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Abstract—*In these recent years technological advancement has created enormous chances for developing fitness applications with personalized diet. Users who are into casual fitness doesn’t know the calories that go into the food or the ingredients*

*that causes allergic reactions. Calculating maintenance calories is a daunting task for persons who aren’t into fitness or beginners. All these features in an application help him make correct fitness decisions and prevent user from spending huge amount of money in hiring an expert(trainer, dietician).*

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Keywords**—** fitness, personalized diet ,calories, allergies ,application .

1. **Introduction**

In these recent years people are more conscious about the food and diet that helps them to avoid allergic reactions and maintain fitness which requires them to track calories.

Many projects have been done on recipe generation***,*** fitness, maintenance calories, and calorie estimation, not many works were done on an application that holistically includes all these features combinedly into one single application. calorie estimation that helps in calculating number of calories in a recipe, food classification that brings out ingredients in a recipe, maintenance calories that help in calculating number of calories based on age, height and activity and recipe generation that helps us to create recipe from the set of inputs that we give are part of our project. Using deep learning techniques, we are trying to implement all these features into our application.

A casual user who isn’t into fitness may not know all the nuances that go into diet like estimating calories and ingredients that are used in making the recipe. This application focuses on all the stated issues helping users in making right lifestyle choices.

**II . LITERATURE REVIEW**

Over the past years the influence of food and fitness applications is increasing, with the changes in lifestyle habits. Users of These applications have been increasing in recent years , generating revenue of 5.35 billion in 2021 ,a 54% increase over previous year. Mostly fitness applications helps users to identify his daily activities like calorie expenditure and diet and gives an estimate of how each activity contributes to fitness. Also, the applications also provide users customised diet plan and workout patterns based on customer convenience. Research in the field of deep learning, NLP and computer vision

has helped us in overcoming of problems like

I .Project Requirements

Given below are the Application requirements of our project .

1. *Software requirements*

* Browser: Microsoft Edge, Google Chrome, Mozilla Firefox
* IDE: PyCharm, Jupyter
* Design: Adobe Illustrator, Miro Board
* Database: MongoDB
* Version Control: GitHub
* Project Management: GitHub Projects, JIRA
* Documentation: Microsoft Word, PDF Expert, Excel, Google Docs

1. *Hardware Requirements*

* Any processor and device capable of running a browser.
* Any operating system

*C. Functional Requirements*

* The end user will be able to view, and use the services.
* End user can register and save his information to get customised service
* The admin has access to the users information.
* User can provide feedback and rate the service and the professional.

C. Technical Requirements

* This is a web-Application and also supports tablet and mobile.
* This application is developed using MongoDB, ExpressJS ,NodeJS and React.

II . System Diagrams

1. *Class diagram*

Diagram

Description automatically generated

B. *Architecture diagram*

Diagram

Description automatically generated with medium confidence

*C. Sequence diagram*

Diagram

Description automatically generated

*D .Use-case diagram*

*Diagram

Description automatically generated*

III. Conclusion

There are many applications that are related to health, fitness and diet and developers are trying to include every possible feature in order to eliminate the need of personal mentor (trainer, dietician)

This saves users lot of time and money and helps them in making correct fitness decisions. There are not so many applications that completely focus on choosing recipes and help people in making right decisions based on their lifestyle. This software focuses on on generating recipes and bringing calories from food which other applications doesn’t offer. Front end of the application interacts with back-end and database of the application. This application is complex as back-end contains algorithms of deep-learning, computer vision and Natural Language processing , database is used to store the users information.

IV Summary

This is a web-application