

(54) Title of the invention : INTERACTIVE FITNESS EQUIPMENT WITH REAL TIME BIOMETRIC FEEDBACK

(51) International classification :A61B0005000000, A63B0024000000, A61B0005024000, G16H0020300000, G16H0040670000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :  
**1)Mr. Rahul Mohan Chavan**  
 Address of Applicant :Director Physical Education and Sports, Sports Department, BSPS Kholshwar Mahavidyalaya Ambajogai, Dist. Beed, Maharashtra, India, Pincode: 431517 -----

**2)Dr. Kavitha S**  
**3)Mr. Anil Kumar Biswal**  
**4)Dr.Venugopal N**  
**5)Mrs. B. Swathi**  
**6)Dr.Chitra Kiran.N**  
**7)Rajath H G**  
**8)Mrs. Milan Samantaray**  
**9)P.M.Prasad**  
 Name of Applicant : NA  
 Address of Applicant : NA

(72)Name of Inventor :  
**1)Mr. Rahul Mohan Chavan**  
 Address of Applicant :Director Physical Education and Sports, Sports Department, BSPS Kholshwar Mahavidyalaya Ambajogai, Dist. Beed, Maharashtra, India, Pincode: 431517 -----

**2)Dr. Kavitha S**  
 Address of Applicant :Assistant Professor, Department of MCA, Nitte Meenakshi Institute of Technology, Bengaluru, Karnataka, India 560097 -----

**3)Mr. Anil Kumar Biswal**  
 Address of Applicant :Assistant Professor, Department of Computer Science, Udayanath Autonomous College of Science and Technology, Cuttack, Odisha, India, Pincode- 754011 ----

**4)Dr.Venugopal N**  
 Address of Applicant :Associate Professor, Department of Mechanical Engineering, H.K.E. Society's S.L.N. College of Engineering, Raichur – 584135, Karnataka, India -----

**5)Mrs. B. Swathi**  
 Address of Applicant :Assistant Professor, Department of CS & AI, SR University, Warangal, Telangana, India, 506001 -----

**6)Dr.Chitra Kiran.N**  
 Address of Applicant :Professor, Department of Electronics and Communication Engineering, Alliance University, Chandapura, Anekal Main Road, Bengaluru- 562106, Karnataka, India ---

**7)Rajath H G**  
 Address of Applicant :Assistant Professor, Department of Mechanical Engineering, G Madegowda Institute of Technology, Mandya 571422, Karnataka, India -----

**8)Mrs. Milan Samantaray**  
 Address of Applicant :Assistant Professor, Department of Computer Science and Engineering, Silicon Institute of Technology, Bhubaneswar, Odisha, India, Pincode- 751024 -----

**9)P.M.Prasad**  
 Address of Applicant :M.Tech (Ph.D), Department of Electronics and Communication, Bapatla Engineering College, Bapatla, Andhra Pradesh, India -----

(57) Abstract :  
 The proposed invention is an interactive fitness equipment system with real-time biometric feedback, designed to revolutionize the workout experience. The system comprises an interactive display, biometric sensors, and advanced data analysis algorithms. The biometric sensors capture and monitor vital signs, such as heart rate and oxygen saturation, providing users with real-time feedback on their physical exertion. The interactive display offers a user-friendly interface, allowing access to various workout programs and tracking features. Advanced algorithms process the biometric data, generating personalized insights and recommendations based on the user's fitness level, goals, and performance. The system adapts the intensity and complexity of workouts to optimize effectiveness and safety. Additionally, virtual trainers, interactive games, and immersive simulations enhance engagement and motivation. Users can participate in virtual competitions and challenges, comparing real-time performance metrics with others. This interactive fitness equipment system provides a personalized and dynamic workout environment, promoting improved health, well-being, and community engagement.

No. of Pages : 22 No. of Claims : 10