Gradebook

Introduction

Gradebook is an easy-to-use, cloud based platform designed for schools that want to speed up the time it takes for them to prepare student report cards. In order to understand why a system such as gradebook is necessary, we should look at how report cards are usually prepared.

Background

Most schools in Zimbabwe carry out examinations towards the end of school terms. Students are required to write tests on the subjects that are taught in their classes. The results from these tests are then compiled to produce student report cards which are an indication of the student's academic performance for that term. The report cards usually contain:

- Name of the student
- Their class teacher
- Term/Exam Session e.g Term 2 2023
- Class Name
- Class Position
- List of Subjects along with:
    - Exam Mark
    - Position in Exam
    - Grade
    - Subject Teacher's Remark
- Exams Total
- Exam Average
- Class Teacher's Remarks

To prepare report cards, the following steps are followed:

- Subjects teachers prepare exams
- Examination session starts
- Students write the examinations for the subjects taken in their class
- Teachers mark the examination tests
- Teachers record the examination results
- Teachers rank the examination results
- Class teachers prepare the report cards i.e Add the following information to the report card (Information that is not dependant on the outcome of the exams):
    - student name
    - class name

- - class teacher name
    - term/exam session
- Report cards are physically passed between subject teachers so that they can fill their subject's mark, student subject position and remarks
- Subject teachers complete filling the report cards
- Report cards are returned to the class teacher
- Class teacher fills in the report data that's dependent exam results:
- Exams total
- Exam Average
- Student Class Position
- Class Teacher's Remarks
- Reports are issued to students

Drawbacks of the current system

This paper-based approach has a few drawbacks:

- Manual exam mark ranking
- Require the physical handing of report cards between class teachers and subject teachers

How an online platform would a better solution:

- Allows teachers to work remotely
- Automatic ranking (both for subject and class)

Gradebook Features and Design

Gradebook will have 2 sets of users:
- School administrators
- Teachers

List of Feature Groups

A. Prelogin: login and registration

B. School admin dashboard view: for managing exams, teachers, subjects, classes and students

C. Teacher dashboard: for managing their class and subjects

D. Profile View: For managing user info, exam info, class info, subject info and student info.

Features for gradebook MVP

Feature	Section	Description
School Registration Form	A	A form with administrator name, surname, email, password, school name, register button. It should also have a login hyperlink for users who already have an account and those who forgot their passwords.
Login Form	A	A form with email, password and a login button.
Recover Password	A	A form where the user can type their email so a reset link is sent
Admin Profile	D	A view where the school admin can manage their name, surname, email, school name and password.
Teacher Profile	D	A view where a teacher can view name, surname, email, list of subjects they teach, the classes they manage and change password
Navigation Bar	B	A navigation bar on the admin dashboard which contains links to the views where exams, classes, subjects, teachers and students are managed.
Exams View	B	A view where the school admin can register a new exam and view a list of past exams
Classes View	B	A view where the school admin can register a new class and view a list of classes present at the school

Subjects View	B	A view where the school admin can register a new subject and manage the current subjects the school offers
Teachers View	B	A view where the school admin can register new teachers and manage currently registered teachers
Students View	B	A view where the school admin can manage student information
My Class View	C	A view where a teacher can manage their class's information if they are a class teacher
My Subjects View	C	A view where a teacher can manage the subjects that they teach

Design

User Stories and Personas

Personas

Persona For Yuvone Mlambo (School Admin)

Name	Yuvone Mlambo
Age	40
Education	Diploma in Education
Job/occupation	Clerk at Chipinge High
Income	$400/month
Lifestyle	Work on the weekdays, Church on Sunday
Personality	Honest, open
Usage patterns	Intermediate PC user
Tech usage	General office work such as answering phones, making photocopies and keeping records

Persona For Peter Hluyo (Class Teacher)

Name	Peter Hluyo
Age	55
Education	Degree in Computer Science
Job/occupation	Computers Teacher at Chipinge High. Class Teacher for 2A
Income	$400/month
Lifestyle	Work on the weekdays
Personality	Honest, open
Usage patterns	Advanced PC user
Tech usage	Classroom work teaching word processors, excel spreadsheets, programming.

Persona For John Musademba (Teacher)

Name	John Musademba
Age	50
Education	Diploma in Education

Job/occupation	Geography Teacher at Chipinge High. Not a Class Teacher
Income	$400/month
Lifestyle	Work on the weekdays
Personality	Honest, open
Usage patterns	Basic PC user
Tech usage	Cellphone answering phone calls

User Stories

School Admin User Stories

- As Yuvone Mlambo, school admin for Chipinge High, I want to register new classes and subjects on the system so I can assign them teachers.

- As Yuvone Mlambo, school admin for Chipinge High, I want to register new teachers on the system so I can assign them classes and subjects.

- As Yuvone Mlambo, school admin for Chipinge High, I want to view and manage student information like personal details, classes and exam results so I can keep accurate records.

- As Yuvone Mlambo, school admin for Chipinge High, I want to setup classes and subjects for the term exams so teachers can begin entering exam results.

Class Teacher User Stories

- As Peter Hluyo, class teacher for class 2A, I want to view my class's details for a term exam like student names and exam results (marksheet) so I can prepare their report cards.
- As Peter Hluyo, class teacher for class 2A, I want to view, add my remarks and print finalized report cards for my class to distribute to students.

Subject Teacher User Stories

- As John Musademba, geography teacher, I want to view the students I teach geography for each class so I can enter their exam marks.
- As John Musademba, geography teacher, I want to enter exam marks, grades, rankings and remarks for each student I teach so class teachers can compile accurate report cards.
- As John Musademba, geography teacher, I want to easily view and sort student exam results for my subjects to check for errors or inconsistencies.

Information Architecture
School Admin Sections

- School Registeration

- Login

- Password Recovery

- Dashboard

  - Navigation Bar

    - App Logo

    - User Profile Link

  - Sidebar

    - Views section NavLinks

  - Views Section

    - Exams View

    - Classes View

    - Subjects View

    - Teachers View

    - Students View

- User Profile

Teacher Sections

- Login

- Dashboard

  - Navigation Bar

    - App Logo

    - User Profile Link

  - Sidebar

    - Views section NavLinks

  - Views Section

    - Exams View

    - My Class View

      - Class Name

      - Exam Terms Filter

      - Class Subjects List

        - Subject Teacher Name

- - Subject Name
  - Class Exams Marksheet
    - Student Report Card
- My Subjects View
  - Exam Terms Filter
  - My Subjects Selector
  - My Subject Exams Marksheet

Data Requirements

Gradebook is a cloud based platform designed for schools that want to speed up the time it takes for them to prepare student report cards. It has two sets of users. School admins and teachers. A school admin is representative of a school who is responsible for registering their school and managing their school account. Each school admin has a name, surname, email and password. A teacher has a name, surname, email and password.

A school has classes, subjects and students. A class has a name. A subject has name. A student has a name and surname.

Each teacher has to teach at least 1 subject. A subject can be taught by many teachers. Some teachers are class teachers (They manage a certain class). Every teacher teaches their subject to at least one class.

Each student is enrolled in one class at a time. Students can change classes. Every class has subjects which, by default, are taken by students enrolled in that class.

At the end of a school session (usually a term), school examinations are conducted. Each session exam has a name, active status (indicates teachers are still compiling results), start date and end date. Exam results are recorded for each session. Each result has an exam mark, grade and subject teacher's remark. Every result belongs to an exam, a subject, the corresponding subject teacher and the student who wrote the exam.

After all exams are evaluated and recorded, report are generated and issued to students. A report is a collection of exam results that each student took for a specific exam session. Each report belongs to a student and an exam session. Every report has the class teacher's remarks.

When the school admin registers an exam session, they go through a series of steps to confirm that their school records are current and accurate. This information is part of the exam registration status. Each registration status belongs to an exam session, has a current step and completed status.

Each school offers a list of subjects to it's students. A subject can have multiple teachers. A teacher can teach multiple subjects. A subject can be taught in multiple classes. Some teachers are class teachers. This means they are responsible for generating student reports and managing the student records in their class.