

Career Guidance Tool

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Problem Statement

A desktop application for teachers and students to collaborate and help students figure about their future career choices. A career guidance application that allows teachers to register and upload question papers for their students. There is a total of 4 categories topics available to choose from while setting questions. A student can then appear for the test according to the criteria as per set by the teacher and he/she can get detailed analysis about his/her performance along with a preferred career choice that is solely based upon the student's performance.

Application Features

1. Independent question selection by teacher.
2. Already available 4 categories of questions to choose from.
3. Easy and bug free UI.
4. Detailed analysis of student's result after attempting a test.
5. Listing of all preferred career choices for the student.

Technologies Used

This desktop application is developed with the help of the following tools/libraries:

Tools

1. IntelliJ IDEA
2. Java Programming Language
3. JavaFX software platform for GUI
4. SceneBuilder for Drag-&-Drop GUI

Libraries / API's

1. Jfoenix - JavaFX Material Design Library
2. SQLite Database

Application Views

This system consists of various modules. Following are the important views in this desktop application:

Login Page

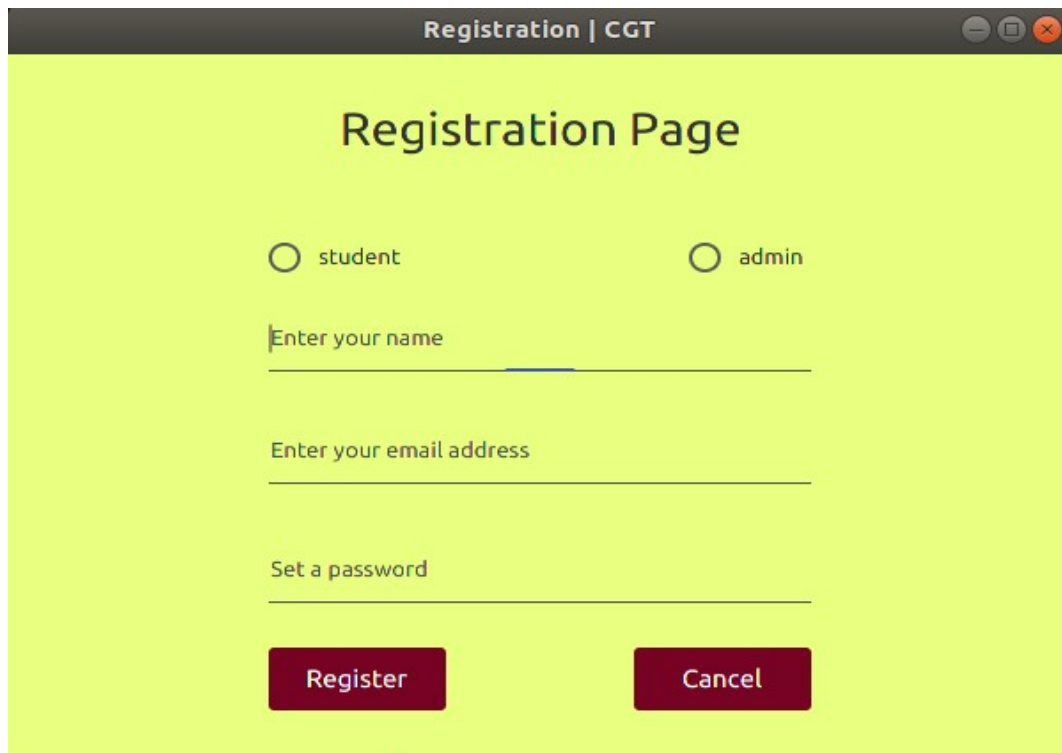
User will be provided with welcome GUI. The user will login accordingly. The credentials entered by the user are authenticated and the user is logged in as either a admin / student. From here, if the user is logging in for the first time, they are required to fill the registration form, and register with the system.



The screenshot shows a desktop application window titled "CGT| Login". The window has a light green background. On the left, there is a "Welcome to CGT" section with the text "New User? Register by clicking below.." and a red "Register" button. Below this is a collage of various professional icons. On the right, there is a "Sign In" section with two radio buttons for "student" and "admin", followed by input fields for "email" and "password", and a red "Login" button.

Registration Page

The user can register here either as student or as an admin. The admin has the privilege of adding questions and monitoring the tests. The students can take online tests and view their results.



Registration | CGT

Registration Page

☐ student ☐ admin

Enter your name

Enter your email address

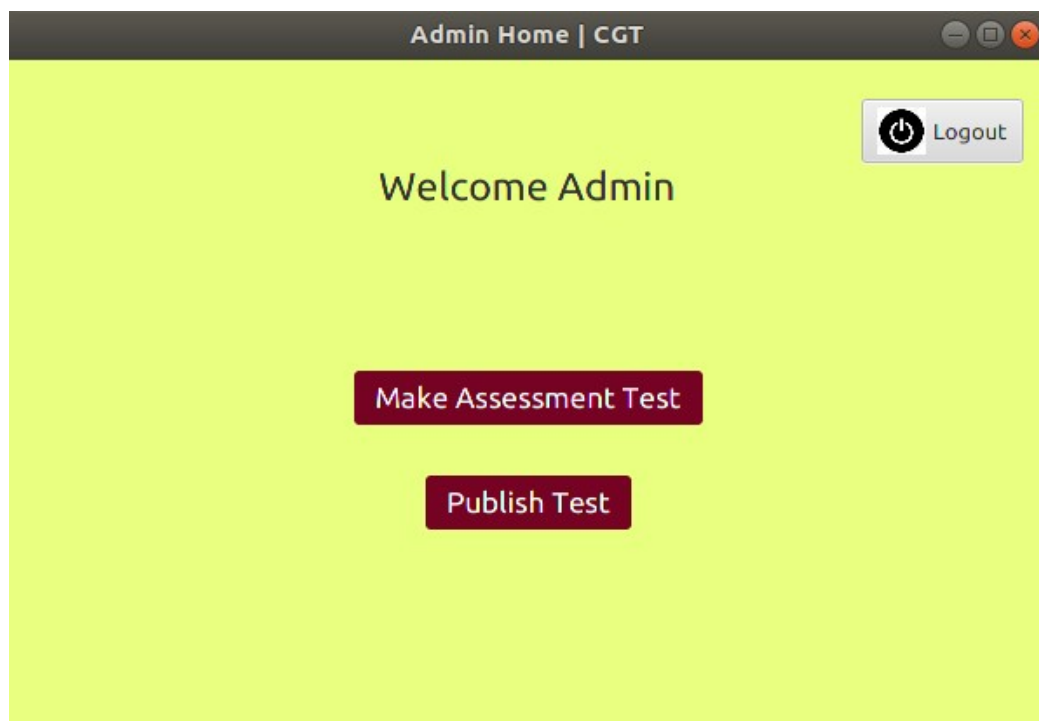
Set a password

Register Cancel

This screenshot shows a web browser window titled "Registration | CGT". The page has a light blue background and a dark blue header. The main heading is "Registration Page". Below the heading, there are two radio buttons for user type: "student" and "admin". There are three text input fields: "Enter your name", "Enter your email address", and "Set a password". At the bottom, there are two buttons: "Register" and "Cancel".

Admin Dashboard

The admin has options to add test questions and them to the database and also publish the test when the problem setting is complete. The students will not be able to access the test until the admin has made it available.



Admin Home | CGT

Welcome Admin

Logout

Make Assessment Test

Publish Test

This screenshot shows a web browser window titled "Admin Home | CGT". The page has a light blue background and a dark blue header. The main heading is "Welcome Admin". In the top right corner, there is a "Logout" button with a power icon. Below the heading, there are two buttons: "Make Assessment Test" and "Publish Test".

Add Question | CGT

Fill the fields and submit to add the question to test

Which gas is found in soda water?

Option A

Oxygen

Option B

Carbon dioxide

Option C

Carbon monoxide

Option D

Methane

Answer

Carbon dioxide

Category

Science

Add Question

Student Dashboard

The student has options to take the tests and view their results. The students can appear for test. Result will be analyzed to generate a report giving suggestions about career.

Student Home | CGT

Logout

Welcome harvey

Online Test

Result Analysis

Test | CGT

Label

Which gas is found in soda water?

☐ Oxygen

☒ Carbon dioxide

☐ Carbon monoxide

☐ Methane

Submit Problem

Next

Result Page

The result page gives the student his category-wise score. Based on these scores, the application recommends students to take up the future career plans.

Result | CGT

Result Analysis

Scorecard

Aptitude	0
Arts	1
Science	2
Mathematics	0

You scored best in Science. You should choose Science as your field of study for your career.

Future Improvement Scope

Career Guidance Tool can be further improved by adding more functionalities like managing student database by admin, adding more categories of problems, time bound tests.

Also the result interface can improved by increasing the interactiveness and displaying the charts and graphs for the student results.

And the application logic could be more improved to provide with better security and more personalilzed analysis of the student's result.

Conclusion

Students bright future is crucial for the development of country. This is why a system like this is benificial for guiding the students to their best appropriate pathway, so they can excel in their professional career. The opportunities provided by the technology are immense and many students can make use of this platform to choose a career more appropriate to their skills, thus making the students architect of their own career.