintaining the Health of Human Capital. *Health Economics and Management Review*, 2(3), 27-38. <https://doi.org/10.21272/hem.2021.3-03>
- Mazurenko, O., Tiutiunyk, I. (2021). The International Tax Competitiveness:

- Bibliometric Analysis. *Financial Markets, Institutions and Risks*, 5(1), 126-138.
[https://doi.org/10.21272/fmir.5\(1\).126-138.2021](https://doi.org/10.21272/fmir.5(1).126-138.2021)
- Mazurenko, O., Tiutiunyk, I., Derkach, L. (2021). The Impact of Tax Morality on Tax Evasion: Evidence of EU Countries. *Business Ethics and Leadership*, 5(3), 108-112. [https://doi.org/10.21272/bel.5\(3\).108-112.2021](https://doi.org/10.21272/bel.5(3).108-112.2021)
- Medani P. Bhandari (2019). Sustainable Development: Is This Paradigm The Remedy of All Challenges? Does Its Goals Capture The Essence of Real Development and Sustainability? With Reference to Discourses, Creativeness, Boundaries and Institutional Architecture. *SocioEconomic Challenges*, 3(4), 97-128. [http://doi.org/10.21272/sec.3\(4\).97-128.2019](http://doi.org/10.21272/sec.3(4).97-128.2019).
- Odone, A., Buttigieg, S., Ricciardi, W., Azzopardi-Muscat, N., & Staines, A. (2019). Public health digitalization in Europe: EUPHA vision, action and role in digital public health. *European Journal of Public Health*, 29, 28–35. doi:10.1093/eurpub/ckz161.
- Oleksich, Zh., Polcyn, J., & Shtorgin, O. (2021). Adaptation of the best European practices in administering local health care institutions. *Health Economics and Management Review*, 2(2), 15-22. <https://doi.org/10.21272/hem.2021.2-02>
- Pimonenko, T., Us, Ya., Myroshnychenko, Yu., Dubyna, O., Vasylyna, T. (2021). Green Financing for Carbon-Free Growth: Role of Banks Marketing Strategy. *Financial Markets, Institutions and Risks*, 5(3), 71-78. [https://doi.org/10.21272/fmir.5\(3\).71-78.2021](https://doi.org/10.21272/fmir.5(3).71-78.2021)
- Ricciardi, W., Pita Barros, P., Bourek, A., Brouwer, W., Kelsey, T., & Lehtonen, L. (2019). How to govern the digital transformation of health services. *European Journal of Public Health*, 29, 7–12. doi:10.1093/eurpub/ckz165.
- Samoilikova, A. (2020). Financial Policy of Innovation Development Providing: The Impact Formalization. *Financial Markets, Institutions and Risks*, 4(2), 5-15. [https://doi.org/10.21272/fmir.4\(2\).5-15.2020](https://doi.org/10.21272/fmir.4(2).5-15.2020).
- Shkarlet, S., Kholiavko, N., Dubyna, M. (2019). Information Economy:

- Management of Educational, Innovation, and Research Determinants. *Marketing and Management of Innovations*, 3, 126-141. <http://doi.org/10.21272/mmi.2019.3-10>
- Starchenko, L.V., Samusevych, Ya., Demchuk, K. (2021). Social and Eco-Friendly Entrepreneurship: The Keys to Sustainability. *Business Ethics and Leadership*, 5(1), 118-126. [https://doi.org/10.21272/bel.5\(1\).118-126.2021](https://doi.org/10.21272/bel.5(1).118-126.2021)
- Taraniuk, L., D'yakonova, I., Taraniuk, K., & Qiu, H. (2020). Basic financing principles of anti-covid measures: the case of the bank for international settlements. *Health Economics and Management Review*, 1(2), 43-50. <https://doi.org/10.21272/hem.2020.2-05>
- Vasilieva, T., Lieonov, S., Makarenko, I., Sirkovska, N. (2017). Sustainability information disclosure as an instrument of marketing communication with stakeholders: markets, social and economic aspects. *Marketing and Management of Innovations*, 4, 350 – 357. <http://doi.org/10.21272/mmi.2017.4-31>
- Web application (Web app). URL: <https://searchsoftwarequality.techtarget.com/definition/Web-application-Web-app> (Retrieved 20.11.2021).
- Yarovenko, H., Kuzmenko, O., Stumpo, M. (2020). Strategy for Determining Country Ranking by Level of Cybersecurity. *Financial Markets, Institutions and Risks*, 4(3), 124-137. [https://doi.org/10.21272/fmir.4\(3\).124-137.2020](https://doi.org/10.21272/fmir.4(3).124-137.2020)
- Yelnikova, Ju., Barhaq, A.R. (2020). Transparency of Responsible Investment Environment. *Business Ethics and Leadership*, 4(4), 68-75. [https://doi.org/10.21272/bel.4\(4\).68-75.2020](https://doi.org/10.21272/bel.4(4).68-75.2020)
- Ziabina, Ye., Pimonenko, T., Starchenko, L. (2020). Energy Efficiency Of National Economy: Social, Economic And Ecological Indicators. *SocioEconomic Challenges*, 4(4), 160-174. [https://doi.org/10.21272/sec.4\(4\).160-174.2020](https://doi.org/10.21272/sec.4(4).160-174.2020)

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