



University of Asia Pacific

Calisthenics Structure: Rebuilt physical body from brick to brick

Presented To:
Md. Mahedi Hassan
Lecturer
Department of CSE
University of Asia Pacific

Presented By:
H.M. Tahsin Sheikh
ID: 22201243
Sec: E

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Outline

- **Introduction**
- Problem Statement
- Previous Work
- Proposed Solution
- Time Schedule
- Budget
- Current Status
- Future Works

Introduction

- **Calisthenics is a physical exercise where the only equipment you need is your own body.**
- **It is more than just a workout—it requires accurate movement, discipline, and a testament to human strength and resilience.**
- **From historical warriors to present street athletes, bodyweight training has been a foundation for rebuilding peak physical structure.**
- **It develops the growth of a normal person to a supreme level.**

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Problem Statement

➡ Participant Challenges

- ❖ Lack of Consistency & Motivation
- ❖ Varying Fitness Levels
- ❖ Injury & Poor Recovery

➡ Training & Execution Challenges

- ❖ Limited Access to Equipment
- ❖ Difficulty in Progression

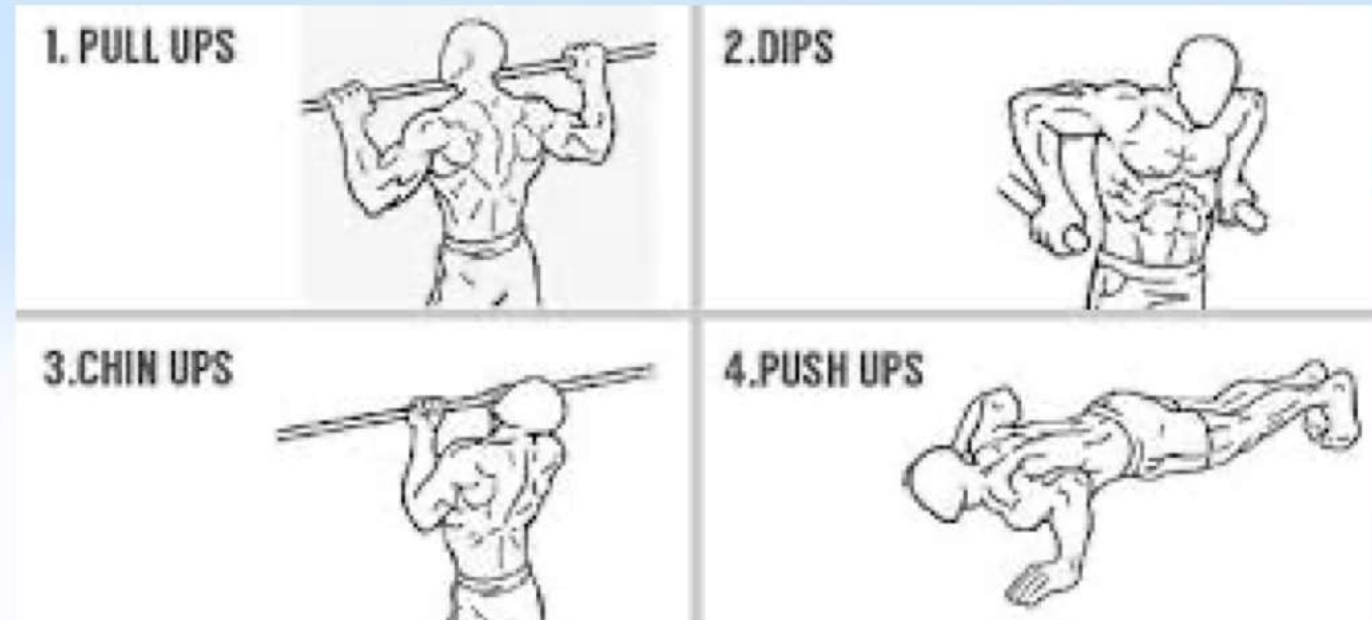


Fig: Basic workout

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Previous Work

Papers	Shortcomings
Mello et al. [1]	<ul style="list-style-type: none">❖ Physical activity outside significantly contributes to health benefits.❖ Studied during early adolescence when children are inclined to become less active.
Nelson et al. [2]	<ul style="list-style-type: none">❖ He recommended regular muscular fitness exercise should be considered physical activity settings.
Dorgo et al. [3]	<ul style="list-style-type: none">❖ Preferred strength training as a powerful way to go beyond mere physical conditioning,
Smith et al. [4]	<ul style="list-style-type: none">❖ It transforms both the body and mind purposes
Benelli et al. [5]	<ul style="list-style-type: none">❖ Encourage children to engage actively in physical education lessons or to enhance obedience with physical activity initiatives

Previous Work

Papers	Shortcomings
Faigenbaum et al. [6]	❖ Among the various types of strength training workouts (such as free weights, machines, elastic bands, and manual resistance)
La Scala Teixeira et al. [7]	❖ calisthenics, which rely on body weight for resistance that can effectively engage the neuromuscular system of children
Dahab et al. [8]	❖ studies have shown that this group can experience strength improvements from training, primarily attributed to neuromuscular transformation.
Faigenbaum et al. [9]	❖ It increases strength enables good performance in sports and reduces the risk of injuries
Santos et al. [10]	❖ At last physical strength training with a calisthenics workout is an effective choice for physical structure building, indicated by the favorable cost-benefit ratio from a higher study

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Proposed Solution

The Data Flow Diagram (DFD) for identifying individuals in a calisthenics training program follows a structured process. Next, a fitness estimation is conducted for mobility. It is categorized participants into Beginner, Intermediate, or Advanced levels. Based on their classification, a customized training plan is assigned to match their fitness level

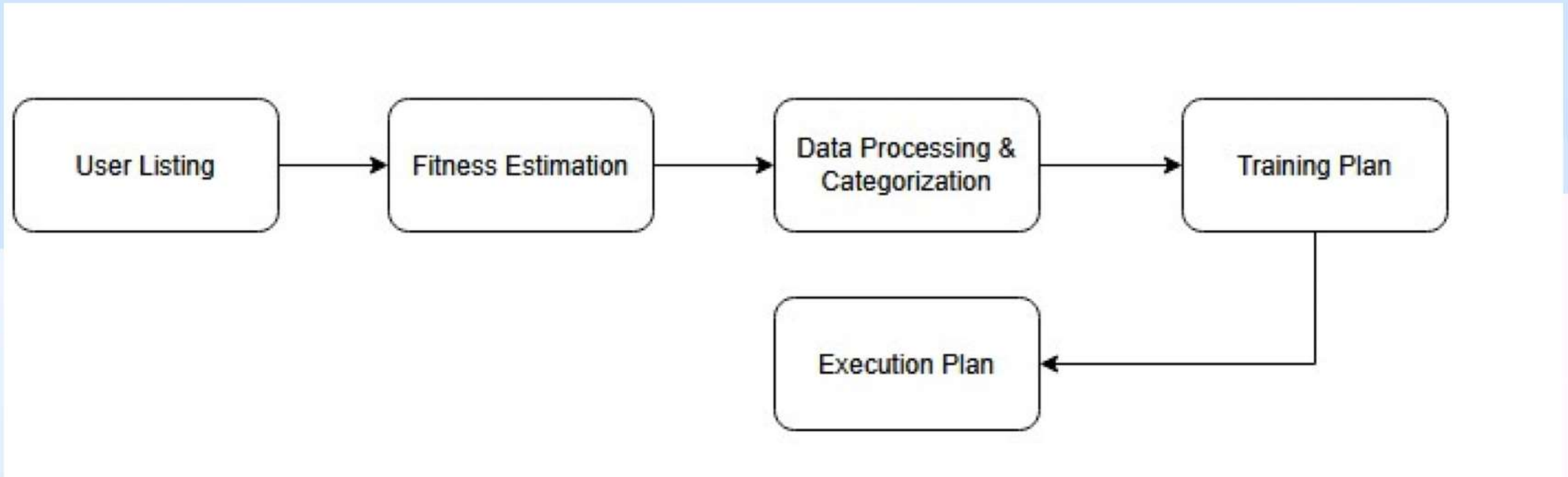


Figure 1: Rebuilt physical body from brick to brick

Proposed Solution(Cont..)

➡User Listing:

- Essential details such as name, age, weight, height, fitness background, and medical conditions are collected to ensure a safe training plan.

➡Fitness Estimation:

- Push-ups, pull-ups, squats, planks, flexibility drills, and core endurance exercises to evaluate their fitness level.

➡Data Processing & Categorization:

- Collected test results are analyzed to be classified into one of three categories (Beginner, Intermediate, advanced)

Proposed Solution(Cont..)

➡ Training Plan:

- A personalized workout plan is assigned based on user-level
- Selecting goal
- Time scheduling for exercise
- Rest and recovery method

➡ Execution Plan:

- Monitoring workout to ensure that the training remains effective. It will motivate users to come up with new ideas.

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Time Schedule

	January	February	March	April	May	June	July
Requirement Analysis							
Data Collection							
Database Development							
UI Design							
Testing							
Deployment							
Maintenance							

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Budget

- This budget applies only to beginners.
- The user improves to the next level this budget will increase
- As per the tool price for the intermediate or advanced level.

Item	Estimated Cost	Purpose
Open Space (Park/Home)	Free	Outdoor or indoor training
Resistance Bands	150 – 200Tk	Assisted pull-ups, stretching
Yoga Mat	500 – 100Tk	Comfort for floor exercises
Water Bottle	100- 150Tk	Hydration during workouts

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Current Status

- ➡ **A user who struggles with push-ups and flexibility may be categorized as a beginner and assigned exercises like knee push-ups, assisted pull-ups, and portability drills.**
- ➡ **An advanced athlete proficient in pull-ups and dips may focus on muscle-up movements.**
- ➡ **This structured approach prevents injuries by progressively challenging individuals based on their fitness level.**

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Future Works

➔ Technology Integration

- **AI-Powered Training App** for personalized workout plans.
- **Wearable Fitness Tracking** to monitor performance and provide real-time feedback.
- **VR/AR-Based Training** for interactive workout sessions and form correction.

Thank You

Any Question?

Feel Free to communicate

