

E-LEARNING PORTAL FOR DISABLED PEOPLE

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Abstract -- In today's developing world the main focus and ultimate aim of all the commercial and corporate companies is to provide as many functionalities as possible in their software. In order to do so software intensive systems are being implemented. E-learning has been characterized as the utilization of new media advances and the Web to improve the nature of learning. As indicated by this definition, e-learning invigorates remote trades and cooperation and enables the student in each circumstance. The web gives simple access to assets and administrations. E-Learning is based on a dependable innovation yet is teaching method situated. This kind of websites will give us opportunity to access many mediums which sum ups the whole subject in figure tips which increases the interest over the subject and quality of the subject knowledge. Conveying the subjects in various methods provide easy and fast understanding of subject. One can convey the whole subject using the study materials, photos and videos.

Index Terms— E-learning Portal, Disabled learning, Blind, Deaf, Dumb, Online Courses etc.

INTRODUCTION

ONLINE learning is one of the trending topic in the world now-a-days. This kind of websites will give us opportunity to access many mediums which sum ups the whole subject in your figure tips which increases the interest over the subject and quality of the subject knowledge. Conveying the subjects in various methods provide easy and fast understanding of subject. We can convey the whole subject using the

study materials, photos and videos. Here we learn the subject whenever you want and were ever you want which makes your time more flexible to do some other work when you are free. One can get the content from whole world we can access many colleges many universities and we know how they are teaching the subject and we can get more subject and best content from them. With this one can make conversations between various faculty from whole world through e-learning websites and get response to your own problems and through your private chat. One can share their industrial knowledge and conditions and how to face such conditions through this chat. The main advantage of e-learning is everything that study through this is a softcopy which reduces the paper usage and also helps you to in not carrying those printed materials which makes you more comfortable. The main key for e learning to become an effective knowledge tool is forming a good firm that keeps your students and business more sustainable. The platform should be more secured and this helps in good reputation of the platform and we can increase the standard of the whole platform and value of our certificate increases. If it has weak security or weak exams the value of the certificate decreases which eventually effect the whole platform. The study says that the subject taught is only basics in the normal education system as there is no proper time for them to go to the deep into the subject but through e learning platform we can set your own limits you can improve your skills. The main criteria of e-learning portal is offering a good course or subject that can be accessed anywhere and at any time. If the courses are offered good then the platform gets all the recognition it needed.

LITERATURE SURVEY

A. Open source software development

Focus on work practices, development processes, dynamics of the employees and the projects they do and many other such socio-technical relationships (Socio-technical systems basically focus on the interactions between people and the technology in their workplace which they use daily) is important in today's society[1]. It shows the similarities and differences between free software and open source software development. Free software does not refer to the cost of the software, it refers to the freedom it provides. Freedom to study the software and how it works, freedom to enhance and make changes in the software, freedom to redistribute the software without any restrictions, freedom to use the software where ever it is needed without any restrictions. The term 'free-software' is more of a social term whose ultimate aim is to do good for the society and is a matter of moral philosophy where as the term 'open-source' focuses more on the business aspects of the software. The main criteria of e-learning portal is offering a good course or subject that can be accessed anywhere and at any time. If the courses are offered good then the platform gets all the recognition it needed.

B. Challenges in using Open source software

There are various challenges faced while using Open Source Software in development of products by practitioners. It is important to understand all the problems and make the practitioners aware of them so that they can anticipate them and take adequate measures. [2]The challenges that are faced might be in the Product section, Documentation section, Community-support and maintenance section, Integration and architecture section, Migration and usage section or the Legal and business section. It takes the basic challenges a practitioner might face, like lack of time to evaluate the components, Lack of quality in the documentation, uncertainty about the product future and consequences for the company product, Various areas of the system which are to be integrated and issues related to licensing.

C. Challenges & Opportunities in outsourcing, Distributed development & open source software

The challenges faced by the Software engineers are caused by the increasingly globally distributed software development. As days pass, more and more software functions are being acquired as Open-Source software or commercial off-the-shelf components which might cause significant problems to practitioners as software engineers these days have a curriculum such that it might leave them inadequately prepared to the problems which will be further discussed in this paper or in the upcoming series[3]. This paper will present to you the various challenges faced by software engineers as a direct result of outsourcing and other such distributed development approaches which are widely used in the market. It also discusses the important ways in which we need to change our software engineering curriculum so that future practitioners/ software engineers can face any kinds of challenges.

[6]In this system, a method is used to integrate these two types of database by adding an interface between the Application layer like use PHP Language and Database layer. The middleware between the two consist of Metadata which consist of different-2 types of packages. This system used to implement a package which acts as an interface between php application layer and NoSQL database (MongoDB).The system makes use of MongoDB NoSQL Database and the reason for big database problem and timing problem.

[7]UnQL is an open query language for document databases developed by SQLite and CouchDB teams. It is meant to be a superset of SQL and so in theory it can also be used to access a legacy SQL database engine.

[8]It is a concept that all databases sought to achieve as a way to assure reliability in database systems. A transaction is a transformation of state which has the properties of atomicity (all or nothing), durability (effects survive failures) and consistency (a correct transformation) [8].

[9]A CMS is different from a face-to-face course. Face-to-face course is a traditional learning, used in classroom and it does not require a Web environment. Whereas, the web-enhanced course is a hybrid

(traditional and online) and it can almost be used in local environment. On the other hand, web-based course is always online, can be used in distance learning and all the operations in web-based course require a Web connection [9].

IV. METHODOLOGY

The e-learning platforms have many sub groups or categories which whole in combine forms a platform. The main categories are

1. Offered courses
2. Faculty
3. Student
4. Platform

A. OFFERED COURSES:

The main criteria of e-learning portal is offering a good course or subject that can be accessed anywhere and at any time. If the courses are offered good then the platform gets all the recognition it needed. Offering a good course is not only main objective but also providing the proper study materials to student is also a main-criteria. The study material that is provided here should be universally accepted one and should be understandable to all the students.

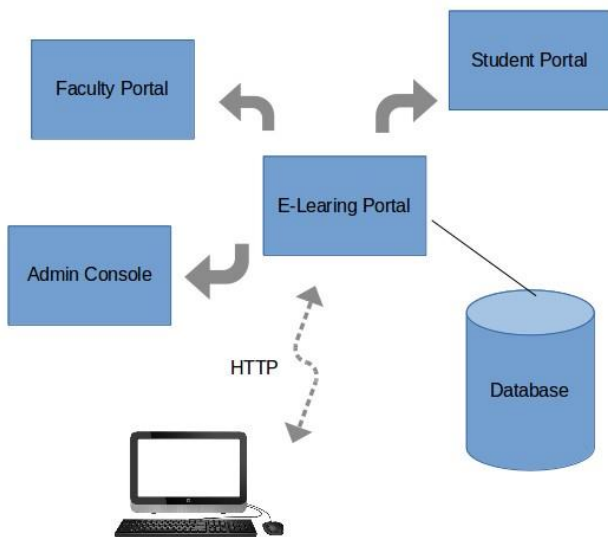


Fig1: Block Diagram of the portal that connects through the database

Gathering a huge amount of faculty and materials and more motivating and good courseware and innovative presentations will help your platform to get more response. Now the faculty are assigned to a subject and he must collect all these assignments and materials which should be uploaded by him under the course after proper verification. He himself should guide the whole course to the student and conduct the online exams like quiz, digital assignment etc. The overall feedback is to be taken by student and also his marks will be taken into consideration and will be used as course feedback.

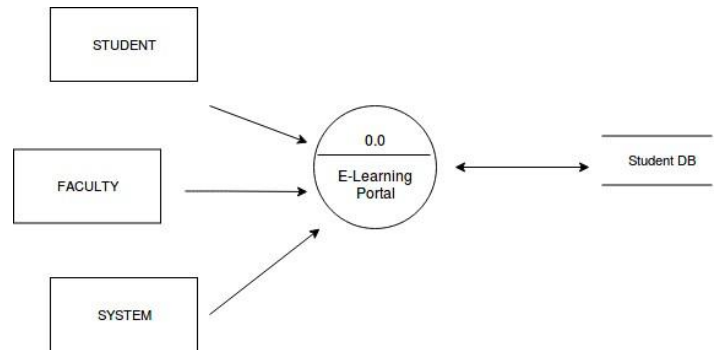


Fig2: Architecture of the system which specifies the database of the student records

B. FACULTY

Faculty is the one who teaches the course and he will be uploading the study materials. Faculty will be having his own login through which he will go through the course. Through the faculty login he comes to know the students under him and their progress report. He is one who guides the student about the subject with his knowledge and helps to pursue the course. Student can take personal chat with faculty to clarify his own doubt through the Q&A session. He updates the syllabus according to the latest requirements. He will be conducting the quizzes and digital assignments to know how students are going through the course. He creates his own papers and will make students to get through this course. If there is any student who fails in the exam then he takes the concern to teach him again and get through the course. The overall grade report of student gives him an idea of the course how it's going on and how to overcome student difficulty over the subject. The faculty can add new courses to the platform. He himself should guide the whole course to the student and conduct the online exams like quiz, digital assignment etc. The overall feedback is to be taken by

student and also his marks will be taken into consideration and will be used as course feedback.

studying and you might fall back when you compete with them in future so the teacher should motivate the student.

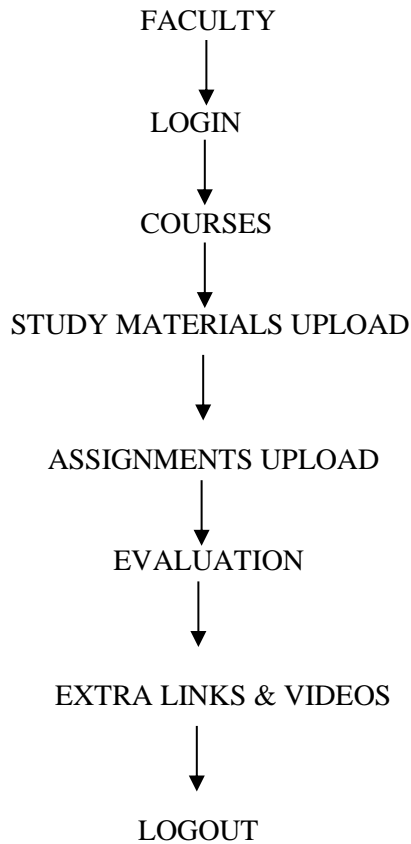


Fig 3: Flow Chart of the Faculty Functionalities

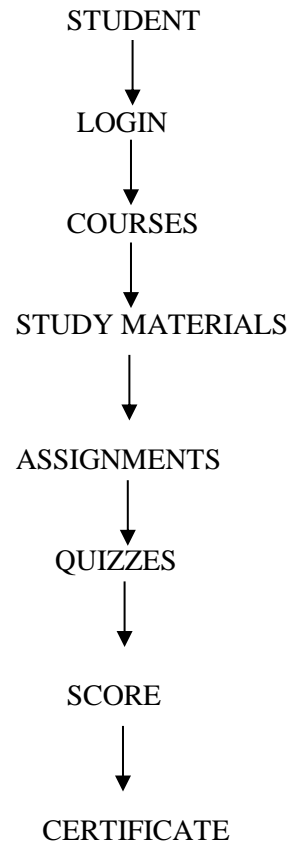


Fig 4: Flow Chart of the Student Functionalities

C. STUDENT

Student will be having his own login which is called student login and through this login he can access the platform and learn the courses. He can choose the course he wanted from the available courses. There will be courses offered by many faculty from various universities all over globe. Students needs to pay a minimum amount of money to join the course. Once his payment is successful student can join the course and learn from the course. He can download the study materials provided by him and can watch the faculty lecture videos.

One will be having a weekly quiz and an assignment. Student must score a minimum percentage of marks to get to the next week. He can retake the quiz for n times even if he is fails in his n attempts. There will minimum pass mark for each quiz based on the paper difficulty. Student can ask his own doubts through social media platforms like mails etc. student and teacher understanding is key aspect in this because there is no competition here you don't how other students are

D. PLATFORM

We need to find an e learning authoring tools which will help us to create a good platform. There are various software present in market but we need to pick them according to our flexibility. We can select the software based on the graphics you require. We can design the platform by ourself, if we know the proper programming and designing. The main part is to check weather the students and all other can access the portal more effectively or not. We have given the faculty access to delete the unnecessary subject or content and also give him chance to add new materials. You can get the feedback from the students and other users and know where to develop the project. The main point is that how flexible is our portal is and know how to develop it. We have to create a proper template for the portal use various tools. You can design your own template which looks more attractive to the user. You can get readymade templates which were already created by some other teams for their platform so that you use more time on your courses. You create you're

a template on your own brand which will be new for users and could attract him. Those who don't know how to make a new one you can use these online templates which requires no special knowledge on these design techniques. Now we have to connect this to database which stores the whole data. One can use various software like mongo DB, couch DB, etc you have to store the whole faculty student data into this database. Managing this database and updating the database is more hectic work in creating this whole platform. We should be very much careful in creating this database or else the whole project goes into waste. We store the student quiz marks and we have to re-update if he takes any re-quiz. Instead of this database we can use many other systems like file-based storage which is more tedious work than database. We can also use cloud management to store the data. It's so easy when compared to the database but more costly when compared. First we can use this database technique for few days until your portal gets successful once you reached there means you will be needing more data storage space required which is more difficult in continuing in the database so we need to update to cloud managing system. Now we have to add materials to the system which is done through the faculty access only. Adding the videos is more difficult so instead we add the site links and add online materials links so that it will be easy for us and even for student to depend on the videos that take more time in accessing than through these links. You can collaborate with many other platforms and get more publicity and more quality to your project. You use podcast and links to help students to get their reference materials. By decreasing the usage of the videos we can concentrate more on the development of the project. Now the whole methodology is add collaborate the whole faculty and students through this platform by using the database the faculty will upload his materials required and student through his access can get those documents and study his course.

E. DISABLED PEOPLE

In this portal one can get access to many courses for Disabled people like Blind, Deaf and Dumb.

BLIND

This portal helps blind people to go through different courses and can access to different online websites.

How it works!!!

- It sounds whatever the student (blind) types
- Shows the output and sounds it out through the speaker at the same time
- Can access all the materials
- Can attempt quizzes
- Can get certificate

DEAF

This portal helps deaf people to go through different courses and can access to different online websites.

How it works!!!

- It shows whatever the student (deaf) types
- Shows the output on the monitor without any sound
- Can access all the materials
- Can attempt quizzes
- Can get certificate

DUMB

This portal helps dumb people to go through different courses and can access to different online websites.

How it works!!!

- It shows whatever the student (dumb) types
- Shows the output on the monitor without any sound
- Can access all the materials
- Can attempt quizzes
- Can get certificate

Advantages:

- Social Connectivity
- Speed Access
- Access of different mediums
- Flexible
- Reliable
- Can serve at very low cost

V. RESULTS

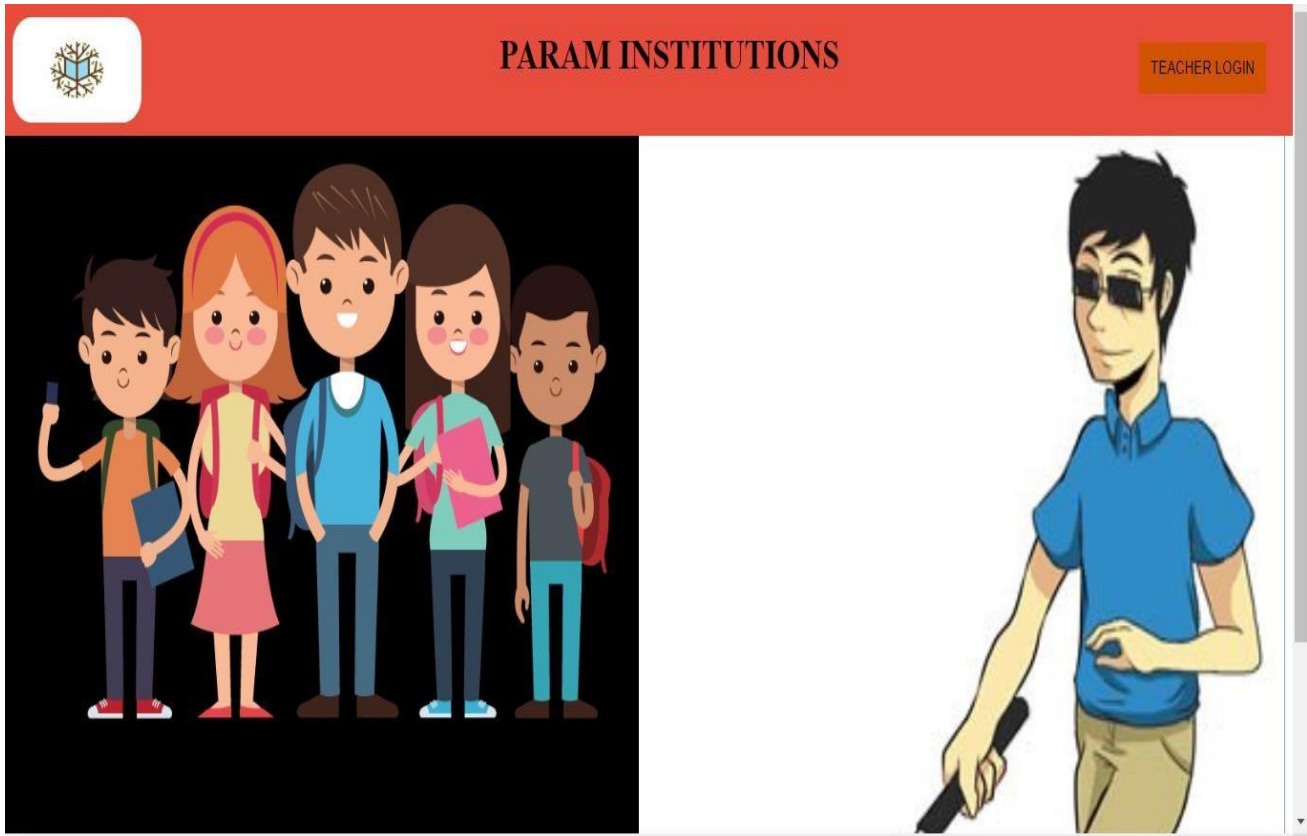


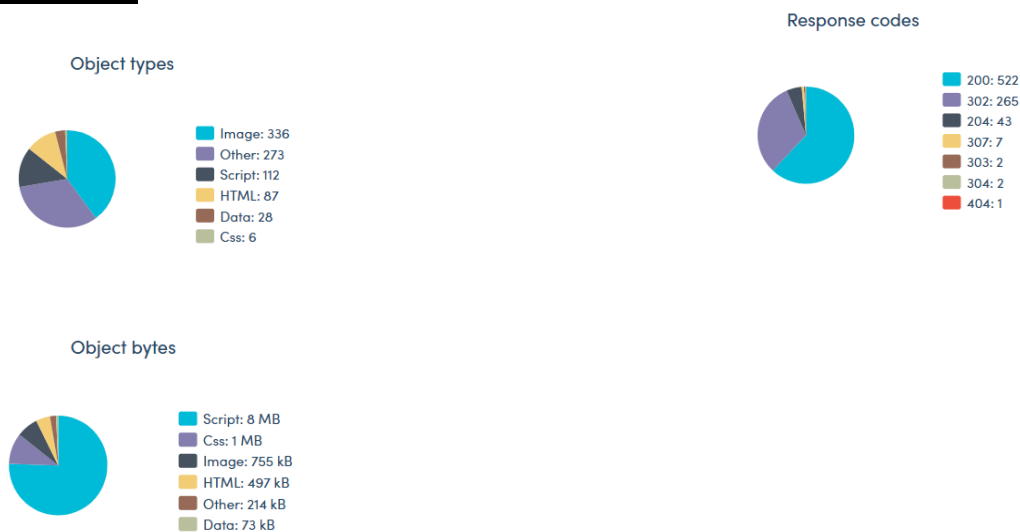
Fig 5: User Interface of the web portal, Left: For normal people (Deaf and Dumb), Right: Blind people



Fig 6: Internal Interface of the web portal

TEST CASES:

| S. No | Test Case | Expected Output | Actual Output | Result |
|-------|--|---|---|--------|
| 1. | Login Page | Authenticate Successfully | Authenticate Successfully | PASS |
| 2. | Sign in | Authenticate Successfully | Login failed. Incorrect username/password message shown | FAIL |
| 3. | Student view material. | Materials shown for selected course | Materials shown for selected course | PASS |
| 4. | Student submit assignment. | Assignments shown for selected course | Assignments shown for selected course | PASS |
| 5. | Student attempt quiz and submit manually. | Quizzes shown. On selection quiz starts | Quizzes shown. On selection quiz starts | PASS |
| 6. | Student view scores. | Scores shown for selected course | Scores shown for selected course | PASS |
| 7. | Faculty upload materials. | Course selection shown. Topic enter and File upload working | Course selection shown. Topic enter and File upload working | PASS |
| 8. | Faculty upload material- file format error | File uploaded. | File format not acceptable error. | FAIL |

TESTING TOOL: [UPTRENDS]**SPEED TEST:****Fig 6: Speed test of the website over time**

UPTIME CHECK:

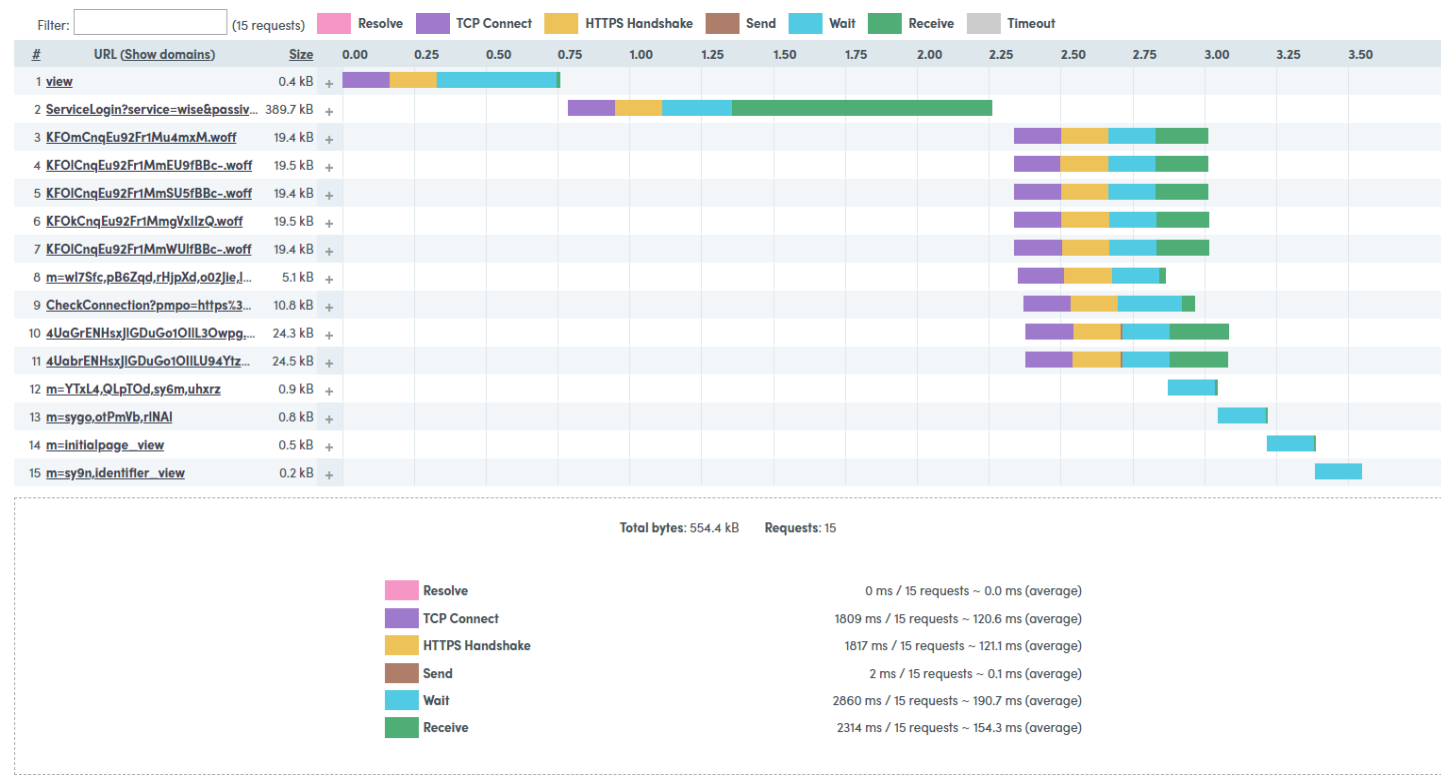


Fig 7: Uptime check of the website over time

Performance of Website:

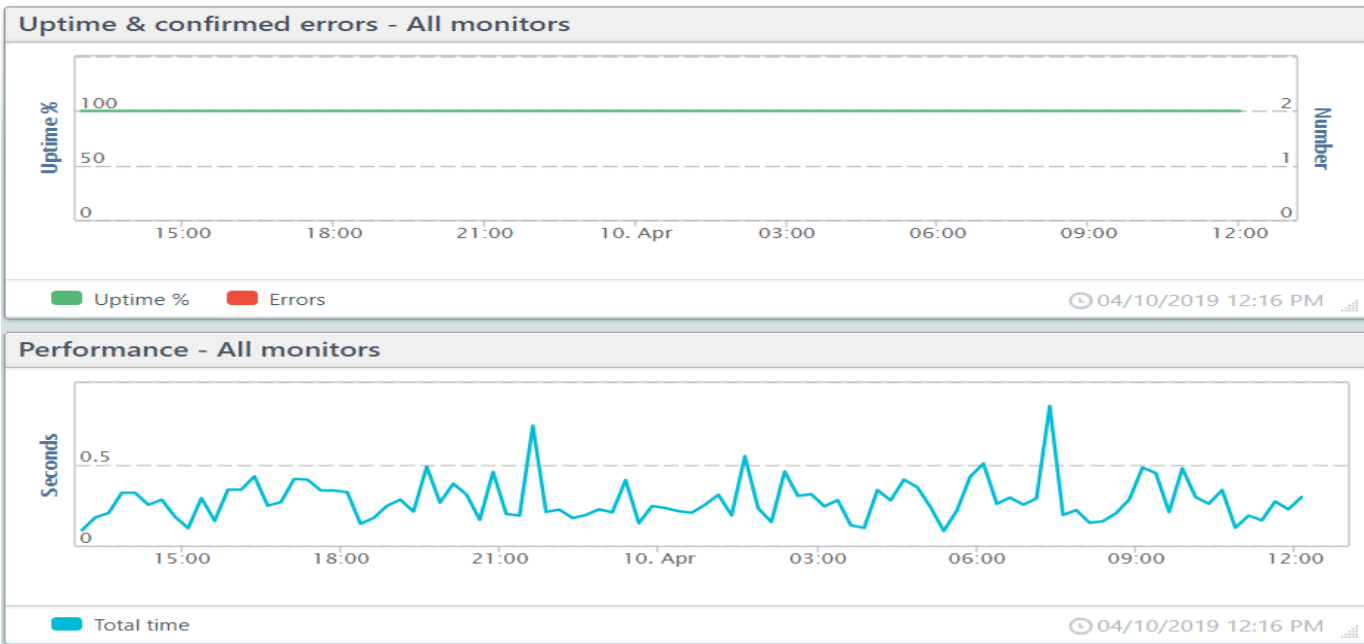


Fig 8: Performance of website over time

VI. CONCLUSION

In this paper a survey on E-learning portal has been done. The major focus has been laid on the Software Development and the way companies or organizations choose the components to integrate them to build a software intensive system. All the choices are verified to be viable by the users which include In-house, COTS, Open source & Outsourced development of software components. Depending on the requirements and the amount of various resources like time, finance and humans available, organizations make the choice from the methods mentioned in the paper. Each method has its own advantages and disadvantages..

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E-LEARNING PORTAL FOR DISABLED PEOPLE

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Publication

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2

Klaas-Jan Stol, Muhammad Ali Babar. "Challenges in using open source software in product development", Proceedings of the 3rd International Workshop on Emerging Trends in Free/Libre/Open Source Software Research and Development - FLOSS '10, 2010

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