

E-learning with Mobile Apps

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Problem Definition

The teaching and learning of IT education in secondary and higher secondary level is an acute problem in Bangladesh due to lack of experienced teachers.

Technology Enhance Learning (TEL) can be effective to solve this problem. Mobile devices are now available to all people of our country. We have developed a TEL system using e-learning with mobile apps (eLMA) for effectively self learning and evaluation by students and performance evaluation by the teachers.

Objective

The objectives of this research are to develop a mobile based e-learning system to-

- assist the students of secondary and higher secondary level to learn the IT course,
- improve learning by self evaluation and
- help the instructors for e-evaluation of the course.

Methodology

I. Analysis

■ Data Analysis:

At top of data hierarchy is class. A class consists of many subjects a subject consists of many books; a book consists of many chapters; a chapter consists of many sections; a section consists of many questions. For each question, there are multiple answers of which the student have to choose the right answer. A test set will have many questions selected by the instructor.

■ Device Analysis:

- Client app is built with android api 17.Symphony w82 is used as the application running device.
- Server website is built with php codeigniter_2.1.0,mysql-5.5.24.

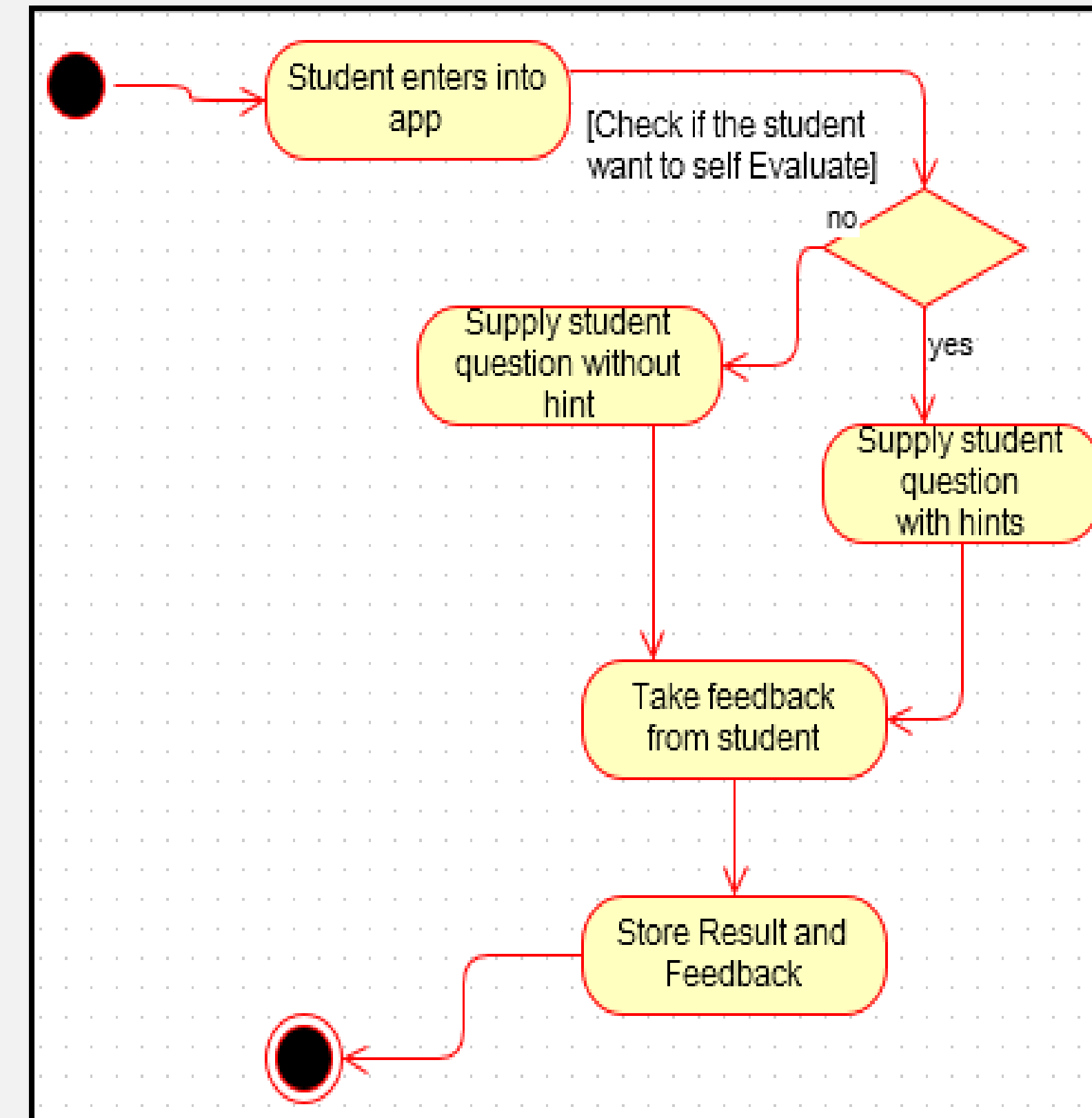
■ Course Analysis:

course covered is Information Technology for intermediate IT students.

II. Design & Implementation:

• Client Side Design

Activity Diagram of Client Side System for test



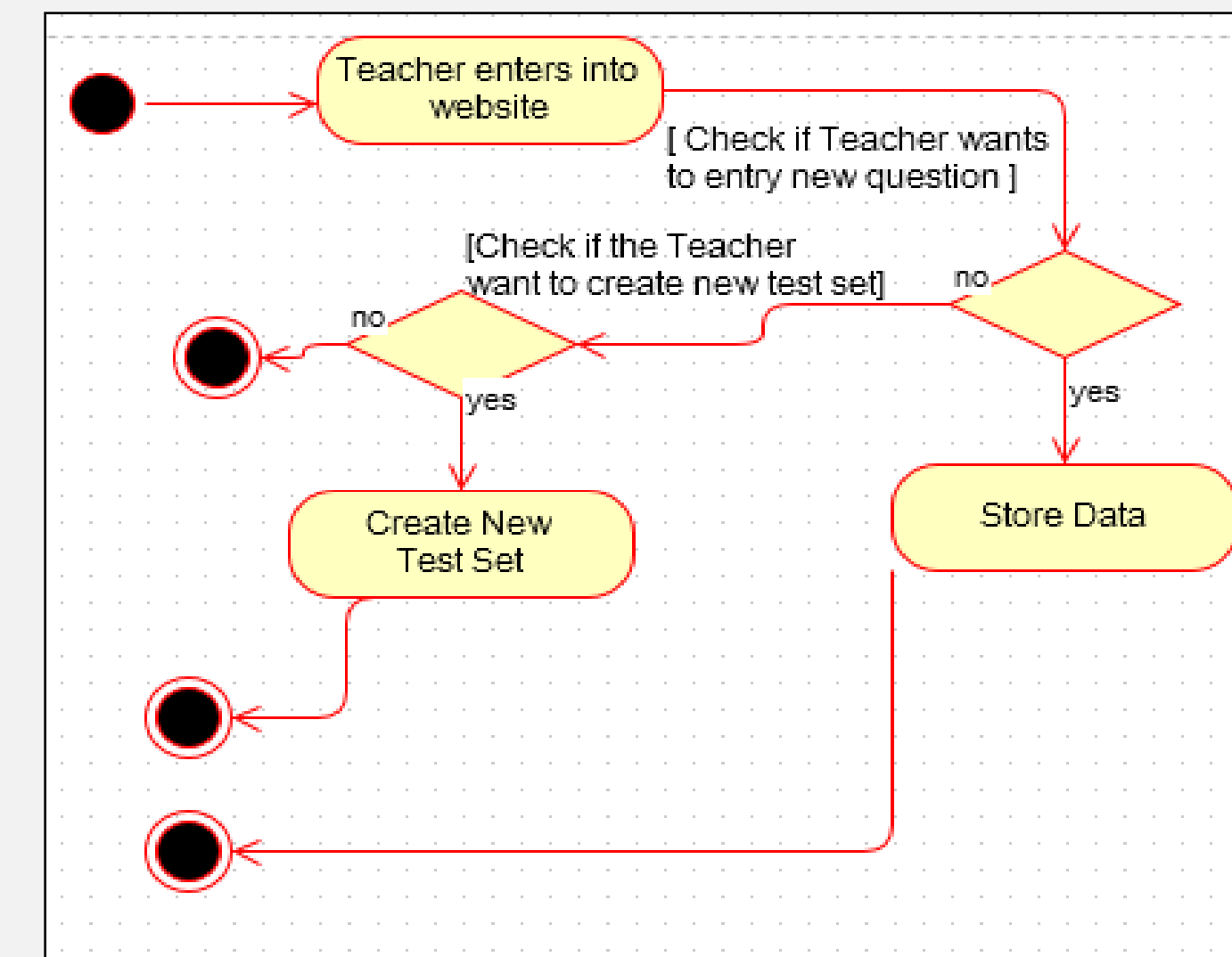
■ Client Side Implementation:

We have used -

- xml database,
- http client to connect with server,
- developed program to extract data encoded in xml and json format and
- shared preferences to store small data.

• Server Side Design

Activity Diagram of Server Side System for test



■ Server Side Implementation:

We have used -

- mvc framework of php code igniter in our website,
- jquery to some auto check facility ,
- Security is ensured using php sessions,
- mysql database to store data and
- xml and json format to deliver data to client app.

III. eLMA System Evaluation:

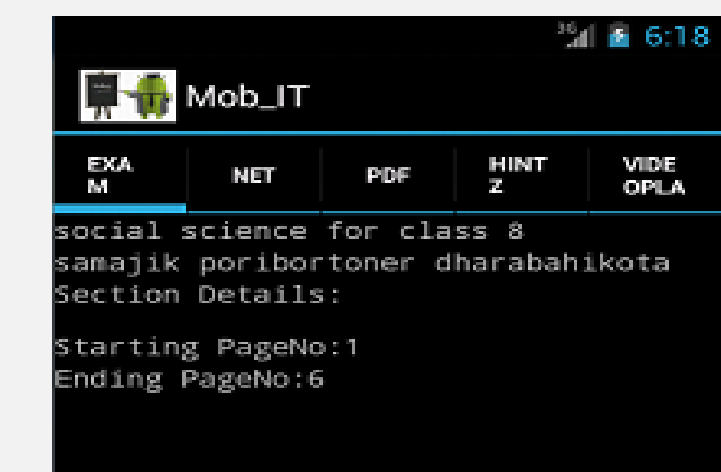
In the near future, we will try to use this system as part of IT related course in an educational institution. After a session they will give us feedback and we will use it to evaluate our system.

IV. Final System:

Using Evaluation Knowledge we will use the system with IT courses for all the Secondary and Higher Secondary students in our country.

Outcome

Client Side Android App

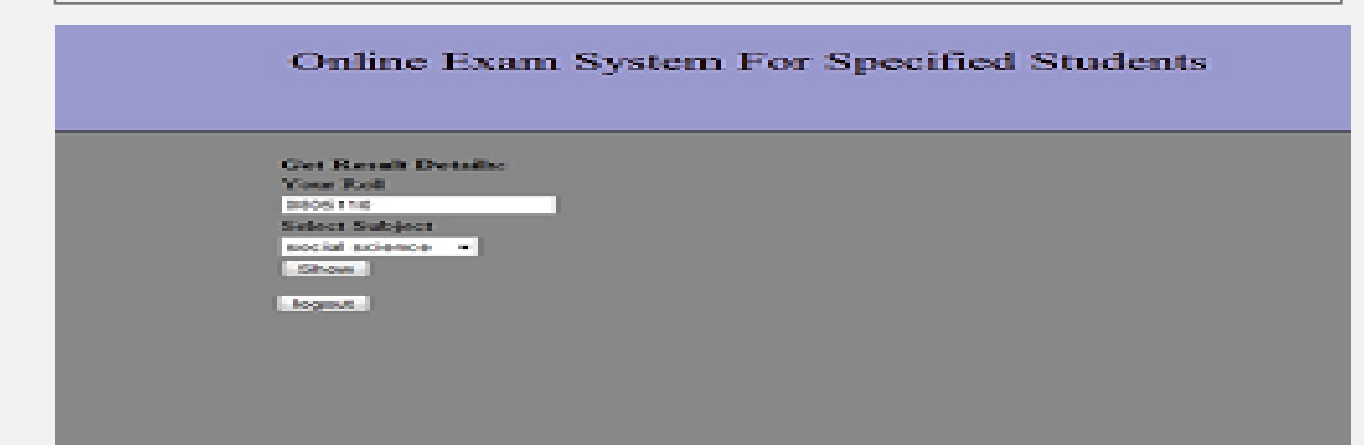


This app's main function is to take test from Student.

But while giving test Student can:

- access internet,
- go through pdf files,
- go through video tutorial and
- ask for more questions using sms.

Server side Website



This website is for the teachers.

■Using the website teacher can:

- set question bank using web,
- File upload,
- create test set for the student for any topic.
- A test can be for
 - self learning,
 - performance evaluation,
 - A self learning test may or may not contain hint. For learning student can view the contents.

Conclusion

We will embed in the near future new module like face recognition, eye detection with our android app to increase security of login system.