

Zgłoszenie tematu **INŻYNIERSKIEJ** pracy dyplomowej

**STUDIA I STOPNIA** rok akademicki 2021/22

Promotor:	dr hab. Jozef Kapusta, prof. UP
Temat pracy dyplomowej (j. polski, j. angielski):	<i>Data Visualization Methods in an Application for Rent and Utilities</i> Metody wizualizacji danych w aplikacji do rozliczania najmu i mediów
Zakres pracy i oczekiwane rezultaty praktyczne:	<p>Data visualization is the presentation of data in a pictorial or graphical format. It enables decision-makers to see analytics presented visually, so they can grasp difficult concepts or identify new patterns. The main goal of data visualization is to make it easier to identify patterns, trends and outliers in large data sets.</p> <p>The thesis aim is to create a solution that can help the landlords charge tenants for rent and utilities. This process can be achieved by charging according to the size of the living area of the apartment. If there are utility meters in the apartment, the website will also charge a tenant for media according to the price from invoices. The website or application will also show a graphic representation of landlords' assets and liabilities as well as data from utility meters. An important part of the thesis will find a solution for the visualization of this data. The author will compare methods for data visualization, and implement these methods into his practical part.</p>
Aspekt inżynierski*:	Selection and analyse open data in different formats, creation own analyses and result visualisation.
Wymagane oprogramowanie/języki programowania**:	any libraries for data visualization
Środowisko uruchomieniowe**:	Windows or Linux
Dodatkowe wymagania i uwagi:	English language
Literatura**:	<ul style="list-style-type: none"> <li>Ott, R. Lyman, and Micheal T. Longnecker. (2015). <i>An introduction to statistical methods and data analysis</i>. Cengage Learning, 1157 p.</li> </ul>

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	<ul style="list-style-type: none"><li>● Knaflic, C. N. (2015). Storytelling with Data - A Data Visualization Guide for Business Professionals. John Wiley &amp; Sons, 288 p.</li><li>● Kirk, A. (2019). Data Visualisation : A Handbook for Data Driven Design. SAGE Publications Ltd, 328 p.</li><li>● Hayward, E. (2021). The Starter Guide to Data Visualizations, online: <a href="https://www.klipfolio.com/blog/starter-guide-to-data-visualizations">https://www.klipfolio.com/blog/starter-guide-to-data-visualizations</a></li></ul>
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**\*należy uzasadnić/wskazać, czy praca spełnia wymagania inżynierskie**

**\*\*pola opcjonalne**