



# THE PROFOUND IMPACT OF THE MOBILE APPLICATION INDUSTRY ON FITNESS

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## Abstract:

The contemporary urban way of living is characterized by the diversification of lifestyles, basically relying on the influence of modern technologies, especially on the use of Mobile applications, which have become instrumental in supporting daily activities. The culture of healthy physical exercise, and consequently the development of the fitness industry, is one of the key denominators of the contemporary urban lifestyle. This phenomenon has transitioned from the realm of health to that of a balanced lifestyle, which has been commercialized and, as a result, integrated into the broader culture of consumerism. The paper aims to present a program framework for the multifaceted utilization of digital mobile applications in the fitness industry about the diverse requirements of individuals in contemporary urban daily life. The paper establishes a cause-and-effect relationship between contemporary urban life and the fitness industry, highlighting four primary spheres of utilization for mobile applications. These include facilitating faster and more comprehensive communication between fitness service providers and users, supporting flexible lifestyle timetables, adapting to lifestyle changes related to age, gender, specific needs, and aspirations, and promoting quality control and progress monitoring of individually set goals.

## Keywords:

Contemporary Lifestyle, Urban Everyday Life, Digital Technology, Fitness Industry.

## INTRODUCTION

In relating the overall digital context of the contemporary urban way of living as a founding ground and the backbone for the utilization of Mobile applications in all spheres of life, in which the culture of healthy physical exercise is one of the key aspects, this paper presents a programmatic framework for the multifaceted introduction of digital mobile applications in the fitness industry.

Regarding the omnipresent individualization of urban society, it is widely accepted that Mobile applications make everyday life easier and less stressful. On the other hand, as products of high consumerism, they represent the appearance of belonging to the ideals of a cosmopolitan community. In balancing one's needs and aspirations, a wide network of mobile platforms has developed to support a diversity of urban ways of life, e.g., the fitness industry.

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The aim of this paper is to establish a cause-and-effect relationship between contemporary urban life and the fitness industry, highlighting key spheres of utilization for mobile applications.

The paper is structured in three parts, the first being the overall outline of contemporary urban lifestyle and the culture of healthy physical exercise, the second is the interlacing and establishing a cause-and-effect relationship between urban life and the fitness industry, and the last one is the introduction of Mobile applications with key spheres being presented through worldwide best practices in the field of the fitness industry.

Results show that even though the possibilities of utilizing mobile applications are without borders or limits, it is necessary to provide awareness of the knowledge not perceivable through artificial intelligence, securing a priority for individual encounters over virtual ones for the benefit of overall well-being.

## 2. CONTEMPORARY URBAN LIFESTYLE

Urban everyday life can be defined as a distinct way of life that differs significantly from suburban and rural lifestyles. The "cosmopolitan lifestyle" or "New York lifestyle" is a distinctive way of life that is intrinsically linked to the concept of the city as the primary facilitator of communication, integrating the diverse activities and contents of its citizens. The hallmark of the urban lifestyle is its heterogeneity, characterized by a vast array of contents and activities that cater to a diverse range of inclinations and routines among its inhabitants. This diversity is attributable to the substantial population of the city, which fosters a milieu conducive to the fulfillment of a vast array of lifestyles. [1] [2]. As [3] asserts, lifestyles represent the unique competencies of cities. Lifestyle can be understood as an expression of diverse individual tastes and preferences, and it is related to the free choice that the urban way of life implies. However, the urban way of life, characterized by its diversity of styles, is deeply entrenched in the quotidian routine of life, encompassing both private and business routines, as well as activities that must be accommodated within a 24-hour timeframe. [4].

Wirth's seminal work on urbanism delineates four fundamental characteristics of the modern urban environment that persist in their relevance today [5]. These are: a) a high degree of mobility that leads to the depersonalization of human relationships and their formalization, b) being burdened by a large number and diverse nature of activities, both professional and in the

sphere of leisure time, striving for the rationalization of space and time frame, c) the permeation of activities of a private and professional life, which is in cooperation with demographic changes, structure of the urban population and their needs and habits, and as a result of all previously mentioned, today in the 21<sup>st</sup>- century d) individualization of all spheres of everydayness. In the context of contemporary urban everyday life in the first half of the 21<sup>st</sup> century, the previous characteristics can be interpreted as follows:

- The integration of remote work and in-person professional activities within the same time frame;
- A flexible allocation of time among work, leisure, personal, and family domains;
- The evolution of personal interests and activities outside the domestic environment into a component of everyday social engagement;
- The acceleration and unpredictability of daily activities, coupled with high levels of mobility on both a daily and weekly basis;
- The integration of diverse domains such as leisure, education, work, and entertainment into a cohesive, fluid entity devoid of a precisely delineated schedule or durations;

In the context of quotidian life, individuals adhere to stylistic determinants that reflect their individual preferences and habits. This adherence complicates the determination of temporal, durational, and spatial parameters that define quotidian activities. Consequently, individuals perpetually adjust to these parameters. Their development schedule is frequently hard to establish in advance due to the constant interaction with the city and its inhabitants [6]. Consequently, activities that facilitate shared experiences between individuals and the city allocate minimal time for personal and mental well-being, which must often adapt to the prevailing rhythm of preceding activities. The aforementioned way of life necessitates a state of preparedness and stability, both physical and mental, a considerable degree of energy, and adherence to the standards of a good and quality life. This, in essence, entails a healthy way of life. In response to the challenges posed by urban living, there has been a notable development of a culture of healthy exercise. This cultural phenomenon has emerged as a critical dimension of urban everyday life, wielding a growing influence over the past two decades. The complexity of this cultural shift has transcended the domain of health, extending into the realm of lifestyle. It has evolved into a social norm, a value, and a behavioural paradigm.



Incorporated into routine activities, it prioritizes health and longevity, thereby gaining significant traction over the past decade, particularly due to technological advancements that facilitate real-time monitoring of its benefits [7]. The concept of the "Quantified Self", a contemporary phenomenon characterized by personalized and quantitative monitoring of achievements in the domains of health and active living through the utilization of smartwatch technology, has gained prominence. This technological tool quantifies and facilitates the realization of healthy habits promoted by the wellness culture [8], ranging from exercise (cloud health status) to quality sleep, nutrition, water consumption, and weight and body composition management, among others (human-centric platform). These recommendations are customized to align with an individual's age, specific needs, and lifestyle habits, ensuring a personalized approach to health enhancement [9].

In such circumstances, the culture of healthy exercise becomes one of the fundamental prerequisites of urban life and a mandatory component of daily activities. The prevailing 20<sup>th</sup>-century paradigm regarding exercise culture, which advocates for incorporating regular exercise at least two to three times per week in clearly delineated sessions in a designated location for 45 to 90 minutes, becomes impractical in the context of unpredictable daily life. In recent years, the culture of healthy exercise has evolved, shifting from a focus on structured exercise regimens to a more holistic approach that incorporates balanced nutrition and a well-managed daily routine. This shift has led to the emergence of diverse exercise modalities, such as Yoga, Zumba, Aqua-cycling, the Keto diet, and the Paleo diet, among others, all of which are tailored to individual lifestyles. Exercise has become commercialized and institutionalized, catering to individual needs. In the context of the urban lifestyle, the fitness industry, shaped in this manner, must respond to the diverse demands of daily life. In the context of the previous changes imposed by daily life in the 21<sup>st</sup> century, the following questions emerge.

- First, how should individuals adapt their exercise routines to the unpredictable daily rhythm of private and professional activities and their mobility?
- Secondly, how to integrate healthy exercise activities into an already complex mix of private, professional, educational, and leisure activities is of particular interest.
- Furthermore, how can diverse lifestyles be put into a cohesive set of routines that align with the principles of healthy exercise?

- Furthermore, in which way to develop metrics to assess and monitor the progress of individuals utilizing fitness services?
- Finally, how to enhance the flexibility of communication between users and fitness service providers to ensure the effective delivery of services and the satisfaction of all parties involved?

The aforementioned inquiries constitute specific requirements, primarily with regard to the flexibility and adaptability of the program, its implementation modalities, scheduling, the time and duration of health-promoting exercise activities, and the adaptation to a high degree of user mobility. Additionally, there is a need for the networking of several different activities and content that supports a holistic approach to wellness culture. This culture, in addition to an active culture of healthy exercise, encompasses several other activities and contents that support the previous ones.

### 3. DIGITAL TECHNOLOGIES AND THE CULTURE OF MOBILE APPLICATIONS

Digital technologies have reconfigured the value of authentic communication among individuals, as well as between individuals and municipal functions and content. Consequently, the paradigm of communication shifted from the physical city to the virtual realm [10]; [11]. The advent of the pandemic has further exacerbated this trend, leading to a pronounced shift in human interaction patterns, particularly in terms of physical interaction and temporal dynamics. The advent of virtual cyber communications and virtual spaces and activities has reconceptualised the relationship between humans and space [12], and consequently, the relationship to everyday routines, and also to the culture of healthy exercise and consequently to the fitness industry, building a new framework in the literature known as mFitt, i.e. Fitness Apps [13]. Visual experience has emerged as the predominant quality of spatial experience, while the perpetual possibility of communication has become the quintessential quality of temporal experience. Digital technologies, facilitated by mobile applications, have emerged as instrumental in providing these experiences within this domain [14]; [15]. The integration of technology into domestic life has become a prevalent aspect of contemporary existence, accompanied by the utilization of applications for a wide range of activities. The integration of Culture m APPS (Culture of Mobile Applications) into our lives has become pervasive. These applications have become so pervasive that their absence



would significantly hinder our daily lives. These applications have been designed with the intention for use across all spheres of life, especially for daily routines.

mApp (Mobile application) is rapidly entering the Fitness industry and through mFitt (Mobile Fitness) establishes a standard of response to the aforementioned needs of the culture of healthy exercise in relation to the modern urban lifestyle. It has been incorporated in several satisfactory ways:

1. The possibility of visiting a fitness club in several locations and even in several cities, depending on where the user is located;
2. Flexibility of the visit time and adaptability of the provided services in relation to the current needs and wishes of the client, as well as his health condition (stress level, exhaustion, way of spending time during work, available time, exercise intensity, etc.);
3. Adapting exercises to lifestyle (remote access, several times a week shorter, fewer times a week longer, variety of activities, and the like.
4. Networking of several different contents that follow a healthy way of exercising and living as well as their permanent monitoring.

### 3.1. EXAMPLES OF GOOD PRACTICE IN THE APPLICATION OF MFITT

In metropolitan regions, digital platforms and smart devices have emerged as pivotal intermediaries between service recipients and providers, thus fostering the proliferation of mFitt applications. In alignment with the aforementioned requisites, this segment of our study will henceforth present a compendium of exemplary practices presenting the extensive accessibility of mobile applications within the domain of fitness.

### 3.2. SUPPORTING FLEXIBILITY BETWEEN FITNESS USERS AND PROVIDERS

In support of the possibility of visiting a fitness club in multiple locations through applications that provide support in communication between users and service providers, a large number of platforms have been developed in the last decade that allow visiting a larger number of different fitness clubs through a unique system. This development has facilitated the provision of fitness services, allowing users to access a diverse array of activities and content across multiple locations, times, and fitness brands. Additionally, it has enabled fitness

clubs to offer their programs and services in a more flexible, efficient, and competitive manner. Prominent platforms developed in this domain include Fitpass, ClassPass, Gympass, Urban Sports Club, WellnessLiving, Mindbody, and MoveGB, among others.

FitPass is perhaps the most popular in our region, available in all major cities of Serbia. This subscription provides users with access to a large number of gyms, sports facilities, and swimming pools. To gain entry, users simply need to scan the application or QR code, which grants them access to the facility and its amenities (<https://fitpass.rs>). Comparable platforms include the Urban Sports Club platform, which is present in the European Union (<https://urbansportsclub.com/en>), the WellnessLiving platform, and the MoveGB platform, which is recognized in Great Britain (<https://get.movegb.com/>). The ClassPass platform employs a more comprehensive approach, offering access to fitness and wellness centers through a credit system that facilitates the booking of desired sessions and treatments. ClassPass has gained notable popularity in the United States, Europe, and Asia (<https://classpass.com/>). Gympass, for instance, is designed for corporate fitness programs, offering corporate employees access to fitness centers and online training through a single subscription (<https://wellhub.com/en-us/employees/>).

### 3.3. ENHANCING COMMUNICATION BETWEEN SPECIFIC FITNESS BRAND AND THEIR USERS

To ensure the flexibility and adaptability of providing multiple services within a single brand, digital platforms and mobile applications are being developed. These platforms facilitate faster, more accessible, more open, and simpler communication between the client and the chosen brand. This communication occurs through several different programs within one package of services, as well as through the flexibility of their mutual combinability. This mode of connection finds frequent application in modern fitness services, leveraging digital tools, social networks, and interactive platforms.

A notable example is AFC Studio Star, which utilizes the GoFitness application to enhance communication with clients and streamline appointment scheduling. This application empowers clients to create personalized schedules that align with their commitments and adjust them dynamically according to their individual rhythms. The client is empowered to select the preferred time, day, and program of interest (Pilates, corrective exercises, individual class, or BODYART). A notable





aspect of the platform is its flexibility, allowing clients to exercise autonomy in scheduling, location, and program selection. This adaptability is further exemplified by the comprehensive range of options, including Pilates, corrective exercises, personalized classes, and BODYART, as detailed on the AFC Studio Star website.

#### 4. AI PERSONAL SUPPORT

In order to facilitate adaptation to rapid changes in needs and methods of exercise, as well as the implementation of exercise programs with assessment and monitoring of individualized services according to clients and their desired goals and health conditions, starting from sensor data logging, activity recognition, to on-top skill assessment, using the phone's built-in sensors, is essential. The contemporary generation of people utilizes smartphones, which are equipped with a plethora of sensing, communication, and computing capabilities. These devices offer an ideal platform for replicating some of the repetitive services of personal trainers in a way that is accessible to and affordable for virtually everyone [16]. This integration of mobile applications into everyday life is a significant development, fostering a closer and more intimate relationship between technology and society. This integration into daily life is accompanied by the potential for numerous benefits.

A notable holistic example is the UP150 concept [17], which focuses on corporations and provides employees with a permanent program of all-day shorter health exercises that encourage a healthy lifestyle. This program, which is installed in the office space, uses a

wide variety of tools and devices to remind employees to regularly hydrate, take short physical activity breaks, and play relaxing anti-stress music. The comprehensive program, which is part of work duties, also provides the satisfaction of personal needs, both health-related, emotional, and motivational.

Numerous applications are available to assist in the proper implementation of exercises. For instance, WellToDo (<https://www.welltodoglobal.com/post/virtuagym-launches-ai-powered-fitness-coach/>) and similar programs employ AI to suggest a set of exercises and automatically adjust the program through progress monitoring, ensuring the correct execution of exercises through a video connection. Other applications, such as Alfa-ai and StayFitCentral (<https://www.alfa-ai.com>; <https://stayfitcentral.com/endura-the-only-ai-workout-coach-youll-ever-buy/>), employ similar AI-powered methods to suggest exercises and adjust programs based on a user's health status and several quantifiable health measurements. The primary function of this mFitt application is to provide assistance in the execution of exercises, motivation during and prior to exercise, and support in daily routines that promote physical activity. Additionally, it is noteworthy that the application can adapt exercises to suit the individual abilities and preferences of clients.

In the context of Serbia, a notable illustration is provided by the Dr. FeelGood initiative, which, through the Zona Zdravlja application, offers a program that enables the personalization of the speed, time, and location of implementation, along with accompanying services that focus on the promotion of healthy eating habits and behaviors.

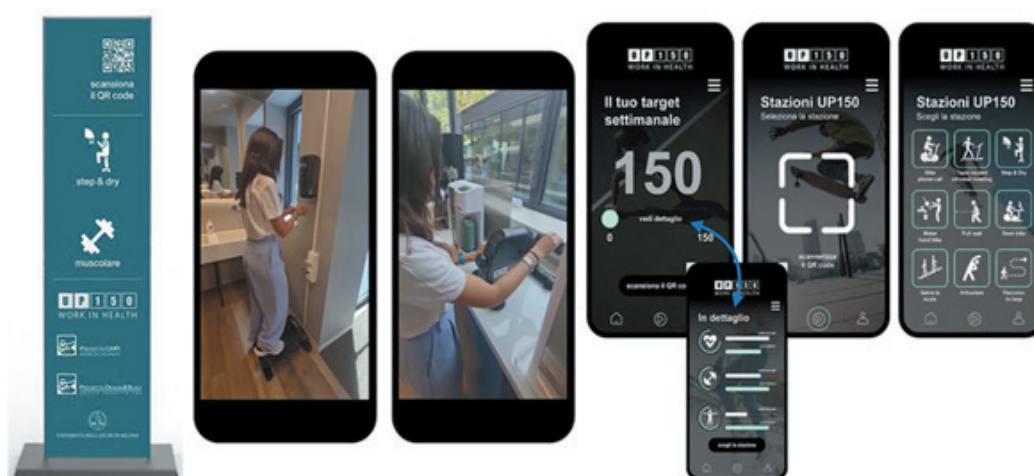


Figure 1. Example of architectural changes and setting for the UP150 office concept, and interaction with the UP150 App [18]



#### 4.1. SMART MOBILE FITNESS AND WELLNESS APP

These platforms empower users by allowing them to customize their program and exercise system, dietary habits, and overall health. These applications facilitate the tracking of progress, the provision of real-time recommendations, and the integration of various components of a healthy lifestyle, sleep, stress level, and other factors into the daily routine. Daily activation control utilizes mobile phones and smart watches to monitor activities. CloudFit is a prominent example of a smart mobile platform for fitness and wellness, offering holistic health programs with personalized exercise, nutrition, and sleep plans. This application was developed by former athletes and includes a comprehensive wellness program that addresses the physical, psychological, emotional, and health aspects of well-being.

Additionally, there are devices designed for data collection, such as the GOQi wearable device, which gathers information without undergoing further analysis or providing activities and content. Other examples include Samsung Health and Apple Health, which facilitate the recording and management of fitness activities such as running, cycling, and swimming. The integration of the Galaxy Watch with the aforementioned application enables users to exercise more efficiently.

These platforms constitute an integral component of a progressively sophisticated ecosystem of smart fitness and wellness applications that leverage advanced technologies to enhance users' health and overall well-being. These applications' capacity to customize exercise regimens according to individual requirements and to deliver real-time assistance renders them a highly beneficial resource for individuals seeking to adopt a healthier and more active lifestyle.

## 5. DISCUSSION AND CONCLUSION

The present day is characterized by a profound interconnection between artificial intelligence (AI) technologies and urban everyday life. The fitness industry, undergoing rapid development, is susceptible to adjustments and transformations in its internal and external structure and content through the implementation of mFitt applications. The mFitt has the capacity to address and fulfill the demands of contemporary life, encompassing flexible scheduling and location, customized and adaptable programs and content, and continuous expansion of services. Drawing from illustrative cases of best practices, it can be concluded that the utilization

of mobile applications is pervasive. These applications, which are branded and part of the fitness industry, are primarily aimed at the urban population and are driven by commercial interests. The primary advantage of these applications lies in their ability to promote the integration of fitness into all aspects of life, thereby enhancing overall well-being and facilitating the attainment of a healthy and prosperous lifestyle. However, it is evident that certain aspects of a healthy physical exercise routine, particularly those that necessitate a sophisticated body of knowledge that trainers can impart to users of services, cannot be fully addressed by technological services or digital applications. Consequently, it is imperative to employ these technologies judiciously and to prioritize educational programs that serve not only as lifelong learning opportunities for educators and service providers but also for service users who, in the context of contemporary life, may not be able to promptly seek in-person professional assistance and guidance. The heterogeneity of the product range can generate an effect that is antithetical to the prevailing trend of fitness consumerism. This phenomenon does not stem from a contemporary and authentic demand for health benefits that emerge from an urban, predominantly sedentary lifestyle. Rather, it manifests as a form of leisure activity, a fleeting trend in its own right. Consequently, there is a pressing need to educate users in all domains of the fitness industry to mitigate the misconceptions surrounding the substitution of personal services for technologically advanced and artificial solutions to the greatest extent possible.

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