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# Software Design Document

for

## Online Tutor Portal

Version 1.0

By Group 2

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# **1 Introduction**

## **1.1 Purpose**

This project aims to build a tutor portal as a website, accessible to anyone with the internet. It provides an all in one solution to education. Tutors can register and teach; parents can search for suitable tutors for each course and enrol their children. The students can then attend classes, watch theory videos and discuss doubts on the forum.

## **1.2 Scope**

The purpose of the online tutor portal is to ease finding tutors and create a convenient and easy-to-use application for students, parents and tutors.

A tutor can register themselves, and after approval from the portal admins, start hosting courses and tutoring students. The parents can log into the portal and search for tutors for particular courses and subjects. The students can then study the course, attend tuition classes, and discuss doubts with their tutor on the website. Above all, we want to provide a user-friendly interface with the best education.

## **1.3 Description of Problem**

During the pandemic, every industry had to shift to an online medium to survive. One of these industries was the education industry. While shifting to the online medium, a lot of problems became glaringly obvious. To name some of them are no proper platform for teaching, communication gap between teachers and students, etc. Our website creates a platform to target these issues and resolve them as we thought best.

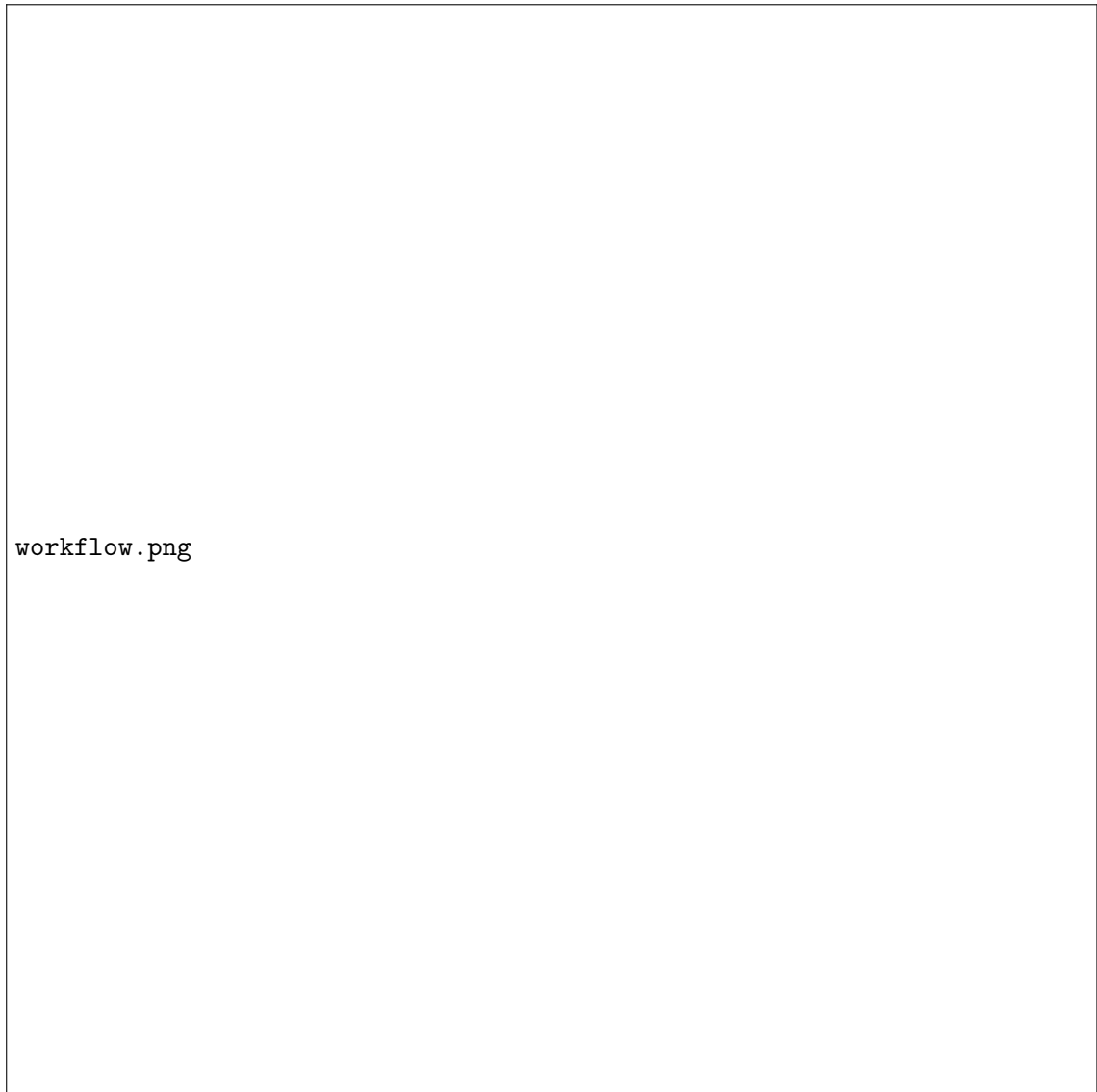


Figure 1.1: Workflow

## 2 Design Overview

### 2.1 Technology Used

The "Online Tutor Portal" website is built on the MERN Stack, which use the following frameworks. The Software will work on any operating system with a chromium browser. Back-End - NodeJS, ExpressJS Front-End - React, React-Bootstrap. Database - MongoDB Testing - Manual

### 2.2 System Architecture

There are mainly 5 user interfaces in the Portal. They are:

- Student Course Page
- Tutor Page
- Course and Tutor Search Page
- Chat Page

Students should be able to do the following functions:

- Access a course in which the student is enrolled
- View Live Lecture Stream, Uploaded Videos, Lecture notes and other study material provided by the course
- Ask doubts in the doubt forum of that course
- Request a one-on-one Google meet with the tutor for doubt-clearing

Tutors should be able to the following functions:

- See all the courses created by the tutor
- Add new course/ Update an existing course
- Conduct Live Classes using Google Meet
- Get the details of the courses like number of students enrolled, etc.
- Answer the student's questions in doubt forum

- Conduct one-on-one doubt session with a student or progress meet with parents

Parents should be able to do the following functions:

- Enrol their children in one or more courses
- Meet with tutors to discuss progress of their children
- Parents can check reviews of the course and tutors

## **2.3 Use Case Diagram**

The Online Tutor Portal basically has 3 types of users:

- Student
- Parent
- Tutor

## **2.4 Activity Diagram**

Shows a typical sequence of events that takes place involving the user and the app. The user will first login to the app. then he/she will be able to view his assignment, grades and download them as pdf. Student can also request for courses.

## **2.5 System Operation**

Sequence Diagram

## **2.6 Subsystem Design**

Interface frontend Class Diagram

## **2.7 State Diagram**

### 3 ER Model

## 4 Data Models

Class Diagrams Backend Data flow diagram



## **5 Wireframe and Mockups**

**5.1 Home Page**

**5.2 Student Page**

**5.3 Tutor Page**

**5.4 Parent Page**

**5.5 Chat Page**

**5.6 Course Info Page**