

Smart Token Allocation System for Examination Fee Payment

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Abstract— Exam fee payment is an inevitable part of every student's curriculum, where in the students usually face an unpleasant experience of standing in long queues and waiting for their turn. Many a times even after a long wait, one cannot ensure that their work would be done. This would be a tedious task and the students have many possibilities of missing their class hours. In this proposed work, an automated system, FeePay is designed that manages extended queues for paying the exam fee. The system generates tokens that contain a schedule, based on which the students approach the counters to pay the exam fee thereby easing their effort and improving their experience via an android application.

Keywords— FeePay, Token generation, Scheduling.

I. INTRODUCTION

The "Smart token allocation system" is an approach that generates tokens in order to efficiently schedule the process of examination fee payment. This system uses an android application that generates tokens with regular time spacing and sends this schedule to students. The students can approach the counter at the time specified in the token that was generated for them. This eases the entire process of fee payment as it provides a very clear schedule thereby reducing the effort of waiting in an extended queue for prolonged periods of time.

The design and implementation of this android application based automatic token generation system replaces the traditional man power of waiting in extended queues for paying the exam fee. Students can approach the counters to pay the exam fee using the generated tokens that contain a schedule, thereby easing their effort and improving their experience via an android application.

A. Overview of the existing system

The existing system for fee payment demands students to stand in long queues waiting to pay the fee for examination. This consumes a lot of time that could rather be used productively. The students tend to miss the classes and wait for their turn in the queue in order to pay the fee. This drawback of the existing system propelled us towards the idea for developing a system that could ease this effort.

1) Limitations of the existing system

- Although the existing system of queues helps in managing congestion, it still has the drawback of having to wait in long queues.
- Time-management is an issue using this approach.

- The possibility of getting the fee paid even after a long wait is quite uncertain.

B. Overview of the proposed system

The proposed system is an alternative for queuing management that could reduce inconvenience to the public. The motivation of this system is depicted from an observation on the people queuing for services at the counter to pay the examination fee without committing to the estimated time for their demand. Waiting for the service consumes an unacceptable amount of productive time for the students. The proposed system makes use of an application that generates tokens for students and provides a schedule based on which the students can approach the counters to pay the fee. This drastically reduces the time required to pay the fee as the students do not have to wait for a long time in the queue. This approach can thereby reduce the effort of the students and save their time, which could possibly be used in a productive manner.

1) Advantages of the proposed system:

- It avoids the need to wait in long queues to pay the fee.
- This is a time-efficient approach.
- This is user-friendly approach.
- The possibility of getting the work done is quite certain.

II. LITERATURE SURVEY

The paper named "Design and Implementation of Patient Appointment and Scheduling System", Akinode, John Lekan, Oloruntoba S.A [1] focuses on focuses on developing an efficient system that improves the quality of delivering a web based appointment system to decrease waiting time of patients. This paper helps us to develop an appointment and scheduling system that is designed to reduce time waiting and ensure optimal use of resources.

The paper titled "Automatic token allocation system through mobile in primary care", Lavanya Chimaladinne and Nagaraju Sonti [2] developed a Reservation system that eases managing appointments to service providers. This paper assists in developing a proper scheduling system considering all the constraints which will increase patient satisfaction and in turn increases profit.

III. OBJECTIVES

- To provide a user-friendly interface that eases the effort of students in the process of exam fee payment.

- To automate the existing system of prolonged waiting in extended queues for fee payment.
- To help students manage time by providing a token schedule via android application.

IV. METHODOLOGY

The system functions in two views. The Student view has an android application interface that provides the features of registration and login. The authenticity of the student is verified by checking with the college database and an OTP is sent to the corresponding phone number of the respective student. Once the student registers, request for token can be made by entering the subject codes. The tokens contain the time schedule along with the date.

The tokens are generated in a First Come First Serve sequence. The students are served based on the schedule and the availability of counter personnel within the given time slots. The admin views has a web application interface that provides counter personnel access to the details as well as update the database regarding the status of fee payment.

The steps for “First Come First Serve” scheduling algorithm are given below:-

- Step 1: Start
- Step 2: Input the number of process.
- Step 3: Enter processes along with their burst time.
- Step 4: Set $i \leftarrow 0$.
- Step 5: Compute $t \leftarrow t + b[i]$;
- Step 6: Repeat step 5 until $i \geq n$ is not true.
- Step 7: Set $I \leftarrow 1$.
- Step 8: Compute $awt \leftarrow awt$ and $wt \leftarrow wt + b[i]$.
- Step 9: Increment the value of i .
- Step 10: Stop.

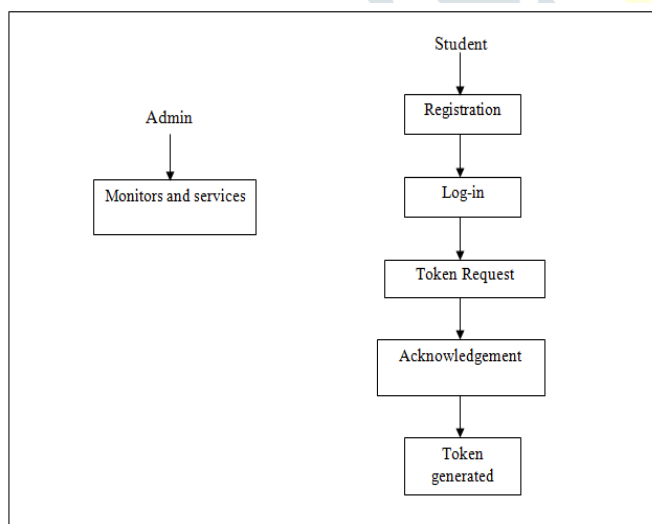


Fig 1: Block diagram for Token generation System

V. CASE STUDY

The proposed system, FeePay is implemented for generating tokens and serves as an ergonomic technique for scheduling. Once the student registers and proves his authenticity by entering the OTP sent to the phone number that is extracted from college database, a request for token can be made after logging in. The log-in page is shown in figure 2.

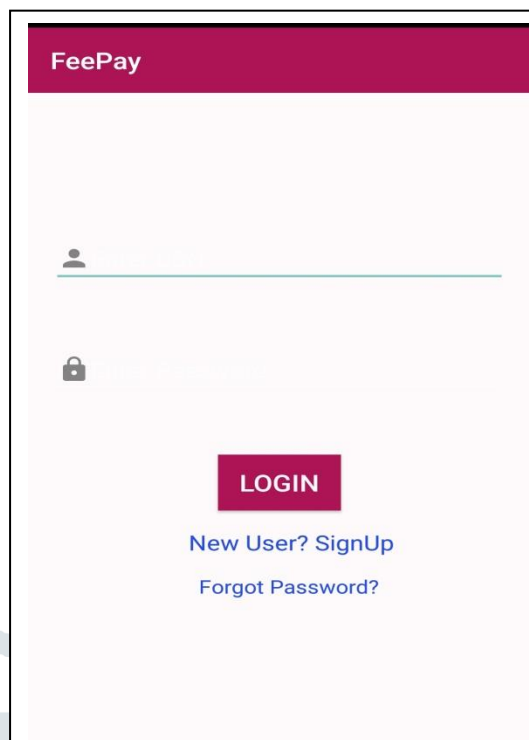


Fig 2: Log-in screen of FeePay.

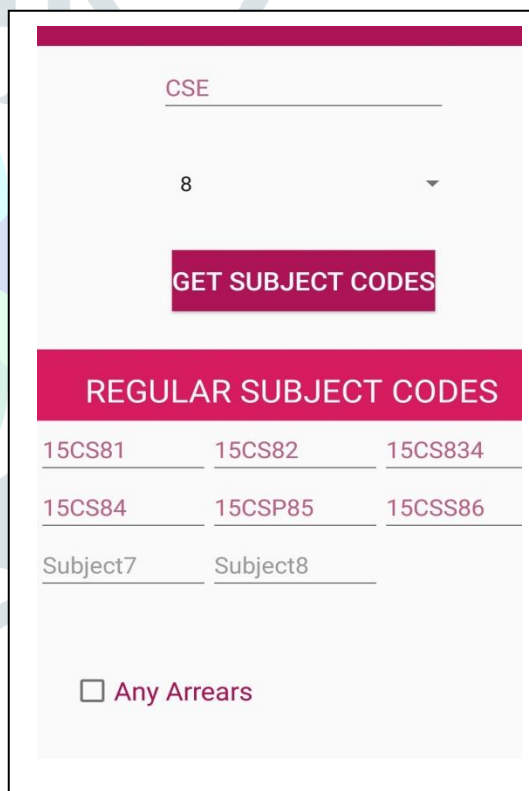


Fig 3: Request for token sthrough FeePay.

A schedule is then generated and sent as a message in the form of a token that contains the date and time at which the payment has to be done. This minimizes the traditional queuing system for fee payment. The following figure 4 is the generated output of this system.

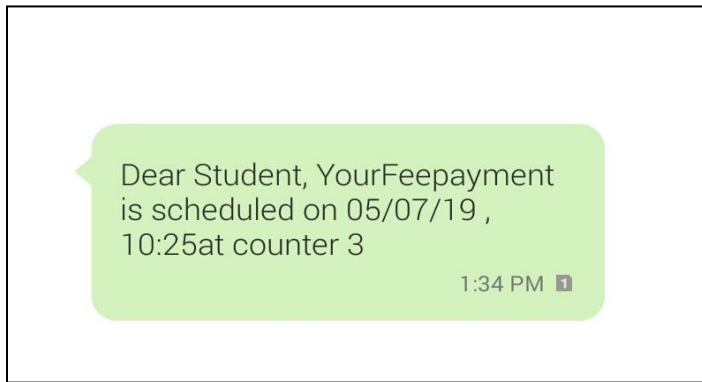


Fig 4: Output message displaying the schedule.

VI. CONCLUSION

The proposed system makes use of an application that generates tokens for students and provides a schedule based on which students can approach the counters to pay the fee. The system works in FCFS model to generate tokens thereby ensuring fairness in scheduling and ease of payment.

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