

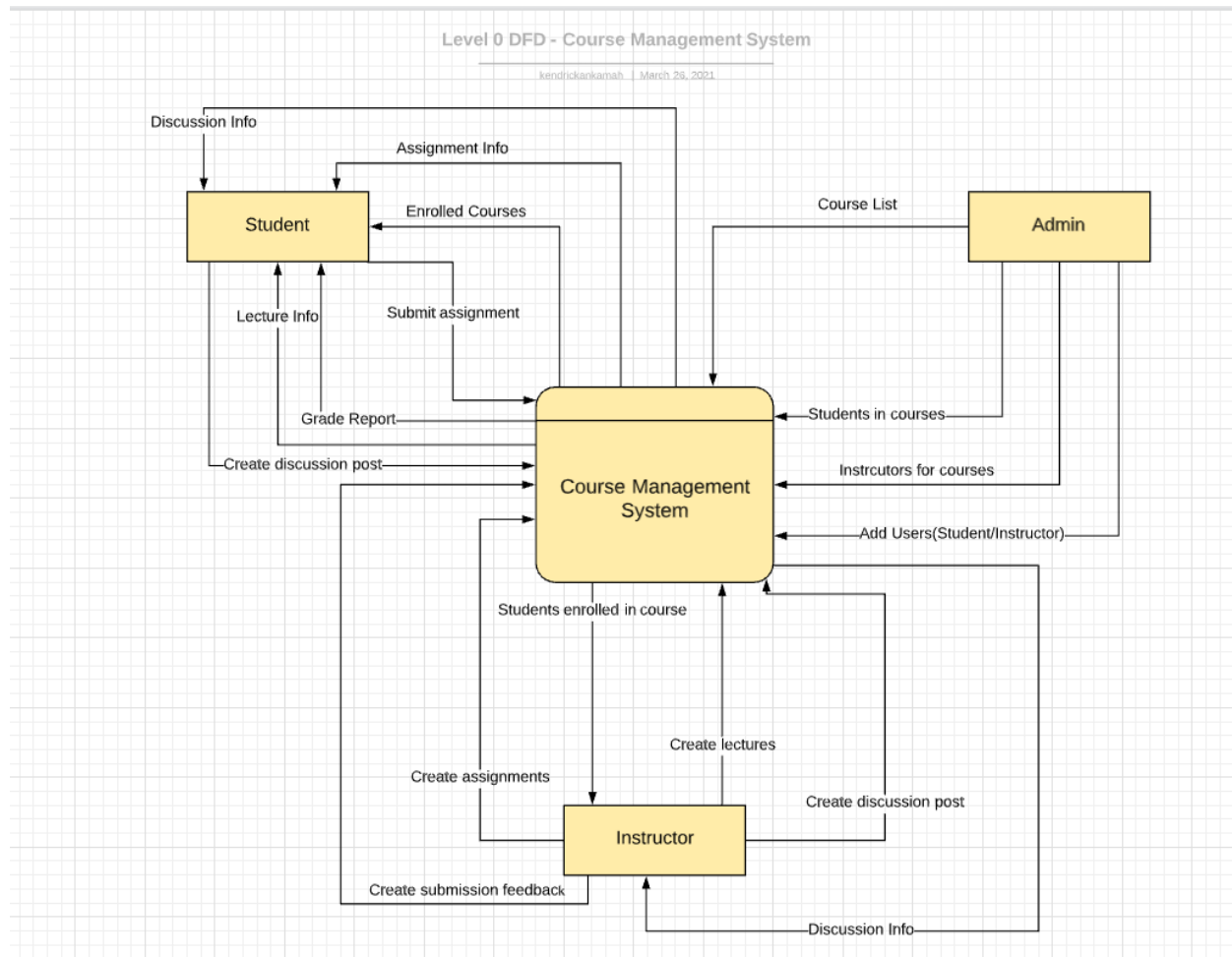
Initial Functional Design

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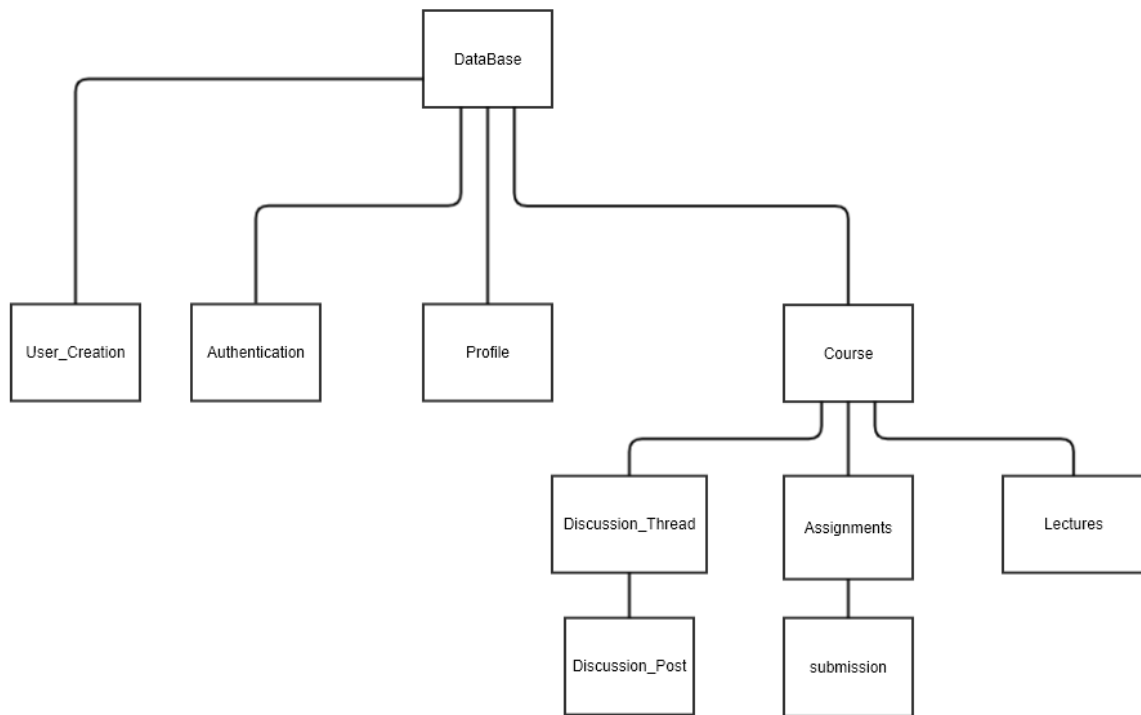
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DFD Diagram (Level 0)



HIPO Chart

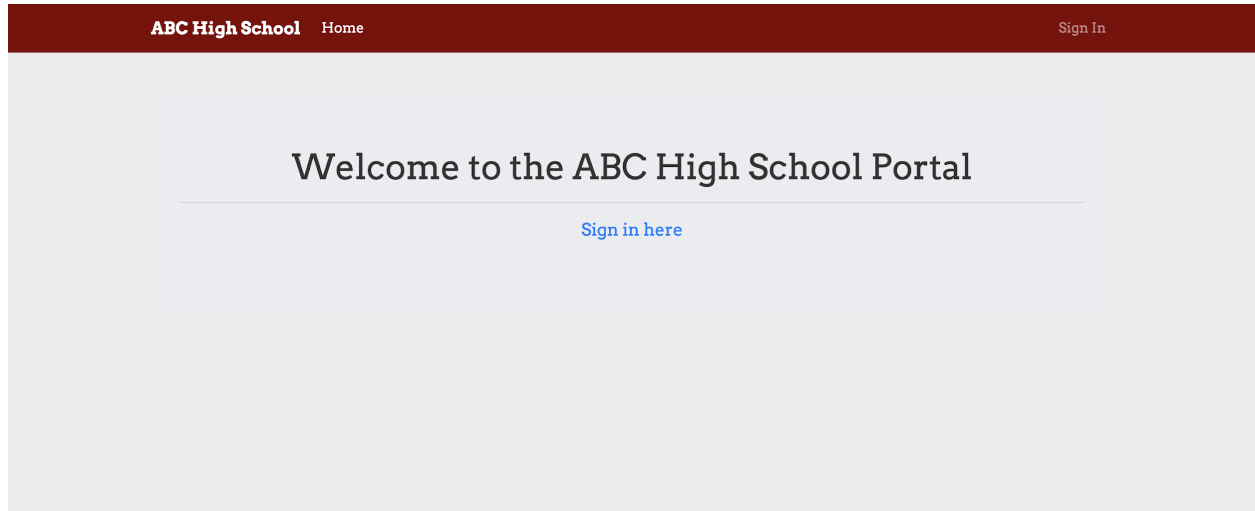


API Blueprint

HTTP	URL	Description
GET	/api/students/	Return all students
POST	/api/students/	Create a new student
GET	/api/instructors/	Return all instructors
POST	/api/instructors/	Create a new instructor
GET	/api/users/<str:username>/	Return one user
DELETE	/api/users/<str:username>/	Delete user
GET	/api/users/<str:username>/profile/	Return user profile
GET	/api/users/<str:username>/courses/	Return courses of a user
GET	/api/courses/	Return all courses
POST	/api/courses/	Create a course
GET	/api/courses/<int:pk>/	Return one course
DELETE	/api/courses/<int:pk>/	Delete a course
GET	/api/courses/<int:pk>/lectures/	Return all lectures of a course
GET	/api/courses/<int:pk>/assignments/	Return all assignments of a course
GET	/api/courses/<int:pk>/enrollments/	Return all students enrolled in a course
POST	/api/courses/<int:pk>/enrollments/	Add student to a course
DELETE	/api/courses/<int:pk>/enrollments/<str:username>/	Remove student from a course
GET	/api/courses/<int:pk>/assistants/	Return all TAs of a course
POST	/api/courses/<int:pk>/assistants/	Add TA to a course
DELETE	/api/courses/<int:pk>/assistants/<str:username>/	Remove TA from a course
GET	/api/courses/<int:pk>/discussions/	Return all discussion threads for a course
GET	/api/discussions/<int:pk>/	Return all posts of a discussion thread
POST	/api/courses/<int:pk>/discussions/	Create new discussion thread in a course
POST	/api/discussions/<int:pk>/	Create a new post in a thread

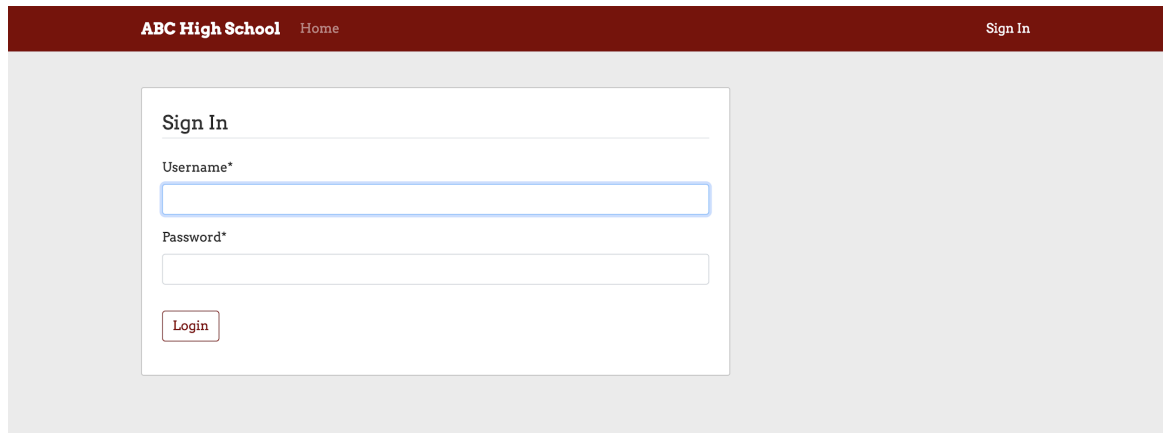
Website Blueprint

When a user visits the site there will be a welcome message displayed on the home page asking them to sign in.



URL: /

“Sign In” is the only option on the navbar for unauthenticated users and will redirect them to the sign in page



URL: /login/

Signing in redirects a user to their personal dashboard which displays all the courses they are enrolled in or assist in (Students) or that they teach (Instructors)

ABC High School DashboardBobSmith Logout

Dashboard

Enrolled Courses

Database Management

Instructor: Tom Jones
Time: Period 3
Day: Wednesday

Django Web Development

Instructor: Dave Williams
Time: Period 6
Day: Friday

Assisted Courses

URL: `/dashboard/<username>/` (Student perspective)

ABC High School DashboardTomJones Logout

Dashboard

Taught Courses

Database Management

Instructor: Tom Jones
Time: Period 3
Day: Wednesday

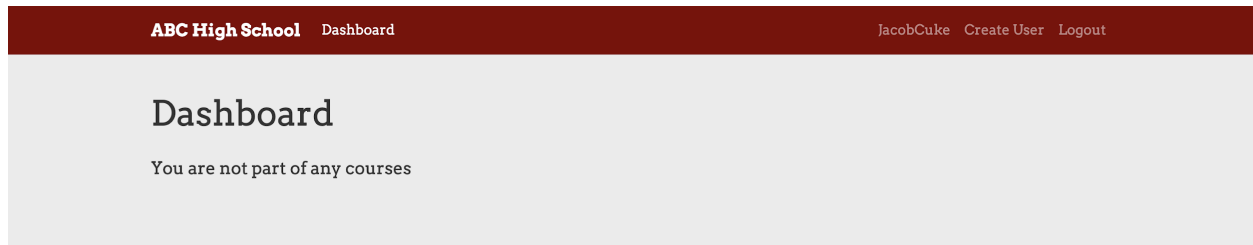
Linear Algebra

Instructor: Tom Jones
Time: Period 1
Day: Tuesday

URL: `/dashboard/<username>/` (Instructor perspective)

The navbar updates “Home” to “Dashboard” and all visits to the homepage redirect here. Additionally, “Sign In” becomes “Logout” and an option with the user’s username appears as a link to their profile page.

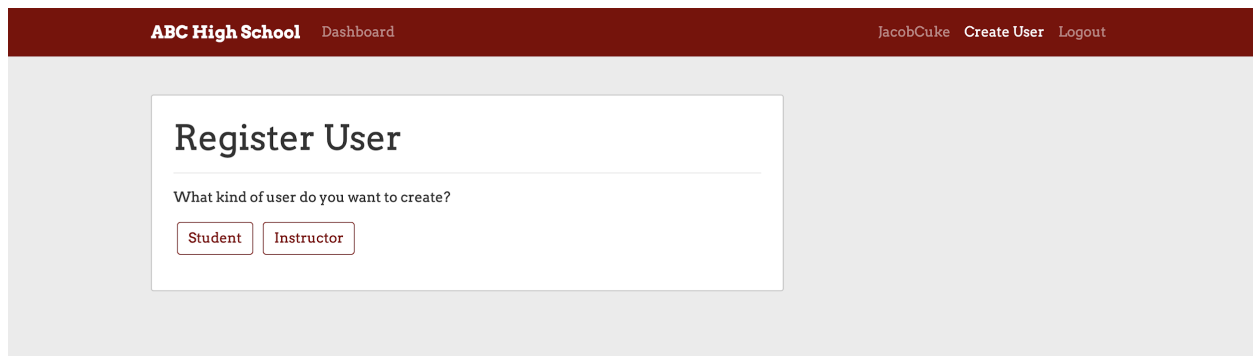
Superusers (database admins) have an additional option to “Create User”



The screenshot shows the top navigation bar of the ABC High School application. The bar is dark red with white text. On the left, it says "ABC High School" followed by "Dashboard". On the right, it says "JacobCuke", "Create User", and "Logout". Below the navigation bar, the main content area is light gray. It features the heading "Dashboard" in a large, bold, dark font. Below the heading, it says "You are not part of any courses" in a smaller, dark font.

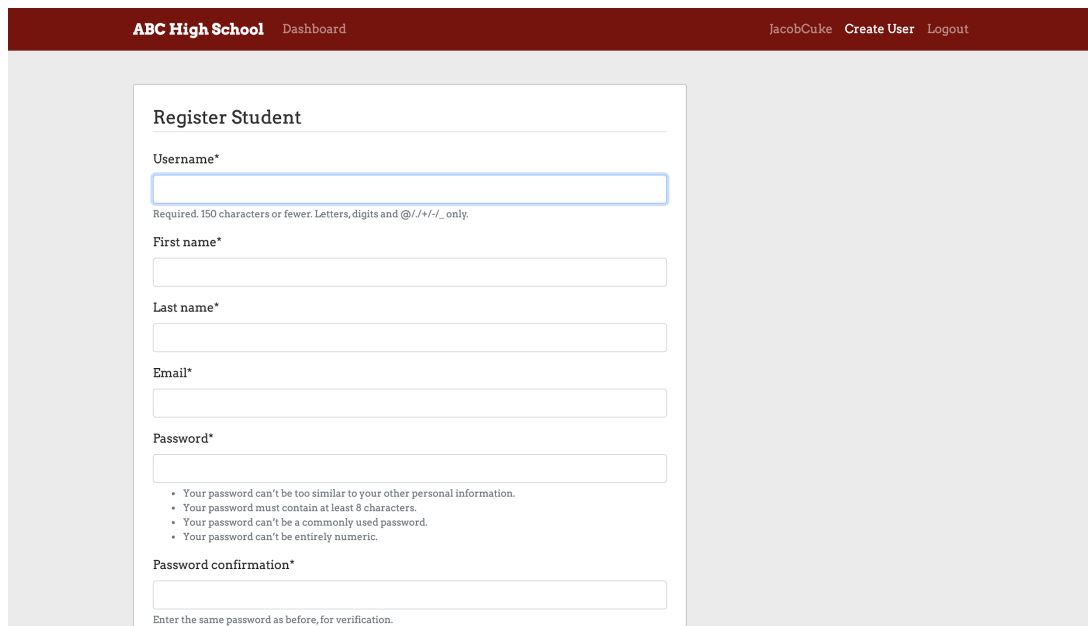
URL: /dashboard/<username>/ (Superuser perspective)

This redirects to a form where a new Student or Instructor can be added to the database.



The screenshot shows the "Register User" form. The form is a white box with a dark red border, centered on a light gray background. The top of the form has the heading "Register User" in a large, bold, dark font. Below the heading, it says "What kind of user do you want to create?" in a smaller, dark font. There are two buttons: "Student" and "Instructor", both with dark red borders and dark red text.

URL: /register/



The screenshot shows the "Register Student" form. The form is a white box with a dark red border, centered on a light gray background. The top of the form has the heading "Register Student" in a large, bold, dark font. Below the heading, there are several input fields: "Username*", "First name*", "Last name*", "Email*", "Password*", and "Password confirmation*". Each field has a dark red border. Below the "Username*" field, there is a small, dark gray text string: "Required. 150 characters or fewer. Letters, digits and @/!/+/-/_ only". Below the "Password*" field, there is a list of four bullet points: "Your password can't be too similar to your other personal information.", "Your password must contain at least 8 characters.", "Your password can't be a commonly used password.", and "Your password can't be entirely numeric." Below the "Password confirmation*" field, there is a small, dark gray text string: "Enter the same password as before, for verification."

URL: /register/student (similar for for Instructors at URL: /register/instructor/)

Each user has their own profile page. Anybody can view their own profile. Instructors' profiles can be viewed by anyone. Students' profiles can only be viewed by an instructor who teaches a course they are enrolled in or assist in.

ABC High School

Dashboard

JacobCuke

Create User

Logout

BobSmith

Full Name: Bob Smith

Email: bobsmith@abchigh.com

Birth Date: April 30, 2004

Address: 33 Real Street NW

Year: 12th Grade

Student ID: 12345678

Extracurriculars

› Basketball

› Football

› Guitar

Guardians

Name	Relation	Phone #	Address
Jane Smith	Mother	4035558765	33 Real Street NW
James Smith	Father	4035550987	33 Real Street NW

URL: /profile/<username>/ (Student profile)

ABC High School

Dashboard

JacobCuke

Create User

Logout

TomJones

Full Name: Tom Jones

Email: tomjones@abchigh.com

Birth Date: April 20, 1970

Address: 101 Another Street SW

Office Number: 100A

Office Phone Number: 4035551234

Courses Taught

Course Name	Time	Day
Database Management	Period 3	Wednesday
Linear Algebra	Period 1	Tuesday

URL: /profile/<username> (Instructor profile)

ABC High School
Dashboard

BobSmith
Logout

BobSmith

Edit Profile

Full Name: Bob Smith

Email: bobsmith@abchigh.com

Birth Date: April 30, 2004

Address: 33 Real Street NW

Year: 12th Grade

Student ID: 12345678

Extracurriculars

+ Add Item

Basketball

Football

Guitar

Guardians

+ Add Item

Name	Relation	Phone #	Address	Actions
Jane Smith	Mother	4035558765	33 Real Street NW	
James Smith	Father	4035550987	33 Real Street NW	

URL: /profile/<username>/ (Student profile from that student's perspective)

Back to the dashboard, clicking on one of the courses listed redirects to the page for that specific course. The navbar updates with options to view “Lectures”, “Assignments” and “Discussion”.

ABC High School
Dashboard
Lectures
Assignments
Discussion

TomJones
Logout

URL: /course/<course_id>/

The course page has yet to be completed but will follow the same format and design.

All of the above urls are protected with security permissions. If any of these urls are accessed while not logged in the user will be redirected to the login page. Any attempt by a user to go to a URL that they do not have access to will generate a 403 Forbidden error message and they will be shown this error message

