

# DESIGN AND IMPLEMENTATION OF ANDROID BASE PHYSICAL FITNESS APPLICATION

Sakshi lambat <sup>a,\*</sup>, Prajkta Gadpayle <sup>a</sup>, Prachi lohi <sup>a</sup>, Aarti Bagde <sup>a</sup>,  
Prof Shubhangi Chaware <sup>b</sup>

<sup>a</sup> Student, Department of IT, Nagpur Institute of Technology, Nagpur.

<sup>b</sup> Associate Professor, Department of IT, Nagpur Institute of Technology, Nagpur.

**Abstract:** Physical Fitness is important for having a healthy lifestyle. Being physically fit becomes very strenuous for youth due to busy schedules and workloads. Before the Industrial Revolution, carrying out the day's activities helped to be healthy. However physical fitness is now considered the ability of a body to perform function efficiently and effectively.

Youth has chosen a lifestyle that is unhealthy and unfit. This unhealthy lifestyle gives birth to many diseases. It seems that an unhealthy lifestyle not only affects physical fitness it's also affecting mental health. After the pandemic, it was observed that the availability of seats in hospitals became very difficult. There are several diseases that can be cured at home if we can find solutions based on the symptoms.

Physical Fitness app will help in finding out the home treatment for several diseases. It will help for good physic, a strong immune system, a healthy lifestyle, and a peaceful mind.

**Keywords:** Physical Fitness, Health Tracking, Mental Health Exercise, Android App, Firebase

## I INTRODUCTION

In today's tech world android applications are providing reliable solutions for physical fitness. Where people can find the treatment online at home by just searching for the solution based on the symptoms. “PHYSICAL FITNESS APP” deals with all kinds of physical activity and exercise which will help users to live a healthy lifestyle. This app will help in maintaining mental and physical health. This physical fitness app understands the physical health and fitness patterns among all those people who face day-to-day health problems.

This physical fitness app understands the physical health and fitness patterns among all those people who face day-to-day health problems. This will help in tracking fitness by providing some exercises on a daily basis. The aim is to provide solutions according to the symptoms such as avoiding junk food, and providing a list of foods that are good for our health.

## II LITERATURE SURVEY

### **Frailty and Physical Fitness in Elderly People: A Systematic Review and Meta-analysis [17 November 2020] [1]:**

This paper is written by David Navarrete-Villanueva and suggests a clear association between physical fitness components and frailty syndrome in elderly people. The Strategies mentioned will help to prevent frailty in the elderly.

### **Association of Physical Fitness with Intelligence and Academic Achievement in Adolescents [2]:** This paper is written by Francisco Javier Gil-Espinosa. In this, studies to advance our understanding of intelligence and academic achievement could be relevant for designing school-based programs. This is a great step that could be taken by schools toward the health of students.

### **Physical fitness and academic performance in youth: A systematic review [07 October 2016] [3]:** This paper contains Physical fitness (PF) is a construct of health- and skill-related attributes that have been associated with academic performance (AP) in youth. Cross-sectional and longitudinal studies examining the association between at least one component of PF and AP in children and adolescents, published between 1990 and June 2016, were included.

### **Influence of physical fitness on cognitive and academic performance in adolescents: A systematic review from 2005–2015 [04 Sep 2016] [4]:** This paper is written by Alberto Ruiz-Ariza. The aim of this systematic review was to investigate the association of different components of physical fitness on cognitive performance (CP) and academic performance (AP)

in adolescents, taking into account potential confounders. Studies were identified in four databases (Pubmed, SportDiscus, Web of Science, and ProQuest) from January 2005 through to January 2015.

**Associations between physical fitness components with muscle ultrasound parameters in prepubertal children [14 January 2022] [5]:** This paper is about Muscle ultrasound technology technique to visualize normal and pathological muscle tissue as it is non-invasive and real-time. This evaluate the association between physical fitness components with muscle ultrasound parameters in prepubertal children.

**Association of physical fitness with health-related quality of life in early postmenopause [16 April 2016] [6]:** This paper is written by P. Aranda & V. A. Aparicio. The objective of the paper was To assess the association of different components of physical fitness with HRQoL in early postmenopause.

**Physical Fitness, Physical Activity, and the Executive Function in Children with Overweight and Obesity [May 2019] [7]:** The study examines the associations of physical fitness and physical activity with executive function in children with overweight and obesity.

**Physical fitness and shapes of subcortical brain structures in children [27 March 2018] [8]:** The paper is written by Andres Catena and Cristina Campoy. Physical fitness in childhood and adolescence is currently considered a strong predictor of health at these ages. Several authors have recently reviewed the literature on this novel topic and summarized what is currently known about physical fitness and the brain in young people.

**Relation between physical fitness and executive function variables in a preschool sample [30 January 2020] [9]:** This study examined the association between key components of physical fitness with inhibition and cognitive flexibility in preschoolers.

**Stability of physical activity, fitness components and diet quality indices [14 September 2016] [10]:** Regular physical activity (PA), a high level of fitness and a high diet quality are positively associated with health. However, information about stability of fitness components and diet quality indices is limited. This study aimed to evaluate the stability of those parameters.

**The association between gait and physical fitness in adults with intellectual disabilities [11]:**

Gait deviations are often seen in adults with intellectual disabilities (ID). Their low physical fitness levels may be associated with these deviations. Understanding the impact of fitness on gait in this population is important for developing interventions to improve gait.

**The relationship between physical fitness and health self-assessment in elderly [21 June 2019] [12]:** Health self-assessment is the one of the main elements of the quality of life. In older people it is associated with functional efficiency. The aim of the study was to determine correlations of physical fitness and health self-assessment.

**Fitness training for cardiorespiratory conditioning after traumatic brain injury [13]:** Reduced cardiorespiratory fitness (cardiorespiratory deconditioning) is a common consequence of traumatic brain injury (TBI). Fitness training may be implemented to address this impairment.

**Functional training in comparison to traditional training on physical fitness and quality of movement in older women [ 25 July 2020 ] [14]:** The functional training (FT) is based on the application of exercises with free weights in patterns of movements that resemble the daily activities of the individual. On the other hand, traditional training (TT) seeks to improve muscular fitness, through exercises predominantly performed in conventional machines. Lately, there has been a lack of research comparing these two methods to understand their real effects on functionality.

**Physical exercise training interventions for children and young adults during and after treatment for childhood cancer [ 31 March 2016 ] [15]:** A decreased physical fitness has been reported in patients and survivors of childhood cancer. This is influenced by the negative effects of the disease and the treatment of childhood cancer. Exercise training for adult cancer patients has frequently been reported to improve physical fitness.

## PROJECT MODULES

### 1. Registration:

- In this module there is the facility of the User Registration by Mobile OTP.

- The data about the user is stored on firebase to communicate the user directly as per their requirements and needs.

## **2. Diseases Checker:**

- Diseases checker consists of various sections such as Diseases Symptoms , Info about diseases and diet plan to recovery.
- By Symptoms users can find their possible disease and according to that particular disease they can find treatment home remedies.

## **3. Nearest Medical facilities:**

- By using google map API users can find the nearest Medical facilities such as Medical store, Hospitals, etc.

## **III CONCLUSION**

In this paper, research is done on physical fitness and mental health which will help in finding online solutions based on several diseases. The main aim of this application is to help people and provide online solutions in the early stages of diseases. With the help of the app, user can track their physical fitness and mental health. The paper has highlighted the importance of physical fitness and solutions using android applications. The solution helps users and provides opportunities in the business areas.

## **IV ACKNOWLEDGMENT**

This work is done under the guidance of faculty members and by students of the Department of Information Technology, Nagpur Institute of Technology Nagpur, India.

## **REFERENCE**

1. Frailty and Physical Fitness in Elderly People: A Systematic Review and Meta-analysis [17 November 2020]
2. Association of Physical Fitness with Intelligence and Academic Achievement in Adolescents
3. Physical fitness and academic performance in youth: A systematic review [07 October 2016]
4. Influence of physical fitness on cognitive and academic performance in adolescents: A systematic review from 2005–2015 [04 Sep 2016]
5. Associations between physical fitness components with muscle ultrasound parameters in prepubertal children [14 January 2022]
6. Association of physical fitness with health-related quality of life in early postmenopause [16 April 2016]
7. Physical Fitness, Physical Activity, and the Executive Function in Children with Overweight and Obesity [May 2019]
8. Physical fitness and shapes of subcortical brain structures in children [27 March 2018]
9. Relation between physical fitness and executive function variables in a preschool sample [30 January 2020]
10. Stability of physical activity, fitness components and diet quality indices [14 September 2016]
11. The association between gait and physical fitness in adults with intellectual disabilities
12. The relationship between physical fitness and health self-assessment in elderly [21 June 2019]
13. Fitness training for cardiorespiratory conditioning after traumatic brain injury
14. Functional training in comparison to traditional training on physical fitness and quality of movement in older women [ 25 July 2020 ]
15. Physical exercise training interventions for children and young adults during and after treatment for childhood cancer [ 31 March 2016 ]

