



Sarvajanik College of Engineering and Technology
Computer Engineering Department



Project Presentation

On

“Score GREat”

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PRESENTATION OUTLINE

- Problem Summary
- Solution
- Modules
- Database Design
- Implementation
- Conclusion and Future Scope

PROBLEM SUMMARY

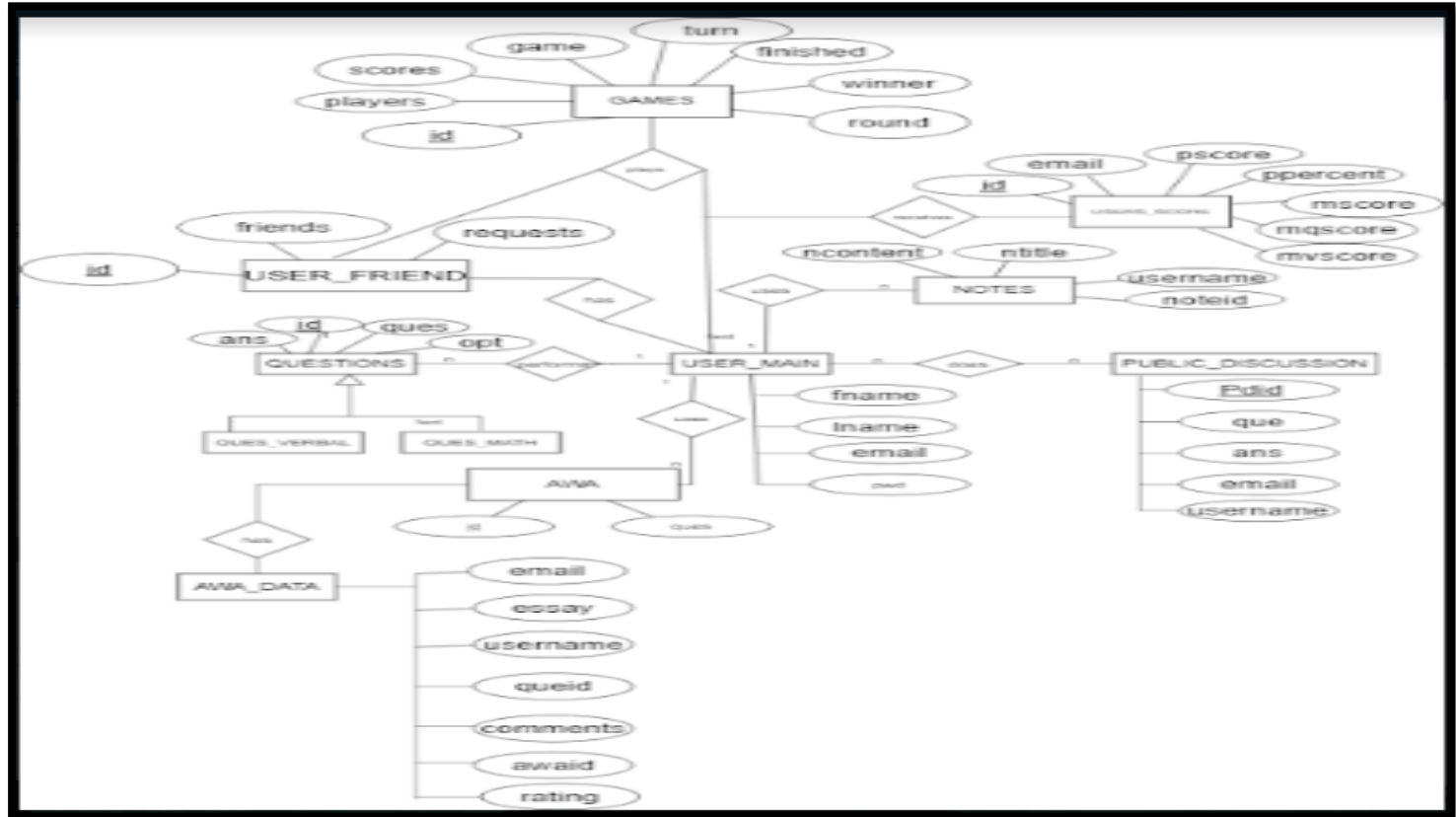
- Most of the websites that provide adaptive learning for GRE do not have all the features like **practice questions for quants, awa portal, verbal questions, etc.** within itself to completely nurture the student's capability all by itself.
- Thus, the student needs to look for many other resources outside the websites.



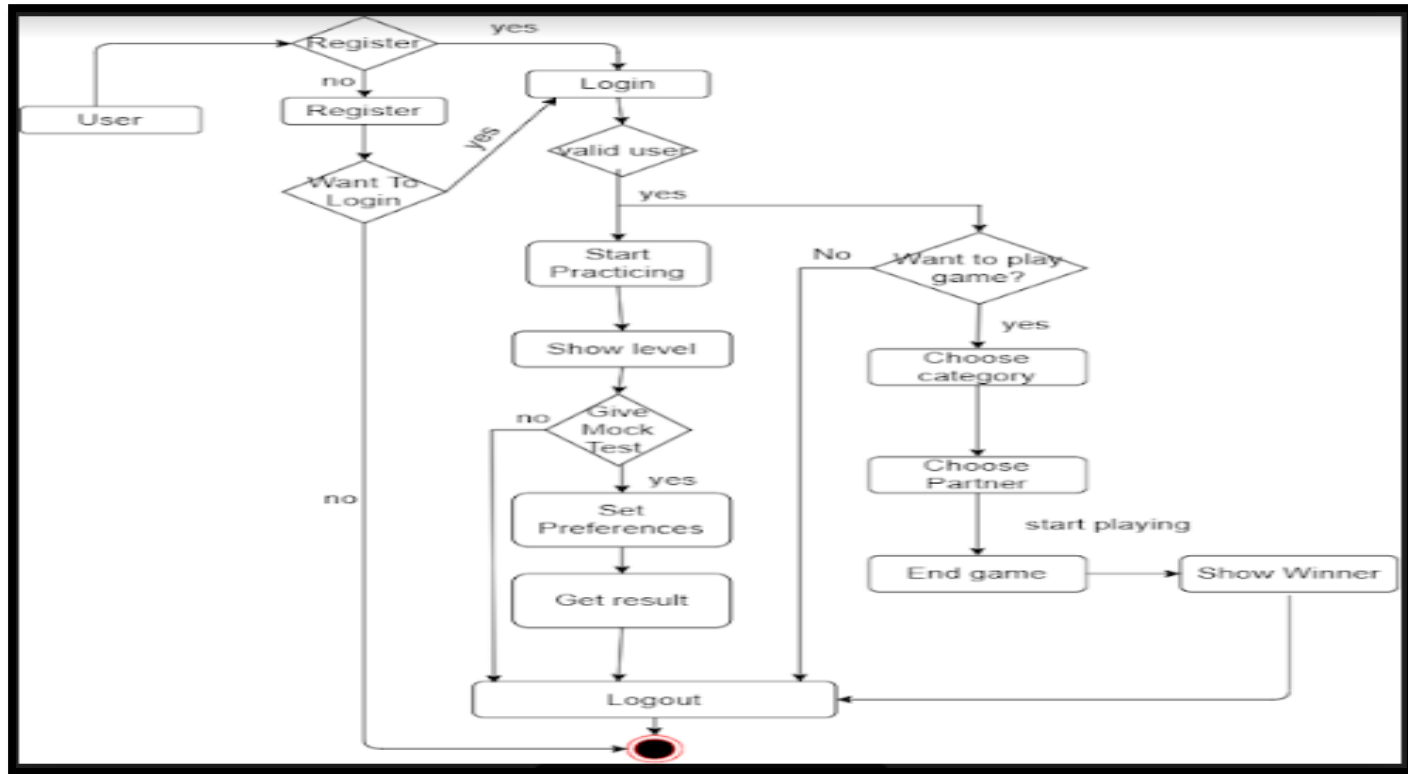
SOLUTION

- Thus, we by making Score GREat aspire to make an adaptive system for GRE test preparation a one stop spot for all the students.
- To achieve this we intend to add various innovative and effective features which are not available in existing application.
- **Score GREat is an one stop spot for any student aspiring to appear for the Graduate Record Examination (GRE).**
- It will consist of tons of questions from various chapters spread across various levels for both quant and verbal section of GRE and every user will have a personalized preparation experience courtesy of the performance based machine learning algorithm that we intend to create.

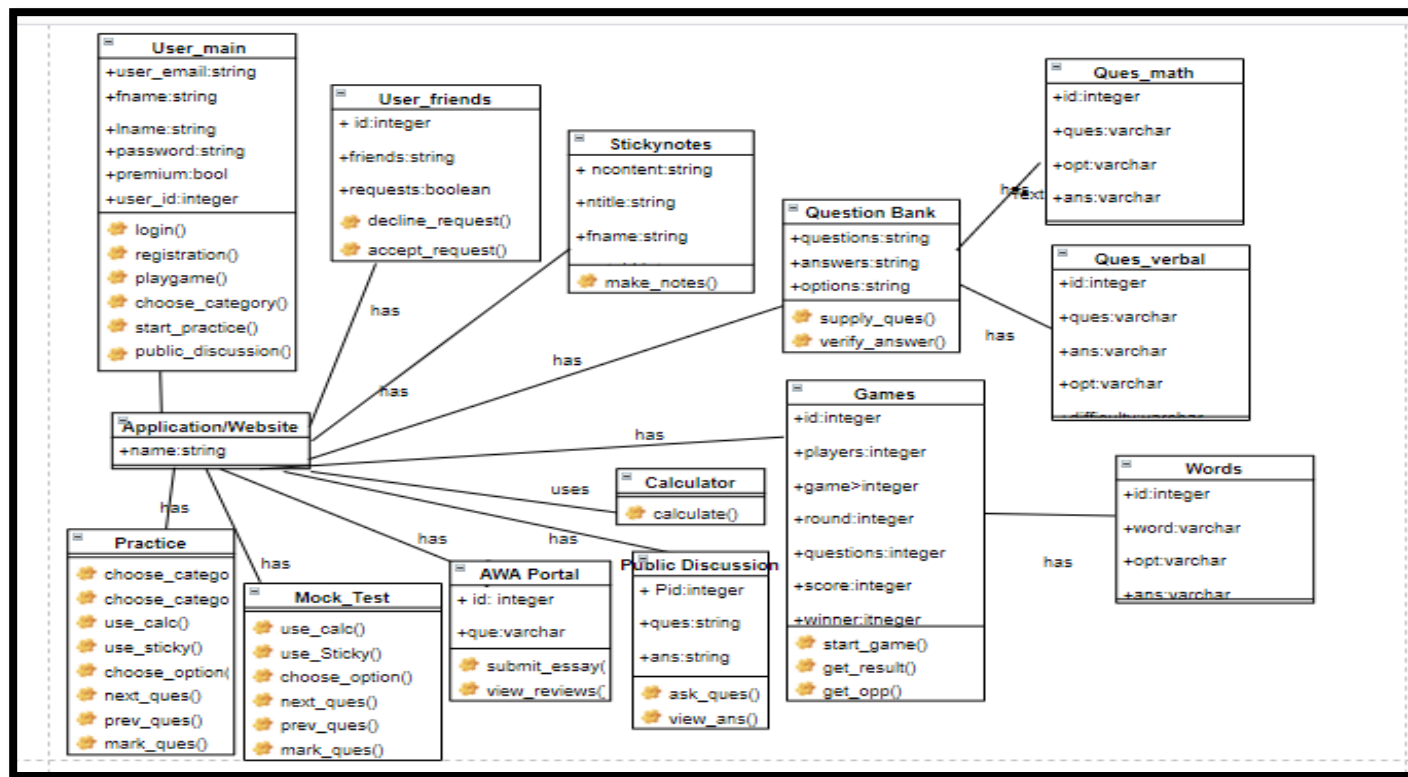
Database Design



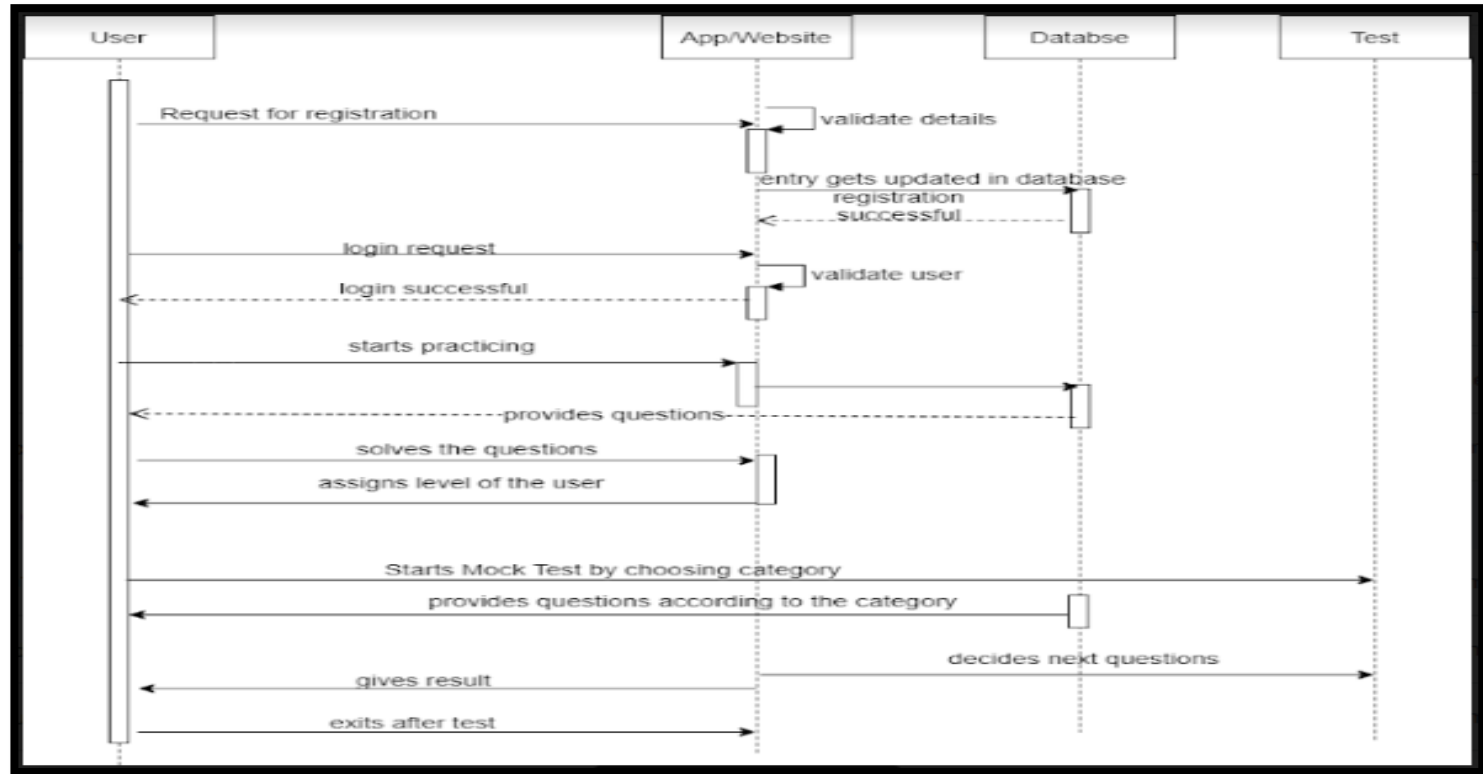
Activity Diagram



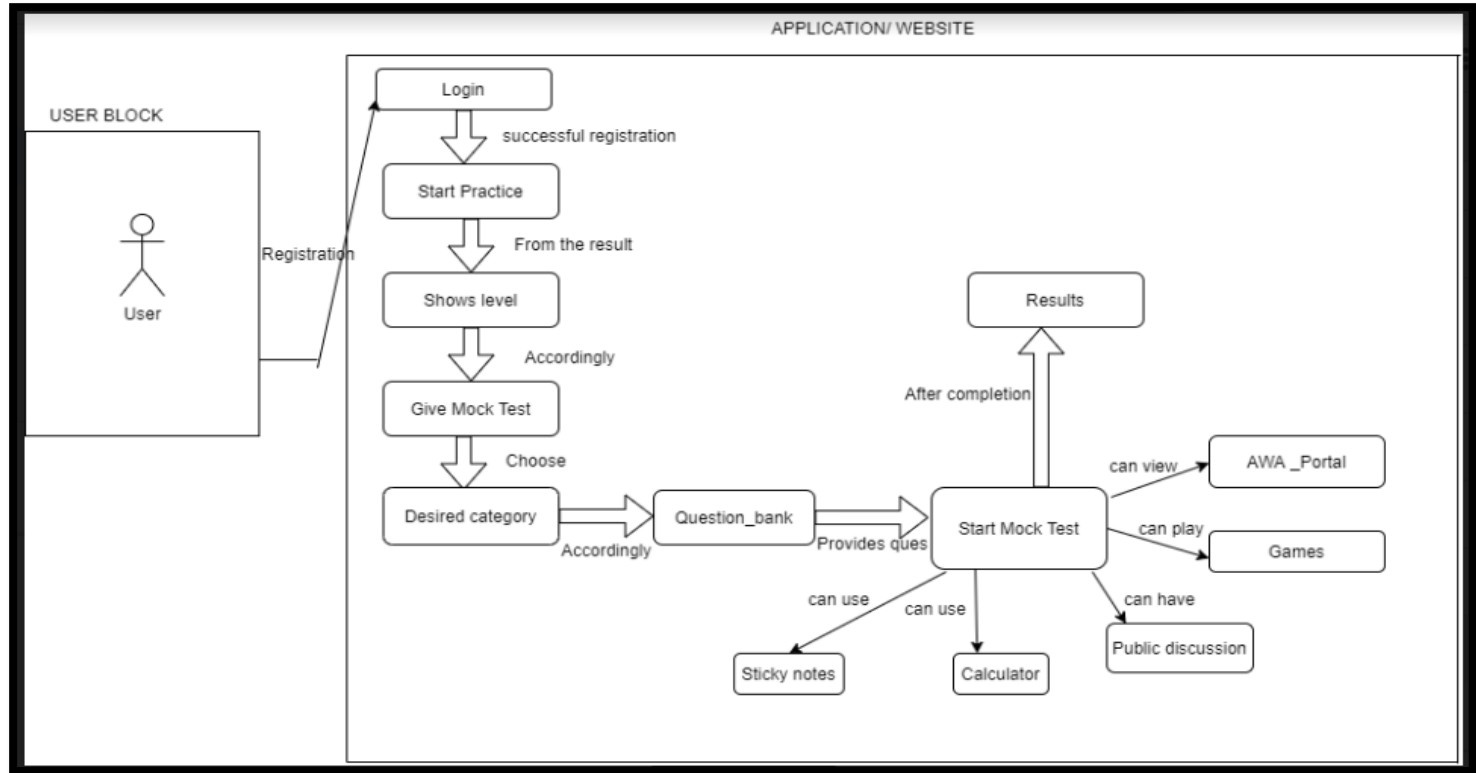
Class Diagram



Sequence Diagram



System Flow



Machine Learning Algorithms

- The next part of application is how categorized questionnaire will come one after another according to the questions answered by user.
- This can be achieved using the basic machine learning algorithm.
- The basic algorithms are
 - Support Vector Machine (SVM),
 - Naive-Bayes,
 - Linear Regression (weighted),
 - Linear Regression (unweighted) and
 - Decision Tree Algorithm etc.

Machine Learning Algorithms

- But from the analysis of studied research paper we concluded that SVM and Decision Tree algorithm were most efficient algorithm for categorical data .
- As per the research paper we have studied, Decision tree algorithm can be efficient for our project.
- It is a classification method. In this algorithm, we classified into different groups based on multiple attributes to identify. To split the population into different heterogeneous groups, it uses various techniques like Gini, Information Gain, Chi-square, entropy.
- For our project , dimensions that can be used are questions , number of students answered the question, and time taken by the students to solve particular question.
- From this , we can categorize data and then can decide the difficulty level of questions.

TECHNOLOGIES USED

- ❑ HTML5
- ❑ CSS3
- ❑ Bootstrap
- ❑ JavaScript
- ❑ jQuery
- ❑ AJAX
- ❑ PHP
- ❑ MySQL
- ❑ Python


TOOLS USED

- ❑ VS Code
- ❑ Sublime Text Editor
- ❑ 000webhost text editor
- ❑ Jupiter Notebook
- ❑ AWS RDS

Modules

- ❑ Practice Module(Main Module)
- ❑ Analytical Writing Assessment and AWA Review
- ❑ Public Discussion Forum
- ❑ Multiplayer Games
- ❑ Saved Notes

IMPLEMENTATION



Score GREat

We at Score GREat are focused on One simple goal, to make us a one stop spot for everything you need to prepare for your GRE examination and help you achieve your academic goals in the most efficient and fun manner.

Whether you are planing to go to graduate, business or law schools - or just exploring your options - you are taking an important step towards your future. It is a smart move to show schools your best and with the GRE, General Test, you can!

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Login

Email:

Password:

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New to Score GREat? Sign Up [Here](#)

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Fig.(1): Sign Up and Log In

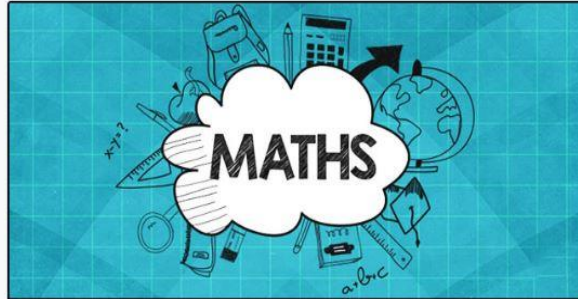
IMPLEMENTATION(CONT...)



Fig.(2): Dashboard

IMPLEMENTATION(CONT...)

Welcome to the practice section. Here, you will be able to practice your way to perfection by solving multiple questions of both Quants and Verbal Section of the GRE through our special Performance Adaptive Trainer.



Solve Maths questions spanning through various categories like algebra, arithmetic, geometry etc.

Start

Set Preferences



Solve Verbal Questions spanning through various categories like Sentence Equivalence and Text Completion

Start

Set Preferences

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Fig.3(i): General practice

IMPLEMENTATION(CONT...)

The screenshot displays the 'Score GREAt' online test interface. The top navigation bar is yellow and contains the 'Score GREAt' logo on the left and 'Home', 'Menu', and 'Honey Kapadia' on the right. The main content area is light gray and features 'Question 1' with the text: 'How many three digit numbers can be formed using 0 to 9 if repetition is allowed?'. Below the question are five radio button options: 900, 700, 9000, 1200, and 1000. On the right side of the question area is a yellow calculator widget with a display showing '0' and a grid of buttons including C, ROOT, MOD, DEL, and digits 0-9. The bottom right corner of the interface shows the text 'Powered by 000webhost'.

Score GREAt

Home Menu Honey Kapadia

Question 1

How many three digit numbers can be formed using 0 to 9 if repetition is allowed ?

- ☐ 900
- ☐ 700
- ☐ 9000
- ☐ 1200
- ☐ 1000

Score GREAt

0

C ROOT MOD DEL

1 2 3 +

4 5 6 -


7 8 9 *

. 0 = /

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Fig.3(ii): General Practice


IMPLEMENTATION(CONT...)



AWA Writing

Write an AWA response from a catalogue of problem statements containing both issue and argument topics.

[Start](#) [Strategies](#)



AWA Feed

View other responses to the same catalogue of problem statements and rate and comment on them.

[Start](#) [Overview](#)

Fig.(4): AWA and AWA Review

IMPLEMENTATION(CONT...)

Mock Test

Welcome to the Mock Test. Take a complete test equivalent to the GRE and find out your strength and weaknesses and hone your time management skills.

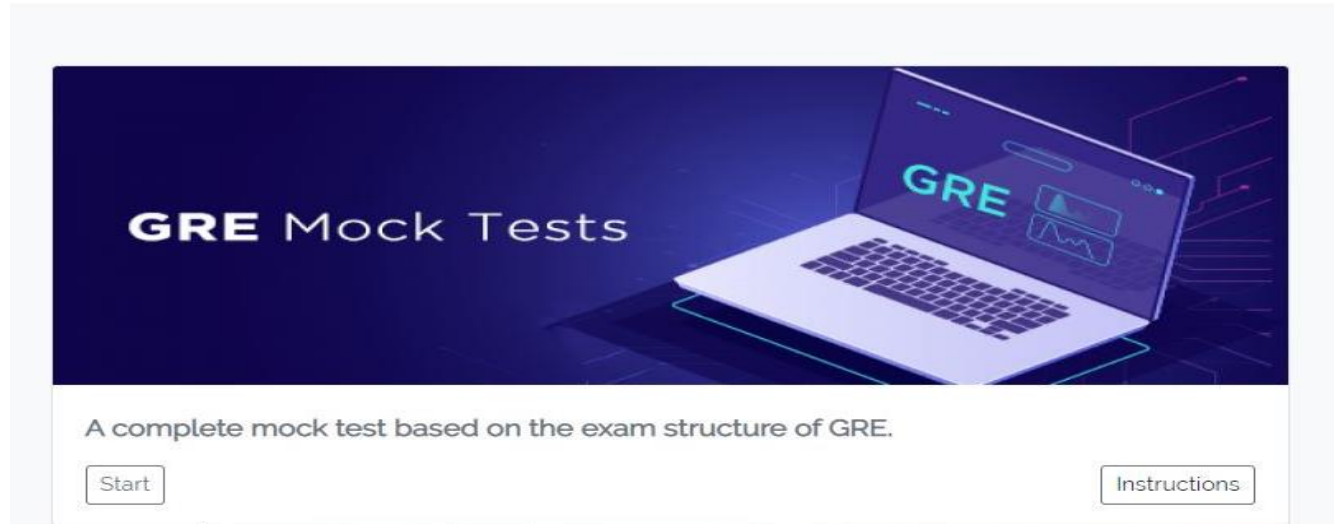


Fig.(5): Mock Test

IMPLEMENTATION(CONT...)

Discussion Forum

Ask and answer doubts and questions regarding GRE with your peers.

Create your own post

Ask your question here




Fig.(6): Public Discussion Forum

IMPLEMENTATION(CONT...)

Multiplayer Games

Welcome to Multiplayer Games. Who says learning can't be fun?
We have designed these games with the motive to rid our users from the boredom of learning in the monotonous way but still make progress in their learning process.



Word-Play



Beat the Clock

Fig.(7): Multiplayer Game

IMPLEMENTATION(CONT...)

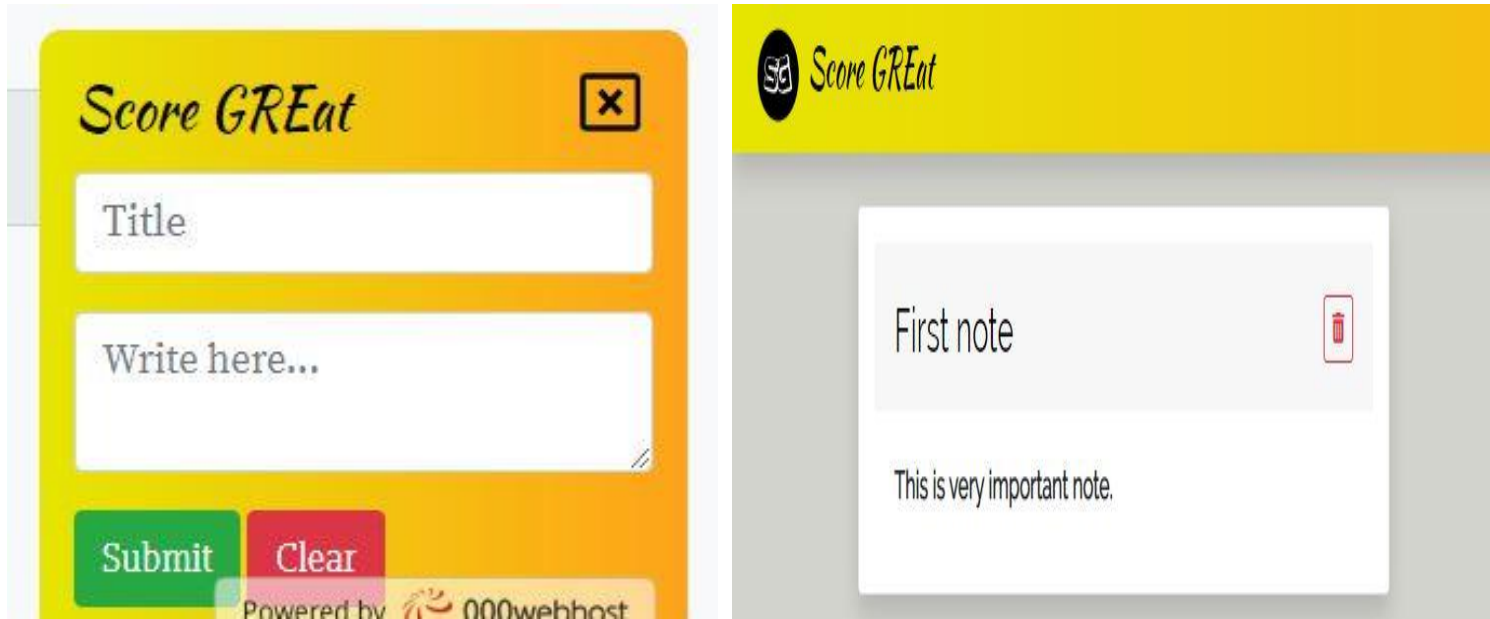


Fig.(8): Saved Notes

IMPLEMENTATION(CONT...)

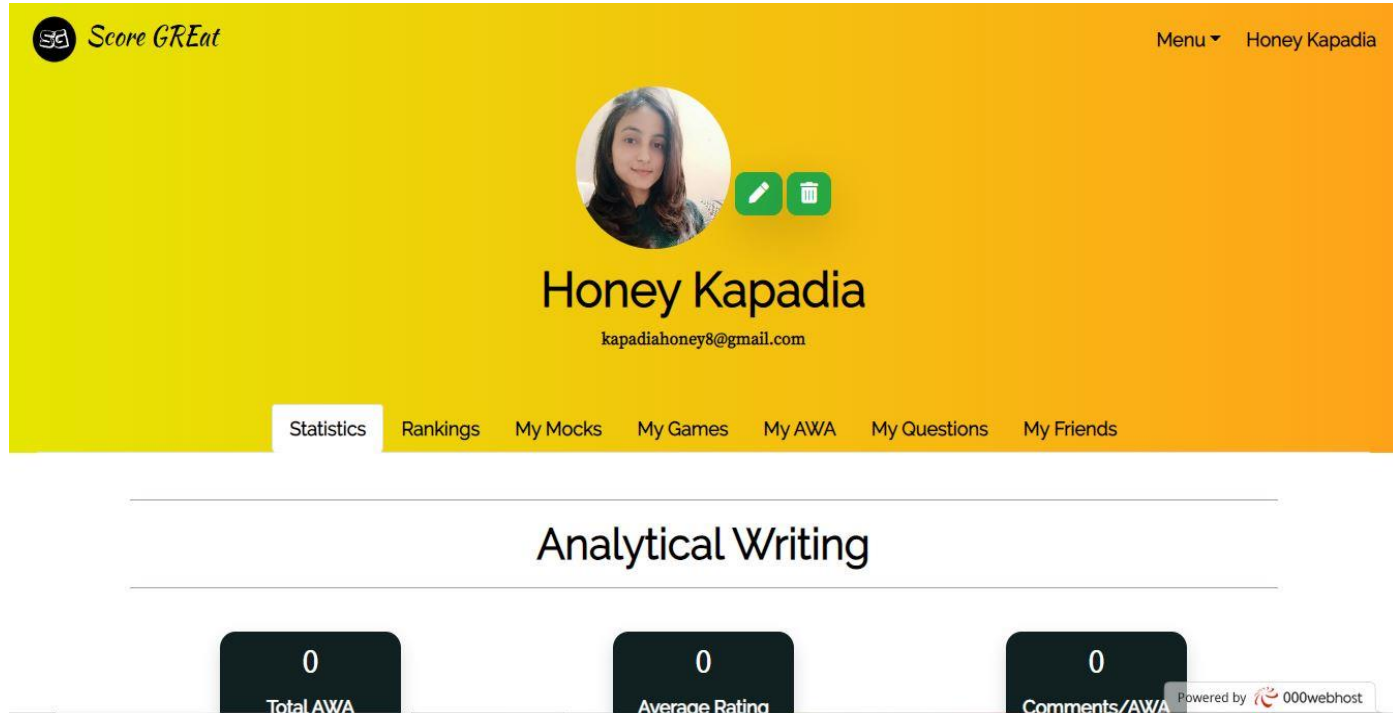


Fig.(8): Personal Profile

CONCLUSION

- Adaptive learning systems have the potential to expand access to effective instruction and valuable test preparation resources.
- If applied efficiently and accurately, machine learning can help students identify their competence on core skills and motivate them to focus on their weak areas.

References

- <http://cs229.stanford.edu/proj2014/Julia%20Enthoven,An%20Adaptive%20System%20For%20Standardized%20Test%20Preparation.pdf>
- <https://www.analyticsvidhya.com/blog/2017/09/common-machine-learning-algorithms/>



THANK YOU...