

# Monitoring and Assistance of Physical Fitness For All Age Group

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## Abstract

Fit Niche's goal is to give users instructions and examples for one or more different types of exercise, physical activity, or other fitness-related topics. Depending on a person's current level of fitness, Fit-Niche offers exercises at varying levels of difficulty. Some individuals only need a chair as their only piece of equipment. Included chair-supported activities were intended to raise the calibre of the health and fitness industry. Our approach is meant to aid users in making the most of internet technologies for bettering their health. It considers every aspect of the website and enables us to confirm that the final product satisfies our exacting requirements. Below are the actions we'll take to make sure that happens.

[i] Review of the requirements [ii] Plan your digital strategy [iii] Creation of a website's concept [iv] Web development and design Evaluation and adjustment [vi] Phase prior to deployment [vii] opening of a website.

The main objective was to include chair-supported exercises in the curriculum. People who have trouble executing conventional/traditional exercises can benefit from it.

**Keywords** – Exercises Supported by a Chair, Physical Activity, Fitness

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## I. Introduction

Exercise is beneficial to people of all ages. A minimum of 30 minutes of moderate/high-intensity physical activity should be completed each day. However, studies show that people of different ages require varied amounts of physical activity minutes, i.e., for preschool-age children (3-5 years), physical activity minutes should be spread throughout the day. Active play is characterised by a wide range of pleasant physical activities. Children and adolescents (6-17 years) should engage in at least 60 minutes of moderate-to-vigorous level physical activity every day to aid in muscle and bone building. Adults only (18-64 years) 150 minutes

of moderate-intensity movement per week, such as brisk walking. At least two days a week of muscle-strengthening activities. For Senior Citizens (65 years and older) - 150 minutes of moderate-intensity movement per week, such as brisk walking. Traditional or orthodox workouts, on the other hand, are difficult to undertake for those with chronic diseases or exceptional abilities. In layman's terms, it's difficult to exercise when you're in pain. Rest is necessary for an inflamed, heated, or painful joint, but too little exercise can result in muscle weakening, soreness, and stiffness. Finding the correct balance of relaxation and exercise is crucial. As a result, we require something that can assist an individual who conducts exercises, records actions, and so on.

## **II.Literature Review**

- [1] Artur Direito 1, Yannan Jiang, Robyn Whittaker, Ralph Maddison proposed the applications for Improving Fitness and Increasing Physical Activity Among Young People: The AIMFIT Pragmatic Randomized Controlled Trial, Aug 2015. In spite of the fact that applications can increment reach for a minimal price, our practical methodology utilizing promptly accessible business applications as an independent instrument didn't significantly affect wellness. In any case, interest in future utilization of PA applications is promising and features a possibly significant job of these instruments in a complex way to deal with increment wellness, advance PA, and thus diminish the unfavorable wellbeing results related with lacking action.
- [2] Dr. Mahesh Deshpande, Md LokmanSaikh listed out the impact of Application of Fitness App on Fitness of Physical Activity among Sedentary People from Barrackpore City in West Bengal, August 2019. The actual work program utilizing wellness application has shown a constructive outcome on signal test levels, distance, time, VO2Max, speed, score, calories and rating of the subjects
- [3]Li Zeng , Zack W. Almquist , Emma S. Spiro through Let's Workout! Investigated Social Exercises in an Online Fitness Community, 2017 As friendly wellness versatile applications become generally utilized for individual movement following, social help and wellbeing advancement, amazing open doors for understanding the impacts of interpersonal organizations and companion effect on conduct change and wellbeing extend.
- [4]Juyoung Park PhD, Ruth McCaffrey DNP, ARNP, BC, FNP, FAAN, David Newman PhD, Patricia Liehr PhD, RN, Joseph G. Ouslander MD inferred A Pilot Randomized Controlled Trial of the Effects of Chair Yoga on Pain and Physical Function Among Community-Dwelling Older Adults With Lower Extremity Osteoarthritis A 8-week seat yoga program was related with decrease in torment, torment obstruction, and weakness, and improvement in walk speed, yet just the consequences for torment impedance were supported 3 months post mediation. Seat yoga ought to be additionally investigated as a nonpharmacologic intercession for more established individuals with OA in the lower limits.
- [5] Lakshmi Jatiya, Kaviraja Udupa And Ananda Balayogi Bhavanani inferred Impact Of Yoga Training On Handgrip, Respiratory Pressures And Pulmonary Function Mandanmohan, February 5, 2003 The current review shows that half year yoga preparing produces a huge

improvement in handgrip strength and perseverance, respiratory tensions and spirometric values and this improvement is considerable in underweight kids..

[6]Franco, Bruno L1; Signorelli, Gabriel R2; Trajano, Gabriel S3; de Oliveira, Carlos G1 gathered Intense Effects of Different Stretching Exercises on Muscular Endurance, November 2008 The results suggest that a broadening show can affect BP persistence, while a decrease in steadiness is prescribed to be inferable from set range and PNF. Of course, a low volume of static stretching out doesn't appear to essentially influence solid tirelessness.

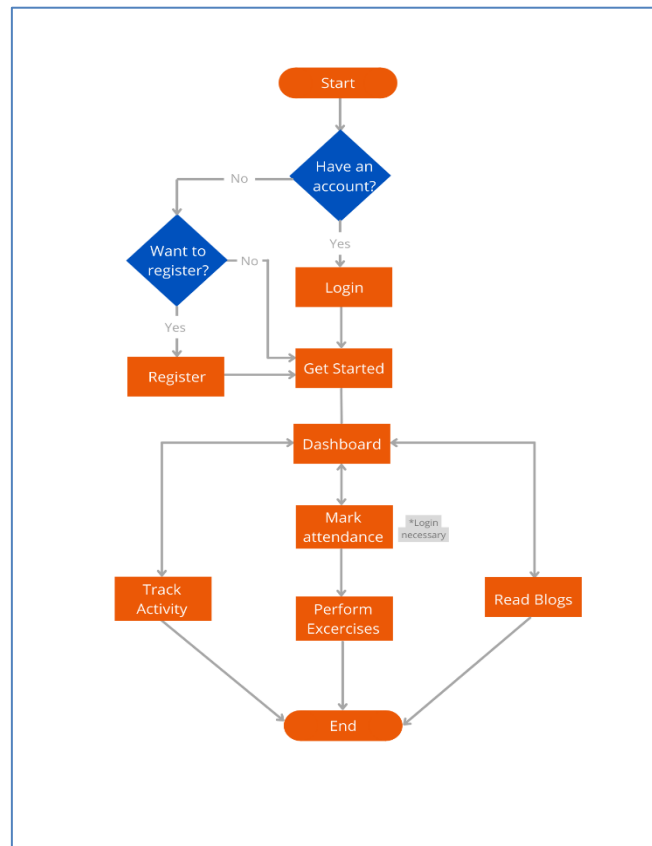
[7]G.E.Furtadoac, M.Uba-Chupelac, H.M.Carvalhob, N.R.Souzaa, J.P.Ferreiraa, A.M.Teixeiraainferred surmised effects of a seat yoga rehearses on pressure substance levels, everyday presence activities, falls and real wellbeing in arranged more prepared adults, August 2016 Seat yoga had the choice to stay aware of the and real health and levels of strain hormonal defending against pressure. This study revealed those hormonal levels of pressure are a promising indication of useful autonomy in more settled masses. Seat based procedure embraced to play out the Yoga exercises could have been a component to the more unmistakable action adherence.

[8]Yao, Ching-Teng Ph.D.; Tseng, Chien-Hsing Ph.D. proposed feasibility of Chair Yoga for Improving the Functional Fitness and Well-being of Female Community-Dwelling Older Adults with Low Physical Activities, Oct/Dec 2019 The seat yoga planning gives a fundamental and unassuming movement program that chips away at the utilitarian wellbeing and thriving effectively

[9]Author- Yoga Kertapati, JunaitiSahar, AstutiYuniNursasi construed that the use of seat yoga with significant intervention is a useful preventive measure against utilitarian diminishing in more prepared adults. The concentrate similarly recommends that this sort of intercession should be considered as a proportional nursing supportive practice for more settled adults locally. The effects of seat yoga with extraordinary intervention on the reasonable status of more settled adult prosperity successfully.

### III. Methodology

Our methodology is aimed to assist users in getting the most out of internet technologies in order to improve their health. It takes into account all parts of the website and allows us to verify that the final output meets our high standards. The following are the actions we'll take to ensure that this happens: Analysis of requirements, development of a digital strategy, conceptualization of web pages, web development, evaluation and fine-tuning, pre-deployment phase, and website deployment.



**Working Principle** - A great web composition ought to achieve its objective of imparting a particular message while additionally captivating the guest. Consistency, colors, text style, symbolism, straightforwardness, and convenience are on the whole attributes that add to fruitful web architecture. The boundaries recorded underneath should be viewed as while making a site. **WEBSITE PURPOSE** - The client's necessities should be met by your site. On all pages, having a direct, clear objective will help the client in cooperating with what you bring to the table. What precisely is the objective of your site? Could it be said that you are spreading valuable information as a 'How to direct'? Is this a site for entertainment, like games inclusion, or would you say you are attempting to offer an item to the client? Sites can fill an assortment of needs, yet there are a not many that are normal to every one of them:

- i. Defining Expertise
- ii. Establishing Your Credibility
- iii. Acquiring Leads Effortlessly

With regards to the client experience and convenience of your site, straightforwardness is the best approach. Coming up next are a few instances of how to achieve straightforwardness through plan - Imagery, shading, and typography

(a) **NAVIGATION** On sites, route is a wayfinding framework that permits guests to communicate and track down the thing they're searching for. The capacity to explore a site is urgent to holding guests. Assuming the site route is challenging to utilize, clients will forsake the site and search for what they need somewhere else. It's basic to keep route clear, instinctive, and predictable across all pages.

(b) F-SHAPED PATTERN READING

The F-based design is the most well known approach for site clients to examine material. As indicated by eye-following examinations, most of what people see is on the top and left sides of the screen. The F-formed design is demonstrated around our normal perusing design in the West. A very much planned site will take utilization of a peruser's normal skimming propensity.

(c) VISUAL HIERARCHY

The organizing of things arranged by significance is known as visual progressive system. Size, shading, pictures, contrast, textual style, whitespace, surface, and style are totally used to accomplish this. Laying out a center point, which shows guests where the main data is, is one of the main errands of visual ordered progression.

(d) CONTENT

Both remarkable plan and fabulous substance are expected for an effective site. Incredible substance can draw in and impact guests, changing them into clients, by utilizing enthralling language.

(e) Matrix BASED LAYOUT

Matrices help in the construction of your plan and the association of your data. The matrix supports the arrangement of things on the page and assists with keeping it clean. The matrix based design arranges content into a perfect, unbending framework structure with segments and areas that line up, appear to be adjusted, and authorize request, bringing about an outwardly engaging site.

(f) LOAD TIME

Guests will leave assuming they need to trust that a site will stack. Almost 50% of web clients expect a website to stack in two seconds or less, and they might forsake a webpage that requires over three seconds to stack. Expanding the size of your pictures will assist your site with stacking quicker. Versatile Individuals are progressively utilizing their telephones or different devices to get to the web. It's basic to contemplate planning your site with a responsive format that acclimates to numerous screen sizes.

#### **IV. Conclusion and Future Scope**

We finished our project, which focused on assisting people in getting moderate/high-intensity physical activity throughout the day. Particularly beneficial for those who are unable to conduct traditional or regular workouts. We learned from numerous research that not only those who are older adults have trouble conducting traditional workouts, but also people who have conditions like arthritis, obesity, and other diseases that cause joint and muscle wear and tear. We came up with the notion of recommending chair-supported workouts to get them started on the road to fitness. Our approach was straightforward: we wanted to assist users in getting the most out of internet technology in order to improve their health. . It takes into account all parts of the website and allows us to verify that the final output meets our high standards.

Live Chat Support is a technology that allows businesses to interact with visitors to their media properties via live chat. Live chat is typically implemented by inserting code on specific pages of a website, and businesses can choose which pages to make live chat available on. Live chat support combines real-time conversation with the ability to share links, collect information, and save a full transcript for later reference, making it the ideal online service tool for a customer who requires immediate assistance. Live Sessions allow multiple users to collaborate and see each other's changes in real time. A session is when a trainer interacts with members in real time and teaches them various exercises related to their area of need. Different Disease Categories can be introduced based on demand at the time. Not only disease categories, but also age, BMI, and other categories can be added, and Free - Fit-Niche will provide all of its features and services at no cost, allowing anyone to use it without limitations.

## **V.Implication**

- **Wellness**

Fit-Niche encourages healthy lifestyle as it overcomes the barrier of going to the gym or any other workout center for exercising and staying fit.

- **Patients**

Patients find correct exercise for the kind of medical issue they are going through. Fit-Niche is aimed to solve problem for people who can't do traditional exercise by providing them chair supported exercises

- **Medical Firms/Hospitals**

Fit-niche can be applied in medical firms and hospitals as they will not have to contact any instructor but they will get the right guidance for their patients here. Also forming a cycle we can also collaborate with some medical firms and hospitals so that our users can connect with them in some cases.

- **Gym/Healthcare Centers**

Collaborating with gym and healthcare centers we provide live trainers and healthcare specialists who will be available for live chat and video so that user can consult to them.

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## References

1. Direito, A., Jiang, Y., Whittaker, R., & Maddison, R. (2015). Apps for IMproving FITness and increasing physical activity among young people: the AIMFIT pragmatic randomized controlled trial. *Journal of medical Internet research*, 17(8), e4568.
2. Deshpande M, Saikh L. Effect of application of fitness app on fitness of physical activity among sedentary people from Barrackpore city in West Bengal. *International Journal of Research and Review*. 2019; 6(8):415-423.
3. Zeng, L., Almquist, Z. W., & Spiro, E. S. (2017). Let's Workout! Exploring Social Exercise in an Online Fitness Community. *iConference 2017 Proceedings Vol. 2*.
4. Park, J., McCaffrey, R., Newman, D., Liehr, P., & Ouslander, J. G. (2017). A pilot randomized controlled trial of the effects of chair yoga on pain and physical function among community dwelling older adults with lower extremity osteoarthritis. *Journal of the American Geriatrics Society*, 65(3), 592-597.
5. Bhavanani, A. B. (2003). Effect of yoga training on handgrip, respiratory pressures and pulmonary function. *Indian J Physiol Pharmacol*, 47(4), 387-392.
6. Franco, B. L., Signorelli, G. R., Trajano, G. S., & de Oliveira, C. G. (2008). Acute effects of different stretching exercises on muscular endurance. *The Journal of Strength & Conditioning Research*, 22(6), 1832-1837.
7. Yao, C. T., & Tseng, C. H. (2019). Effectiveness of Chair Yoga for improving the functional fitness and well-being of female community-dwelling older adults with low physical activities. *Topics in Geriatric Rehabilitation*, 35(4), 248-254.
8. Walsh, N. P., Gleeson, M., Shephard, R. J., Gleeson, M., Woods, J. A., Bishop, N., ... & Simon, P. (2011). Position statement part one: immune function and exercise.
9. Kirwan, J. P., Sacks, J., & Nieuwoudt, S. (2017). The essential role of exercise in the management of type 2 diabetes. *Cleveland Clinic journal of medicine*, 84(7 Suppl 1), S15.
10. Park, J., McCaffrey, R., Newman, D., Cheung, C., & Hagen, D. (2014). The effect of Sit 'N'Fit Chair Yoga among community-dwelling older adults with osteoarthritis. *Holistic nursing practice*, 28(4), 247-257.