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The Role of Digital Applications in the Real Estate Industry

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Abstract: This study examines the effective use of digital applications in the real estate sector. In the contemporary era, the advent of technological advancements has profoundly impacted real estate transactions, facilitating more expeditious, transparent and efficient purchase-sale and management processes through digital platforms. Digital tools facilitate access to critical data, including geographical location, zoning status, geometric structure, area size, title deed information and slope of real estate, obviating the necessity for field examination. This offers a significant advantage to both buyers and investors, enabling them to make more informed decisions. Furthermore, real estate consultants and industry professionals are enabled to offer more comprehensive services to their customers by utilising these technologies. The advent of digital platforms has facilitated access to preliminary real estate information, obviating the need for physical visits to municipal or cadastre directorates. This enhancement in convenience, particularly with regard to reduced time and cost, is a significant benefit. The integration of online maps, geographic information systems, and digital databases has been instrumental in enhancing the decision-making processes by furnishing users with detailed information regarding the current status of real estate. Consequently, investors and buyers are able to access the necessary data promptly, eliminating the need for extensive research into specific real estate. The instantaneous evaluation of real estate status within purchase-sale processes enhances the efficiency and reliability of these transactions. The present study examined the findings of a pilot field study conducted with the help of digital applications and investigated the effects of these applications on the sector. The results obtained demonstrate that digital tools have the capacity to save time, increase accuracy and strengthen reliability by accelerating decision-making processes in the real estate sector. In this context, the role of digitalisation in the sector is becoming increasingly important.

Keywords: Cadastre, parcel, real estate, zoning

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1. INTRODUCTION

In today's era of rapid digital transformation, individuals are increasingly turning to digital platforms to meet their needs and find solutions to their questions. The real estate sector has been subject to this transformation, with users demonstrating a marked preference for websites and mobile applications as conduits for accessing the information they seek. Consequently, the ability of digital platforms to deliver services that align with user expectations is of paramount importance in fostering satisfaction and ensuring sustained engagement (Yalçın & Çatlı, 2024). Digital real estate is transforming the sector through the implementation of information and communication technologies, data collection systems and digital decision-making systems. This transformation facilitates urban planning and real estate development processes thanks to advanced technologies and decision support systems (Naeem, Rana, & Nasir, 2023). The development of digital platforms can improve the efficiency of the real estate market through automation and data organization (Sternik, Gareev, & Akhmetgaliev, 2021). These digital platforms facilitate the processes of buying, selling and renting property by offering tools such as high-resolution photos, videos and virtual tours (Da Costa, 2024). Geolocation offers significant benefits for the real estate industry. Consumers are able to view the geographical location of a property on a map, facilitating the examination of the surrounding residential and commercial areas without the necessity of a physical visit. This feature has been shown to facilitate more accurate buying and selling decisions (Martínez, Contreras, & Valdez Cervantes, 2015).

Geographic Information Systems (GIS)-based digital applications facilitate the process of inspecting and evaluating properties without the need for physical visits. The utilisation of a user-friendly GIS program facilitates the acquisition of informed decision-making by prospective buyers, as it enables the presentation of properties alongside relevant topographical, infrastructural, and environmental data (Ahmed, Alez, & Babu, 2015). In the contemporary era, an increasing number of municipalities are providing their citizens with access to location data for areas within their respective borders. This data has become readily available through digital platforms such as e-zoning and city guides. Access to data such as the zoning status, block, parcel or address information of real estate within the provincial borders is now possible. Furthermore, municipalities facilitate access to satellite and orthophoto imagery through dedicated city guide applications. These platforms offer location information, including 1/1000 scale zoning plans, zoning and cadastral parcels, neighbourhood boundaries, street and avenue names, door numbers, assembly areas, important places and parks, in an easily accessible format. In addition, the parcel query application developed by the General Directorate of Land Registry and Cadastre enables the user to query the province, district, neighbourhood, block and parcel information and location of the real estate. Furthermore, the platform offers insights into the geometric configuration of the properties. Access to 1/1000 scale zoning plans can be provided through the E-Plan automation systems of the Ministry of Environment, Urbanization and Climate Change.

To accurately locate a land parcel, a base map is needed. Google Earth provides satellite images of the earth's surface for free. Using these images, it becomes easier to locate a land parcel on the ground (Jasmee, Rani, & Jaafar, 2017). Mobile devices utilising the Android operating system are equipped with location-based features that facilitate the presentation of information on maps. Google Maps is an exemple of such location-based applications included in the Android operating system. Global Navigation Satellite Systems (GNSS) technology embedded within these devices utilizes satellite signals to determine the precise geographical coordinates of any given location on Earth (Putra, Sediyono, & Setiawan, 2017).

Whilst the Google Earth application provides access to location information via a three-dimensional image of the real estate, it also facilitates access to additional details, including street maps, photographs, and slope profiles.

Recent years have seen a marked increase in the number of purchase and sale transactions in the real estate sector, resulting in a significant increase in data and analysis requirements for relevant parties. The parcel query applications offered by the General Directorate of Land Registry and Cadastre offer a powerful solution to minimise uncertainties in this area. The "Analysis" feature of the application provides users with detailed data by year, allowing them to examine the density of purchases and sales, main property sales, mortgaged sales and independent section sales on a local basis. These analyses facilitate the identification of regions where sales transactions are concentrated in land registry offices, the disparities between regions, and the mobility trends. Furthermore, density analyses, bolstered by heat maps, facilitate the identification of parcels where sales transactions occur, while concurrently enabling the more precise monitoring of regional change and development trends. In the contemporary real estate sector, the accessibility of precise and expeditious information has become paramount for investors and professionals. The advent of novel generation parcel query applications that facilitate straightforward access to attribute information of all real estates throughout Turkey has the potential to reduce uncertainties in the sector and accelerate decision-making processes. The application enables users to verify the location of a real estate asset by entering specific details, including the province, district, neighbourhood and block information of the property. Furthermore, the application provides navigation support, facilitating the identification of the most efficient route to the property. In addition, users can access detailed information regarding the surrounding area, including slope and geographical features. The application enables users to visualise the locations of real estates, facilitating a comprehensive understanding of the property market.

Verification of title deed transactions via digital platforms has been demonstrated to be an effective measure in preventing fraud to a certain extent in recent years. However, forgery of title deed documents and identity information still remains a significant problem in the real estate sector (Mashatan, Lemieux, Lee, Szufel, & Roberts, 2021). It is imperative to utilise digital platforms such as the Land Registry and Cadastre Directorate's parcel query application, Google Earth, Google Maps and municipalities' e-zoning applications to ensure the safety of purchase and sale transactions conducted within the land registry office.

The acquisition of information from Google Earth constitutes a pivotal component within the domain of real estate applications. It provides users with accurate and easily understandable information, thereby facilitating more efficient and expeditious decision-making processes. The superior accuracy and clarity of the information provided by Google Earth undoubtedly provides a significant advantage to users. The acquisition of geographical coordinates, such as latitude and longitude, is a crucial aspect of real estate applications, facilitating the efficient collection of pertinent data. Furthermore, Google Earth facilitates the measurement of distances and areas, thereby enabling users to access this data without the necessity of an on-site visit. Google Earth boasts a plethora of functionalities. These include the creation of points, the display of the elevation profile of a property or real estate, and the recording of images. It is anticipated that practitioners who have not yet embraced these technological advancements will benefit from these innovations to provide more effective services. These advances will enable them to provide more efficient and high-quality services. (Ifediora & Efobi, 2022). Google Earth has become a staple of the scientific community, with its applications ranging from the correction of satellite image accuracy to the domains of cartography, geographic information systems (GIS), environmental and urban planning, land registry, transportation, forestry and agriculture (Atak, 2019). The search results for finding the region that suits the customer's demands and checking the

location of the real estate for sale are presented on web pages with Google Maps and Google Earth integrations. Google Maps offers two-dimensional functionality, while Google Earth provides three-dimensional functionality (J.-T. Hwang, 2008). The acquisition of detailed property information is of paramount importance for both prospective buyers and real estate agents. Consequently, the aggregation of all pertinent information prior to property viewings facilitates informed decision-making. This approach is mutually beneficial for both realtors and sellers, as it enables realtors to enhance the attractiveness of properties by furnishing sellers with a more comprehensive array of information, while also streamlining the identification of potential issues, thereby conserving both time and financial resources. Furthermore, multimedia-supported presentation methods, such as the use of Google Earth to showcase the property's surroundings, virtual reality models of the property, and panoramic interior views, facilitate a more comprehensive evaluation of the property by prospective buyers (J. Hwang, 2007). Geographic Information Systems (GIS) have made significant contributions to the improvement of real estate transactions and the development of professional practices. GIS facilitates the acquisition of detailed information by enabling users to pose questions regarding the geographical characteristics of real estate, such as location, size, and type. The significance of this application is considerable, and its merits are too numerous to list in full (Ifediora & Efobi, 2022).

Google Maps facilitates the incorporation of maps into web-based platforms. Utilising the tools provided by Google, applications can be developed using 3D maps, maps can be designed for mobile devices, and geographic data can be visualised. Google Street View facilitates virtual tours at street level. This application displays roads, turns, names, and street numbers in public areas and places of interest, allowing users to navigate from one place to another through images (Martínez et al., 2015). Google Maps integration is a notable feature that enables users to visualise properties on a map according to their geographical location. Interactive maps furnish users with detailed information about the locations of properties, thereby aiding them in making more informed decisions and engendering greater confidence in real estate transactions (Ghandi, 2023).

The E-Plan automation system, developed by the General Directorate of Geographic Information Systems of the Ministry of Environment, Urbanization and Climate Change, provides citizens with straightforward access to all zoning plans. The system offers a comprehensive digital repository for zoning plan modifications and finalised plans, facilitating efficient management of urban development. Users can access this system via web and mobile applications, with notifications of changes being sent to parcel owners through the E-Government portal. Parcel owners are accorded the right to object to such changes, a process that can be undertaken electronically via the E-Government portal. E-Plan, a sophisticated geographic information system application, plays a pivotal role in the digitalisation of urbanisation processes. Concurrently, it is poised to serve as a foundational element for the development of smart cities. The software will play a central role in the management of future smart cities and will provide effective solutions in many areas from urban planning to citizen services.

The General Directorate of Land Registry and Cadastre has successfully digitised and transferred archive data from the Ottoman period to the present day to the digital environment. The organisation has also implemented digital projects, including the Web-land registry application and parcel query. However, it is imperative to establish the necessary legal frameworks to ensure the seamless integration of the land registry of The General Directorate of Land Registry and Cadastre, which is currently undergoing digitalisation, into the electronic domain. The transfer of land registry records and associated documentation to digital formats is expected to enhance efficiency and reduce the time required for transactions. The advent of digital land registry applications will, in the future, enable instantaneous execution of property-related transactions, including purchase, sale and transfer (Dinlemez & Ok, 2021). The General Directorate of Land Registry and Cadastre has embarked on a digital transformation process with the objective of enhancing service quality and ensuring user satisfaction. The implementation of appropriate technologies has been demonstrated to engender positive economic contributions, including the reduction of stationery and time costs. The digitalisation process at The General Directorate of Land Registry and Cadastre has made significant progress and these developments continue rapidly (Mezkit, 2020).

The objective of this study is to ascertain how digital platforms enhance the security of real estate transactions and prevent fraudulent activities, such as the presentation of erroneous locations, while also evaluating digital solutions that enable buyers to access sufficient information about details like zoning status, geometric shape, slope, and view without having to visit the property in person. In this context, the utilisation of digital tools such as the General Directorate of Land Registry and Cadastre's Parcel Inquiry Application, Google Earth, map services (Google Maps, Bing Maps, Yandex Maps) and e-zoning systems was analysed to examine buyers' access to reliable information about the real location of the real estate, zoning status and land structure.

This study addresses the lacuna in the extant literature concerning the manner in which digital platforms enhance security, transparency and efficiency in the real estate sector. The study examines the role of digital tools in preventing fraud, verifying locations, and facilitating access to zoning information. It also demonstrates how these tools can accelerate decision-making processes.

This study investigates the role of digital platforms in the real estate sector, examining the speed, transparency and reliability they provide in the purchase-sale and management processes. The analysis and pilot field study findings demonstrate that digital tools provide rapid access to critical information about real estate, facilitate decision-making processes and increase efficiency in the sector.

2. MATERIAL AND METHOD

The parcel 6 in the block 8308, located in the Akkent Neighborhood in the Central District of Isparta Province,

was selected as the study area. The rationale behind this selection is twofold: firstly, its location on a hill, and secondly, its topography, which is characterised by a sloping land structure. While the slope of the land is determined approximately through digital platforms, the slope and elevation differences will also be clearly observed during the field study. In this study, a range of digital applications were utilised, including the municipalities' city guide and e-zoning applications, the parcel query application of the General Directorate of Land Registry and Cadastre, Google Maps, Google Earth, and the E-plan automation application of the Ministry of Environment, Urbanization and Climate Change. Moreover, a pilot study area was determined and the current map of the land was created in this area. As illustrated in Figure 1, the block 8308, located in parcel 6 of the Akkent Neighborhood within the Central Akkent Neighborhood of Isparta province, was queried using the e-City Guide application of Isparta Municipality. This action resulted in the retrieval of the 1/1000 scaled zoning plan for the specified parcel. As illustrated in Figure 1, the land is situated within the designated residential area, and the maximum permissible building height is stipulated as 21 meters.

The following criteria were employed in the analysis conducted in this study: Location and slope of the land, as well as the determination of slope and elevation differences through digital platforms. The digital applications utilised encompass e-zoning and city guide applications of municipalities, parcel query application of the General Directorate of Land Registry and Cadastre, Google Maps and Google Earth. In addition, the zoning status and construction rights of the land were also evaluated.

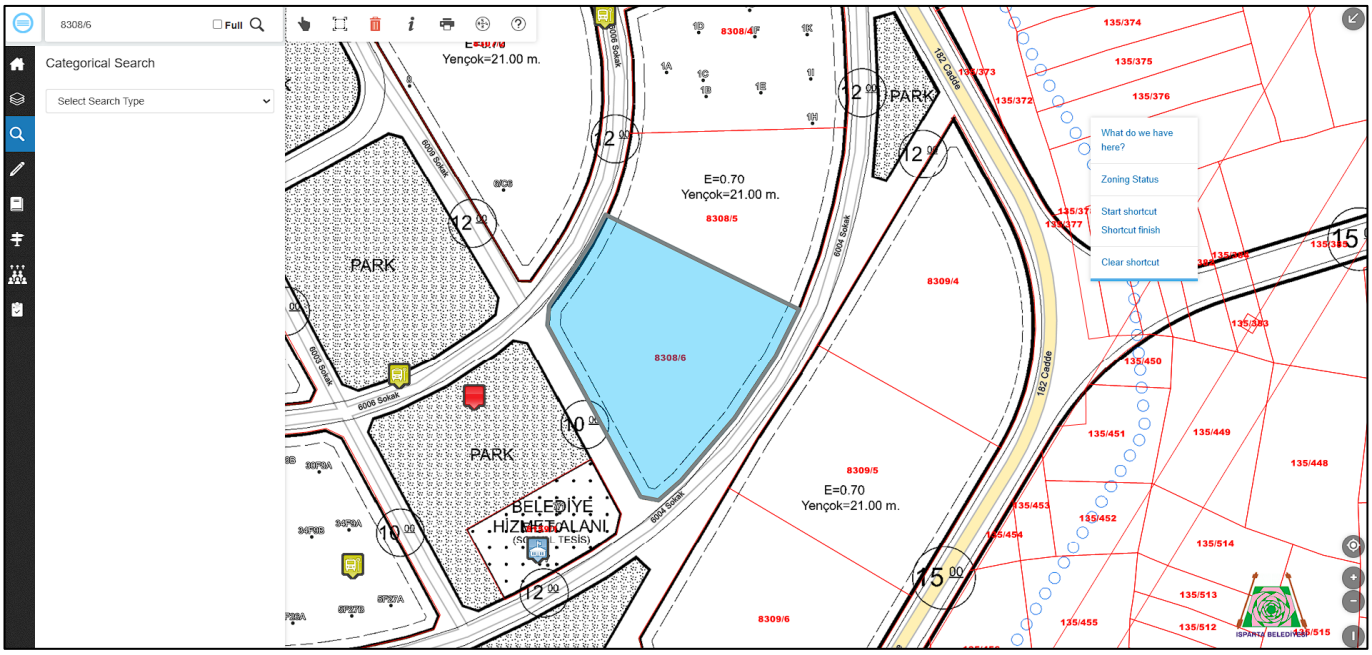

Figure 1. Parcel query in e-city guide.

In the e-city guide application, information regarding the desired area can be readily accessed by selecting layers such as "cadastre", "plan", "neighbourhood", "structure", "road" and "satellite" from the categories button. The layers in the e-city guide application are shown in Figure 2.

Figure 2. Display of layers in the e-city guide.

In the E-City Guide application, the zoning status information of the desired parcel can be accessed via the "Zoning Status" tab. Furthermore, following the viewing of the zoning status, plan notes in PDF format can be accessed, thus enabling more detailed information about the plan to be obtained. An illustrative example of zoning status, as depicted in Figure 3, is provided for reference. Upon examination of the plan, the following data can be deduced: the area value is 0.70, the maximum building height is 21 meters, there are park areas in the west and northwest of the parcel, and the Municipality Service Area is in the southwest. Consequently, all pertinent information regarding the zoning status of the parcel can be accessed via this digital platform.

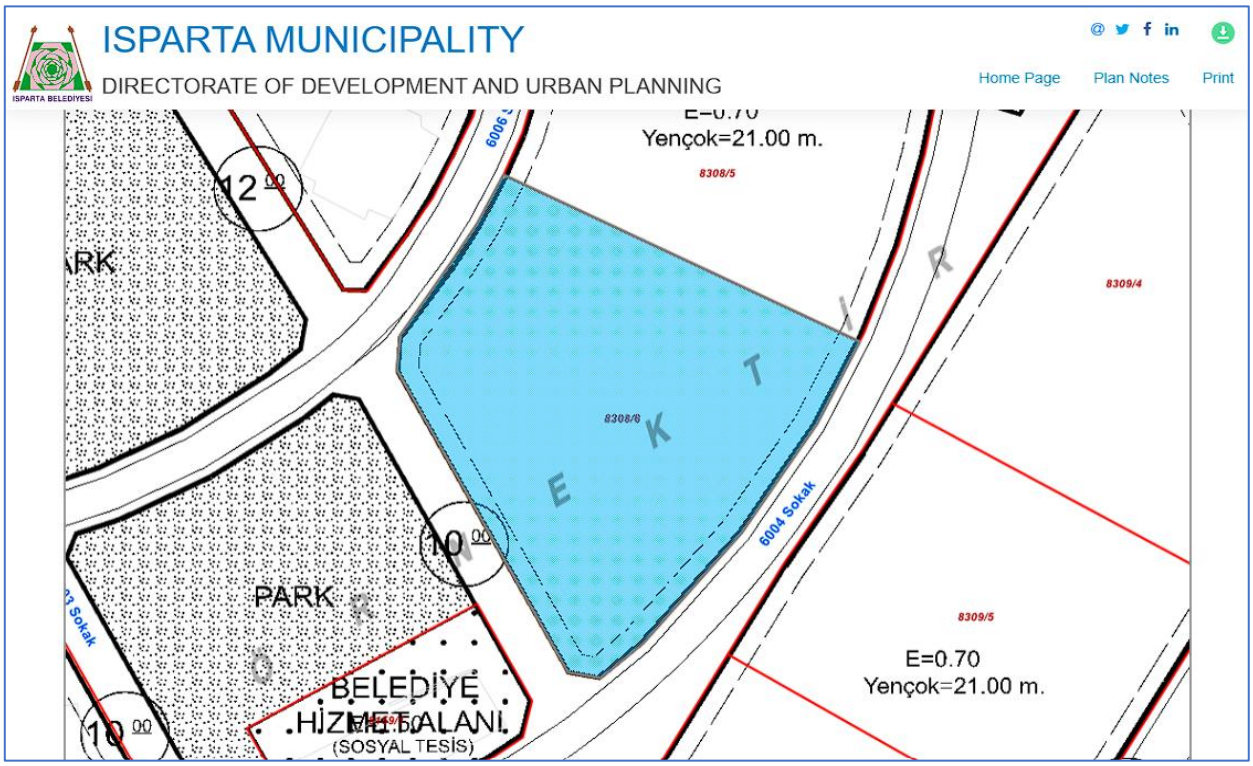

Figure 3. Zoning status display in e-city guide

As demonstrated in Figure 4, following the entry of the province, district, neighbourhood/village, block and parcel information of the real estate with the parcel query application of the General Directorate of Land Registry and Cadastre, the attribute information of the parcel and the geometric shape on the satellite image can be displayed. Moreover, in the event that the parcel contains condominiums, additional information, including the list of

independent sections, the block name, and the number of independent sections, can be accessed. Furthermore, additional data, including geographical coordinates of the corner points of the parcel, side lengths, details pertaining to the parcel, and route information, can be accessed.

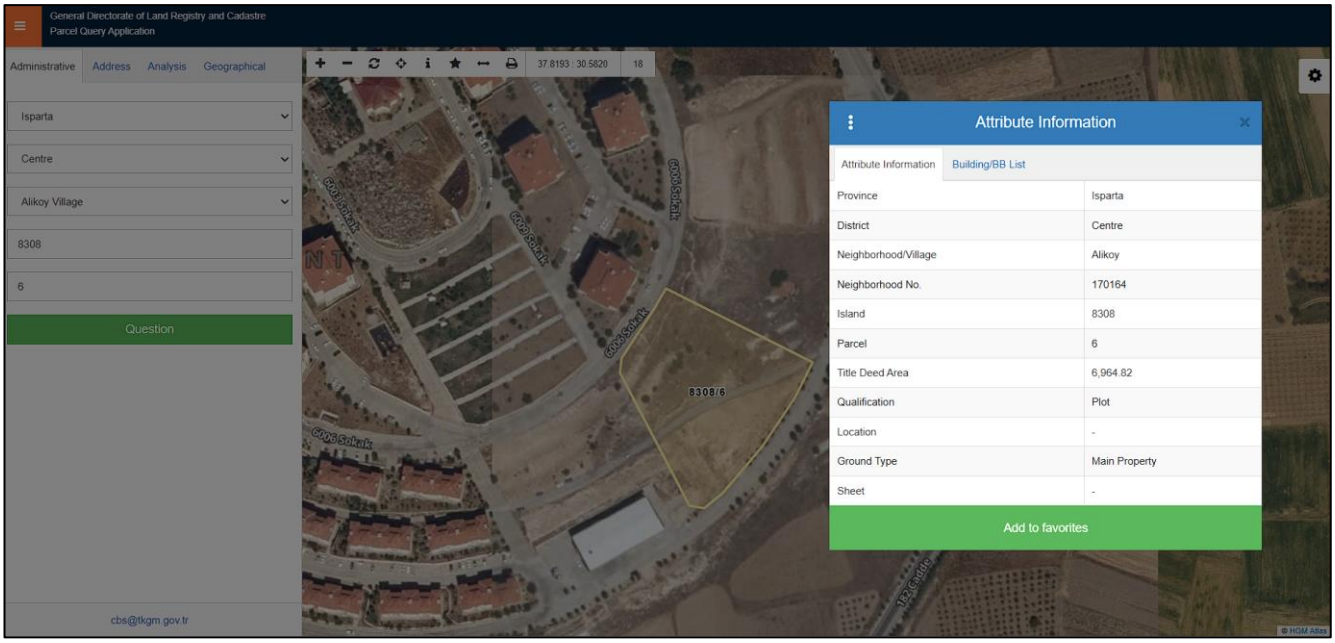

Figure 4. View from the Parcel Query Application

In order to ascertain the route to a specified parcel from one's current location, one may consult the route information provided by the parcel query application of the General Directorate of Land Registry and Cadastre. This route information can then be utilised in conjunction with map applications such as Google Maps, Bing Maps or Yandex Maps. Consequently, the closest distance to the parcel or the distance of the parcel to the city centre can be readily ascertained. As illustrated in Figure 5, the distance of the parcel to the city centre is 9.1 km.

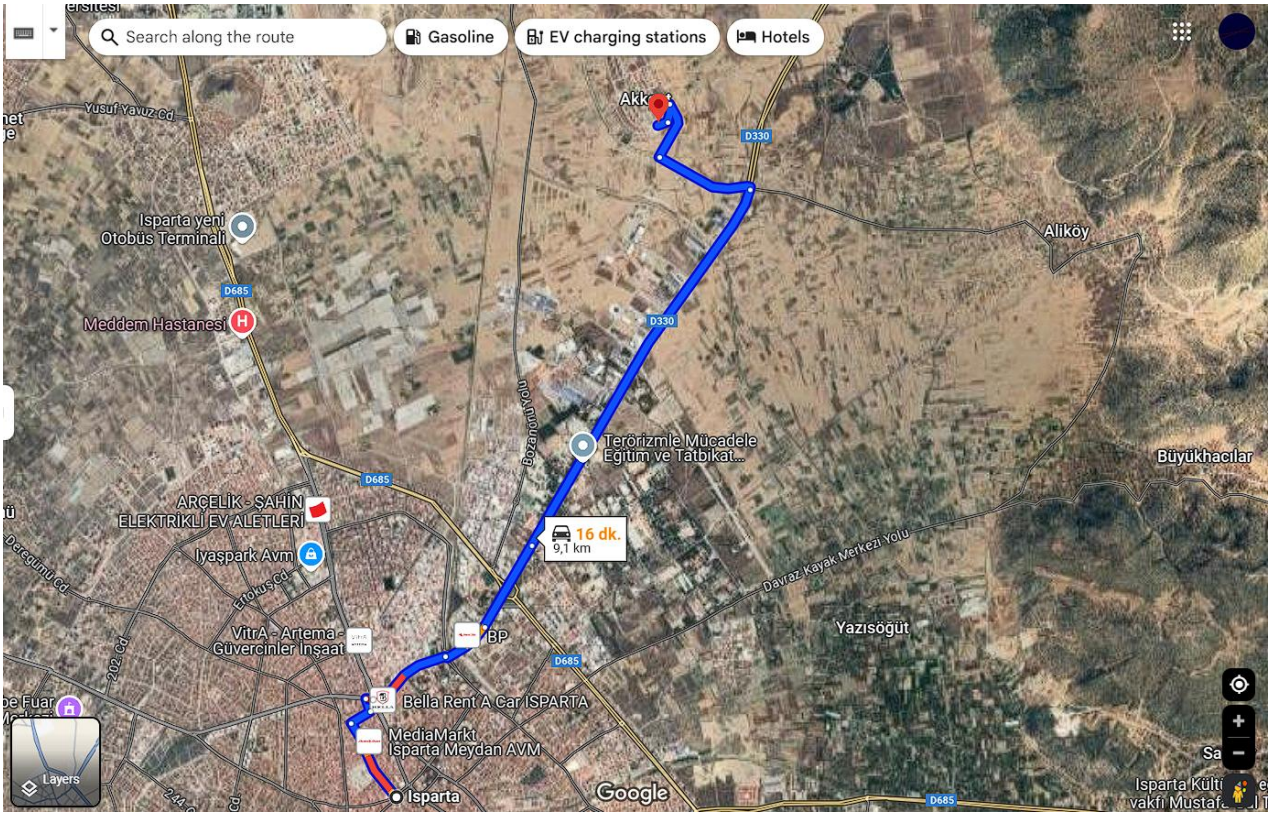

Figure 5. Navigation display (distance to center).

Following the determination of the distance of the property to the city centre, street photographs of the area in which the property is located can be accessed using applications such as Google Maps or Google Earth. These photographs provide detailed visual information about the roads, structures and the environment surrounding the property. Examination of the photograph of parcel number 6 of block 8308 in Figure 6 reveals that the parcel is located on a sloped terrain.

Figure 6. Display of street photography of the parcel

The parcel can be downloaded in KML format by selecting the download tab in the parcel query application of the General Directorate of Land Registry and Cadastre. Upon opening the downloaded file with Google Earth (see Figure 7), the geometric shape of the parcel and the attribute window can be observed on the 3D terrain. It is evident from this representation that the parcel is situated in a sloped terrain

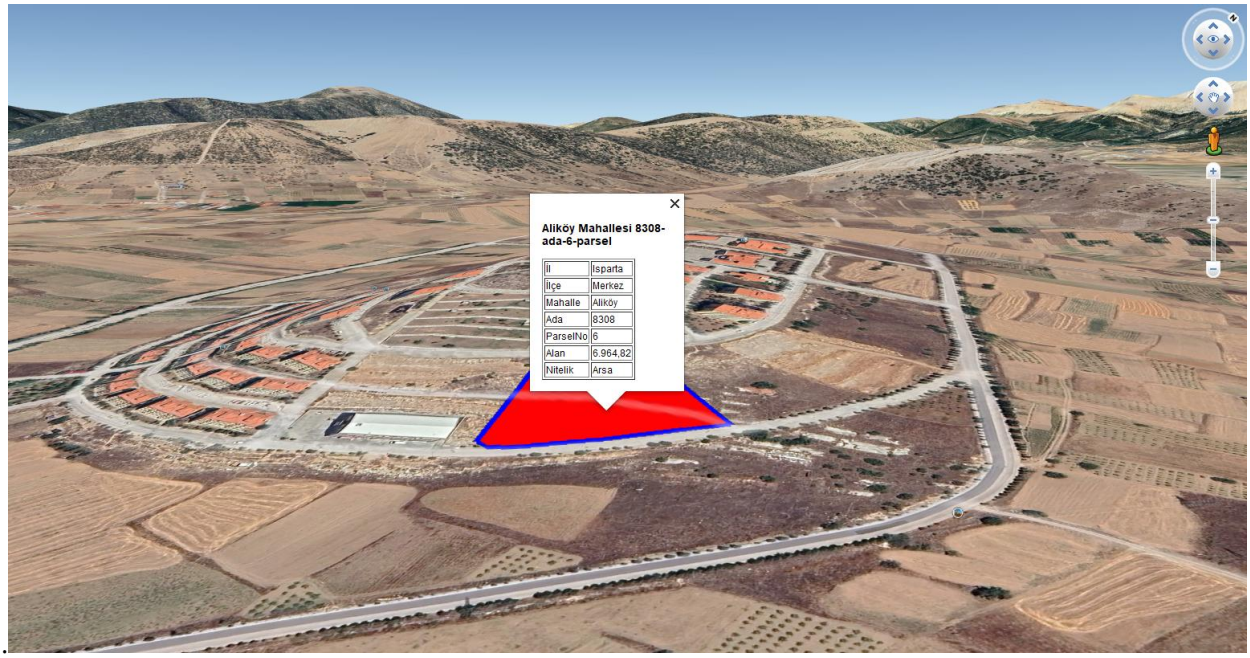

Figure 7. 3D display with Google Earth.

In the Google Earth application, an elevation profile can be created on the lines drawn transversely and longitudinally over the parcel. This process facilitates the acquisition of information pertaining to the elevation disparity and slope between the upper and lower points of the parcel. Figure 8 presents the elevation profile of the AB section of the parcel numbered 6 in block 8308, while Figure 9 illustrates the elevation profile of the CD section.

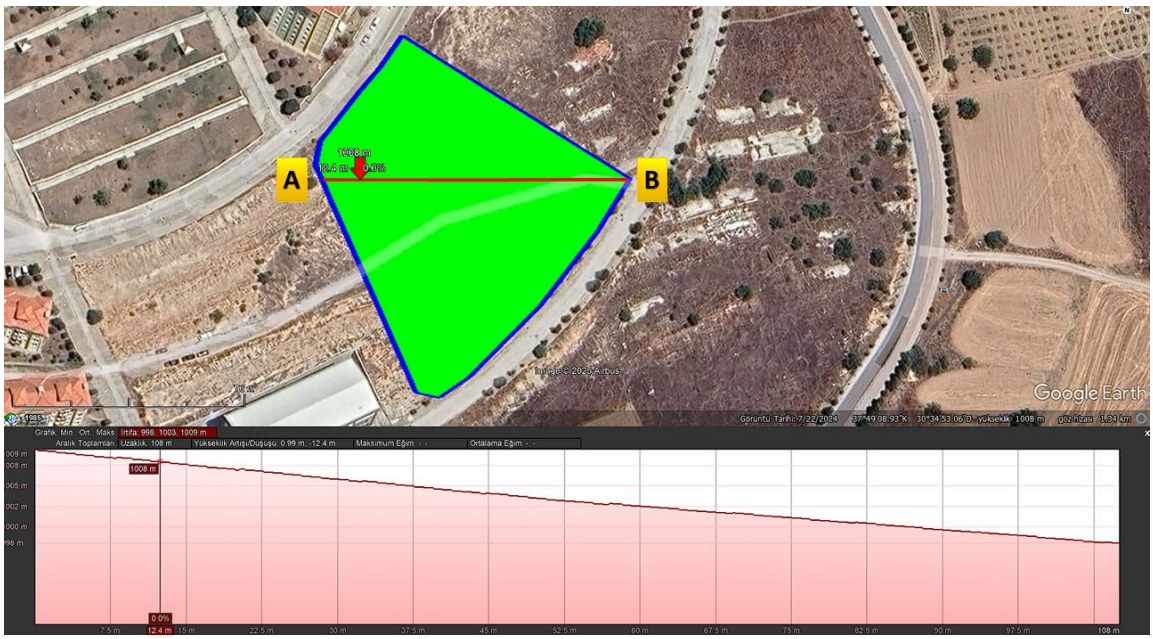

Figure 8. Elevation profile of the AB section of the parcel.

The AB section profile of the parcel reveals that the elevation of point A is 1009 metres, while point B has an elevation of 998 metres. This indicates an elevation difference of 11 meters between points A and B. The horizontal distance between these points is 101 metres. Utilising this measurement, the slope between points A and B is calculated to be approximately 11%. The CD section profile of the parcel indicates that the elevation of point C is 1012 metres and the elevation of point D is 993 metres. This indicates an elevation difference of 19 metres between points C and D, with a horizontal distance between them of 120 metres. Utilising these measurements, the slope between points C and D is calculated to be approximately 16%.

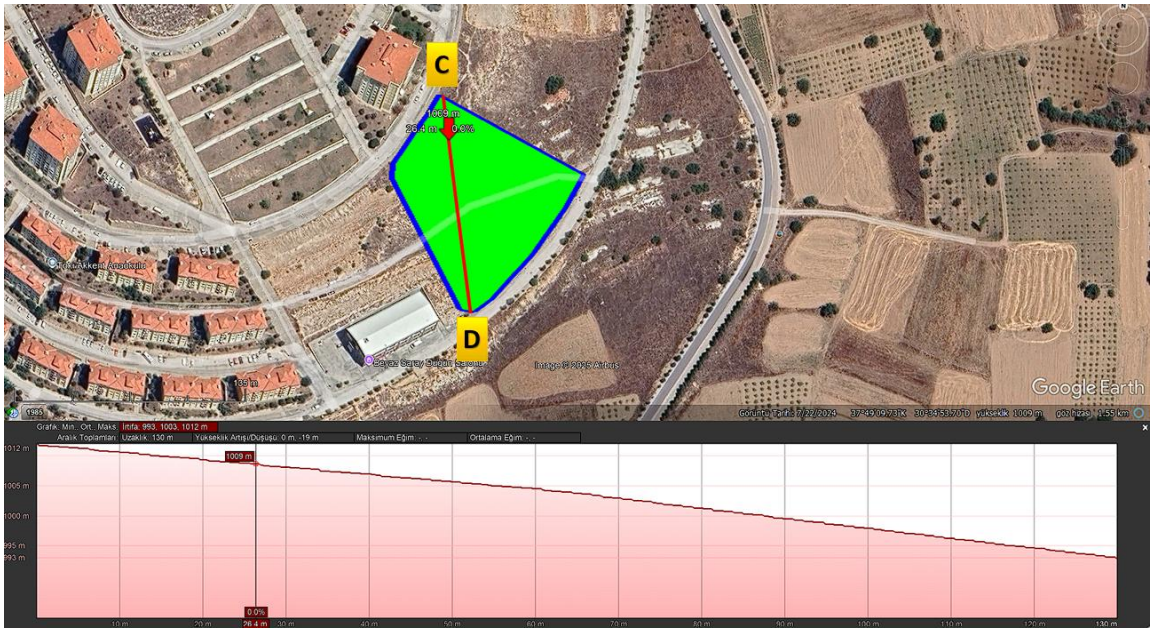

Figure 9. Elevation profile of the parcel's CD section.

The E-Plan Automation System of the Ministry of Environment, Urbanization and Climate Change (Figure 10) facilitates the retrieval of the geometric shape of the parcel by entering specific information regarding the province, district, neighbourhood or village, in addition to the block and parcel information of the location where information about the Implementation Zoning Plan is required. Thereafter, the Implementation Zoning Plan of the parcel can be brought and displayed on the satellite image. The system provides access to the 1/1000 scale Implementation Zoning Plans for all areas within Turkey that have approved zoning plans.

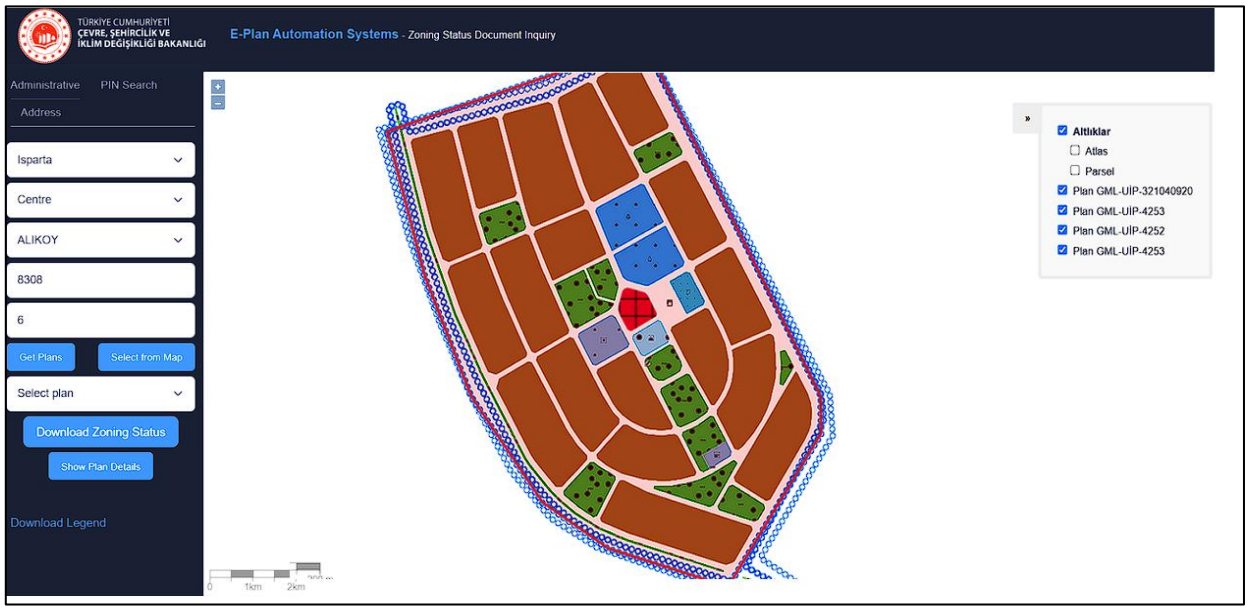

Figure 10. Zoning plan with e-plan automation system

The zoning status information of the parcel can be accessed in PDF format by selecting the "Download Zoning Status" button on the E-Plan Automation System of the Ministry of Environment, Urbanization and Climate Change. In municipalities lacking a City Guide or e-zoning application, the zoning status information of the parcels can be readily accessed via this digital platform. As illustrated in Figure 11, the zoning status document of the parcel in question was obtained from the E-Plan Automation System of the Ministry of Environment, Urbanization and Climate Change.

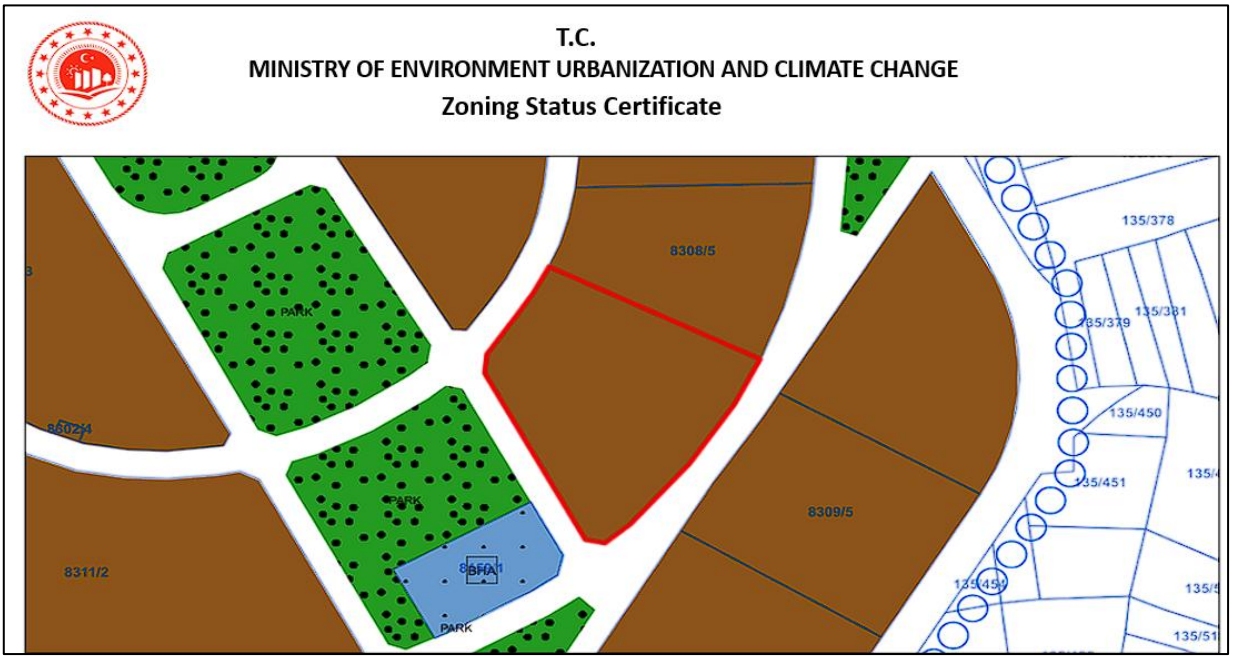

Figure 11. Zoning status with e-plan automation system.

The parcel query application of the General Directorate of Land Registry and Cadastre facilitates the display of purchase and sale transactions made in any region during the year on the parcel. As illustrated in Figure 12, the cluster map reveals the distribution of purchase and sale transactions within the Akkent Neighborhood, situated in the Central District of Isparta Province, during the year 2023. This application enables the acquisition of data pertaining to the frequency of purchase and sale transactions within the land registry of a specific region. This information can provide valuable insights for potential investors, assisting them in making informed decisions regarding their investment strategies.

Figure 12. Purchase and sale density in parcel query application for 2023 - cluster map

The Parcel Inquiry Application of the General Directorate of Land Registry and Cadastre facilitates the retrieval of attribute information regarding condominium buildings situated within a specific parcel. As illustrated in Figure 13, the "Building List" tab of the application enables the user to access the floor information (ground floor, first floor, second floor, roof, basement, etc.) and building number information of all independent sections in the selected building.

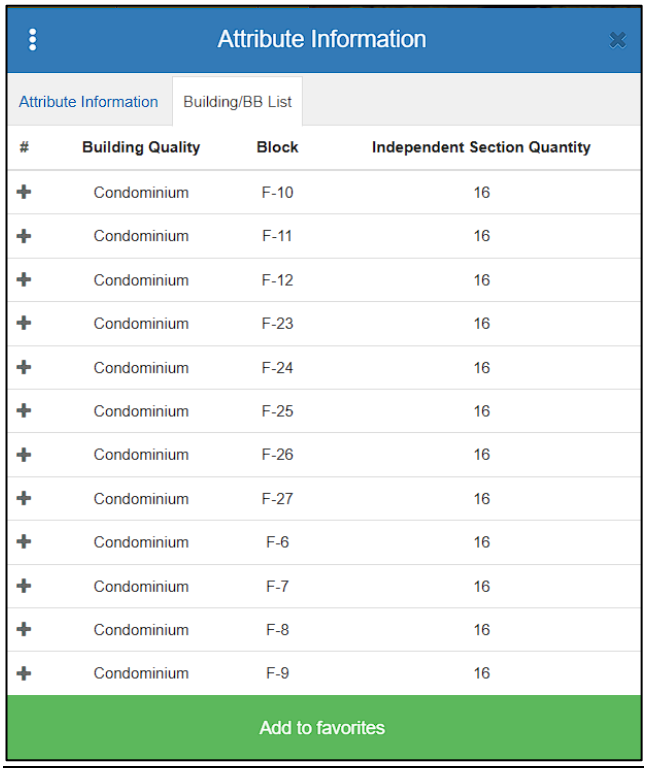

Figure 13. Parcel query building information.

3. RESULTS AND DISCUSSION

In the course of this study, a field study was conducted on the parcel within the designated study area. A GNSS was utilised to measure 200 points within the study area, thereby acquiring their three-dimensional coordinates. The obtained coordinates were transferred to a computer, and a triangular model was created. Iso-elevation curves were then passed. Consequently, the topographical characteristics of the land were thoroughly measured, and the resulting data were utilised to prepare the current map of the land, as illustrated in Figure 12. The height of the lowest point was determined as 1027 metres and the height of the highest point as 1051 metres in the measurements made on the parcel number 6 of block 8308. This data indicates an elevation difference of 22 meters between the highest and lowest points of the parcel. The horizontal distance between the easternmost and westernmost points of the parcel (horizontal distance between points A and B) was measured at 101 metres. The easternmost point has an elevation of 1033 meters, while the westernmost point is 1047 meters high, resulting in a 14-meter elevation difference. Consequently, the elevation difference between the easternmost and westernmost points of the parcel is 14 meters. The calculations made on the current map determined the slope between the eastern and western ends of the parcel to be 13.86%, as illustrated in Figure 14. The horizontal distance between the northernmost and southernmost points of the parcel (horizontal distance between points C and D) was measured at 120 metres. The northernmost point has an elevation of 1051 meters, while the southernmost point has an elevation of 1027 meters. Consequently, the elevation difference between the northernmost and southernmost points of the parcel is 24 meters. The calculations made on the current map determined the slope between the northern and southern ends of the parcel to be 20%, as shown in Figure 15.

The objective of the fieldwork in this study is twofold. Primarily, it is to prepare the current map by measuring the

topographic features of the land, and secondly, to support the accuracy of information on digital platforms.

The study conducted by Yalçın and Çatlı (2024) emphasises the impact of marketing efforts made through digital platforms in the real estate sector on customer satisfaction and loyalty. Martínez, Contreras and Valdez Cervantes (2015) emphasise that geolocation information offers a significant opportunity for the real estate sector, whereby customers can make more informed purchasing decisions by viewing the location of properties and surrounding areas on a map. Da Costa (2024) emphasises that digital real estate applications make buying, selling and renting transactions more accessible, efficient and transparent, facilitate users' research and offer the opportunity to make transactions remotely. It is also stated that artificial intelligence and digital database systems increase transaction accuracy and the market becomes more dynamic.

This study was observed that the data provided by digital platforms for land analysis exhibited substantial congruence with field measurements. Furthermore, it was demonstrated that users can access comprehensive real estate information in a timely and effective manner through digital platforms without the necessity of being physically present on the land.

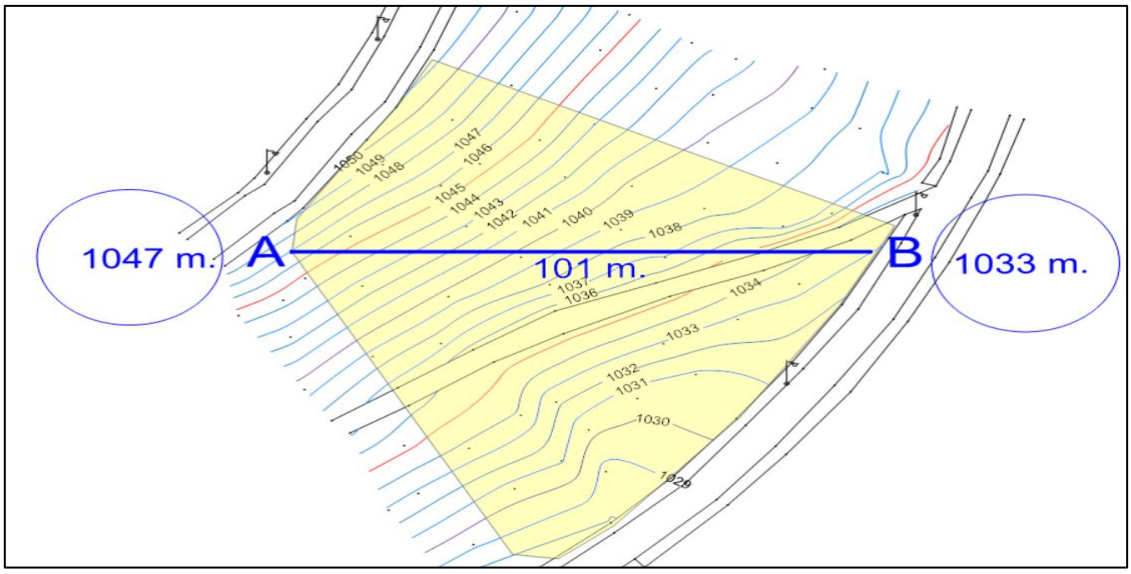

Figure 14. Elevation profile of the parcel's AB section on the current map.

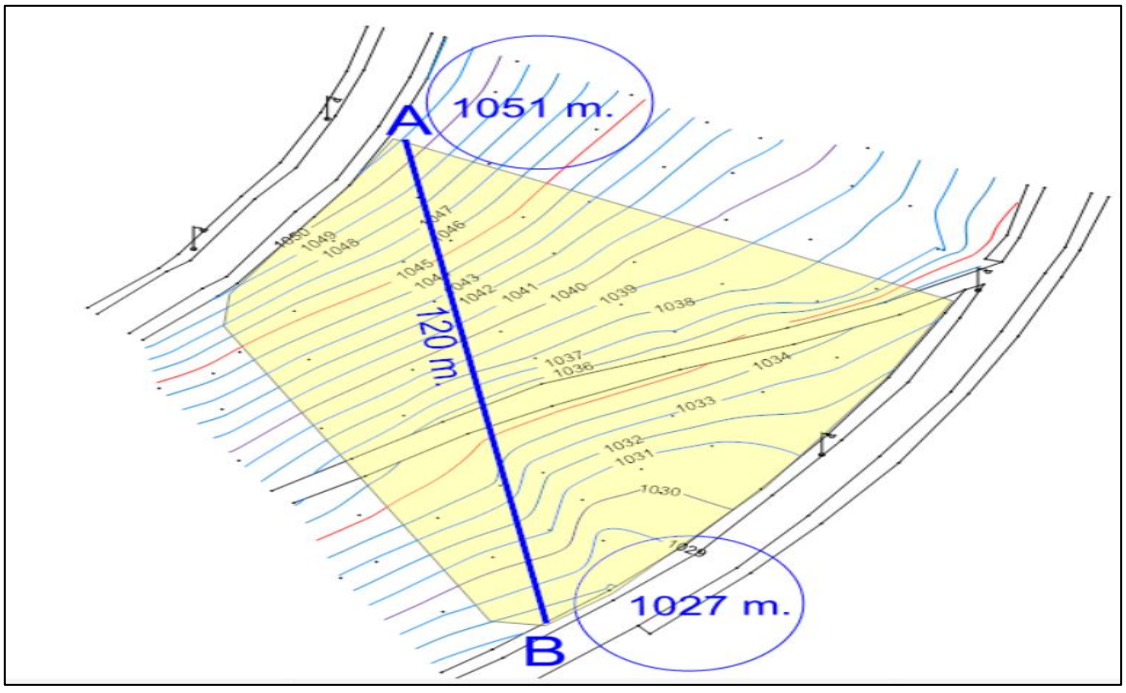

Figure 15. Elevation profile of the CD section of the parcel on the current map.

4. CONCLUSION

The utilisation of digital platforms is of paramount importance in order to prevent fraudulent activities involving erroneous location information in real estate purchase and sale transactions. In instances where real estate is registered in the land registry, but is situated in a different location and is being offered for sale, buyers may be misled and consequently become victims of fraud. The utilisation of digital applications facilitates the verification of the actual location of real estates, thereby ensuring a more secure environment for transactions and preventing potential buyers from being misled.

Digital platforms have transformed the real estate sector by enabling prospective buyers to access detailed information

about potential properties without physical visits. The parcel query application of the General Directorate of Land Registry and Cadastre enables the visualisation of the geometric shape and façade lengths of the property on satellite imagery, upon entry of the province, district, neighbourhood/village and block-parcel information. Furthermore, navigation support can be provided via map applications such as Google Maps, Bing Maps or Yandex Maps using the route information in the parcel query application. Consequently, users can access information regarding the nearest transportation options to the property, as well as the distance to the city centre.

The Parcel Inquiry Application of the General Directorate of Land Registry and Cadastre facilitates the retrieval of attribute information pertaining to condominium buildings situated on a specific parcel. In the event that the immovable property to be purchased is a flat, details such as the number of independent sections, the number of floors and the building number can be accessed through the "Building List" tab in the application. This approach serves to avert potential issues, such as erroneous independent section sales, which may be recorded in the land registry. The zoning status of the parcel of interest can be ascertained through the municipalities' City Guide or e-Zoning applications. In the absence of such an application, the necessary information can be accessed through the e-Plan Automation of the Ministry of Environment and Urbanization. This approach enables the acquisition of pertinent details, including the function of the property in the 1/1000 scaled zoning plan, the status of its floor zoning permit, its precedent value, and whether it is designated as abandoned to the road, without the necessity of physical inspection of the property.

It is possible to access a range of information, including whether the parcel is situated on a slope or in flat land, the percentage of slope, and the elevation difference between the corner points. In the context of this study, the parcel downloaded in KML format from the parcel query application of the General Directorate of Land Registry and Cadastre was opened in the Google Earth application. The elevation differences between the separation corner points were visualized via Google Earth, and transverse and longitudinal lines were drawn with the elevation profile dimensions. Following a thorough analysis, the following calculations were made: the profile slope in the AB line was calculated to be 11%, and the profile slope in the CD line was calculated to be 16%. The GNSS measurements made in the field enabled the creation of a triangle model and the passing of iso-elevation curves. The field measurement results indicated that the slope on the AB line was 13.86%, while the slope on the CD line was 20%

A series of comparisons were made using Google Earth, and it was determined that the slope difference in the AB line was 2.86%, and the slope difference in the CD line was 4%. This finding indicates that digital platforms such as Google Earth can be utilised to obtain approximate information about the slope of the land.

The integration of comprehensive details pertaining to the geometry, zoning status, slope analysis, street photographs, satellite and orthophoto images, facade lengths and surface area of a given real estate asset onto a singular digital platform will indubitably engender a substantial degree of convenience for users. Consequently, users will be able to access comprehensive information about real estate in a timely and effective manner through digital platforms.

Digital platforms have been shown to provide usable data for land analysis, and it has been observed that these data are largely consistent with field measurements. This finding indicates that digital mapping tools can serve as a reliable and effective auxiliary instrument in planning processes.

Ethics Committee Approval
N/A

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Conflict of Interest
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REFERENCES

Ahmed, A. M., Alez, R. H. A., & Babu, B. (2015). Internet-Based Geographical Information Systems for the Real Estate Marketing. *IOSR Journal of Computer Engineering (IOSR-JCE), 17*(2), 51-55.

Atak, V. O. (2019). Google Earth Uydu Görüntülerinin Konumsal Doğruluğu. *Harita Dergisi, 85*(161), 11-25.

Da Costa, M. C. R. (2024). Digital Transformation in the Real Estate Market: How Apps Are Redefining Transactions and Accessibility. *Revista Sistemática, 14*(8), 561-568. doi:10.56238/rcsv14n8-005

Dinlemez, M., & Ok, A. Ö. (2021). Türkiye'de Geçmişten Günümüze Taşınmaz Yönetimindeki Gelişmeler Ve Dijitalleşme Yolunda Atılan Adımlar. *Third Sector Social Economic Review, 56*(4), 2932-2943.

Ghandi, B. G. (2023). Online Property and Land Market with Google Maps Integration. *International Journal of Advanced Research in Science, Communication and Technology*, 801-805. doi:10.48175/ijarsct-12311

Hwang, J.-T. (2008). An embedded google earth/maps application on real estate database inquiry and display. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences XXXVII.(Part B4), 6*.

Hwang, J. (2007). *Application based on ArcObject inquiry and Google maps demonstration to real estate database.* Paper presented at the Geoinformatics 2007: Geospatial Information Technology and Applications.

Ifediora, C. O., & Efobi, D. J. (2022). Using Smart Phones-Based Apps, Computer Applications And Geographic Information System (GIS) In Real Estate Practice. *British Journal of Environmental Sciences*. doi:10.37745/bjes.2013

Jasmee, M. F., Rani, M. N., & Jaafar, J. (2017). Integration of digital cadastral database spatial coordinates towards mapping in Google Earth. *Jurnal Intelek, 12*(1), 50-54.

Martínez, L., Contreras, J., & Valdez Cervantes, L. d. C. (2015). Geographic Geolocation Search in Real Estate Marketplaces. doi:10.18687/laccei2015.1.1.280

Mashatan, A., Lemieux, V., Lee, S. H. M., Szufel, P., & Roberts, Z. (2021). Usurping double-ending fraud in real estate transactions via blockchain technology. *Journal of Database Management (JDM), 32*(1), 27-48.

Mezkit, M. (2020). Tapu ve Kadastro Genel Müdürlüğü'nün Endüstri 4.0 Uygulamaları. *Yeni Fikir Dergisi, 12*(24), 21-43.

Naeem, N., Rana, I. A., & Nasir, A. R. (2023). Digital real estate: a review of the technologies and tools transforming the industry and society. *Smart Construction and Sustainable Cities, 1*(1), 15.

Putra, I. P. G. A. A., Sediyono, E., & Setiawan, A. (2017). *E-land design of mobile application for land information system using Android-based Google Maps API V2.* Paper presented at the 2017 International Conference on Innovative and Creative Information Technology (ICITech).

Sternik, S. G., Gareev, I. F., & Akhmetgaliev, T. A. (2021). Development of a digital service for real estate transactions. *Neuroepidemiology, 25-34*, 25-34.

Yalçın, A., & Çatlı, Ö. (2024). A study on the electronic service quality of digital marketplaces in real estate marketing. *International Journal of Business and Economic Studies, 6*(2), 110-128.