ASP.NET-Tutor: Intelligent Tutoring System for learning ASP.NET

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Abstract: ASP.net is one of the most widely used languages in web developing of its many advantages, so there are many lessons that explain its basics, so it should be an intelligent tutoring system that offers lessons and exercises for this language. Why tutoring system? Simply because it is one-one teacher, adapts with all the individual differences of students, begins gradually with students from easier to harder level, save time for teacher and student, the student is not ashamed to make mistakes, and more.

Therefore, in this paper, we describe the design of an Intelligent Tutoring System for teaching ASP.net to help students learn ASP.net easily and smoothly. Tutor provides beginner level in ASP.net. Finally, we evaluated our tutor and the results were excellent by students and teacher.

Keywords— ASP; Net; Intelligent Tutoring System; Tutor

1. INTRODUCTION

ASP.NET is more than the following variant of Active Server Pages (ASP); it gives a bound together Web advancement demonstrate that incorporates the administrations important for designers to fabricate endeavor class Web applications. While ASP.NET is to a great extent sentence structure good with ASP, it likewise gives another programming model and framework for more versatile and stable applications that assistance gives more noteworthy security. You can don't hesitate to enlarge your current ASP applications by incrementally adding ASP.NET usefulness to them [1].

ASP.NET Web pages, referred to authoritatively as Web Forms, are the principle building hindiers for application improvement in ASP.NET. There are two essential systems for Web Forms, a web application arrange, and a site format. Web applications should be aggregated before organization, while sites structures enable the client to duplicate the documents specifically to the server without earlier assemblage. Web shapes are contained in documents with an "aspx" expansion; these records commonly contain static (X)HTML markup or part markup. The segment markup can incorporate server-side Web Controls and User Controls that have been characterized in the structure or the page. For instance, a textbox part can be characterized on a page as <asp: textbox id='myid' runat='server'>, which is rendered into a HTML input box. Also, dynamic code, which keeps running on the server, can be set in a page inside a piece <%( - dynamic code - %)>, which is like other Web improvement advances, for example, PHP, JSP, and ASP. With ASP.NET Framework, Microsoft presented another code-behind model that gives static content a chance to stay on the .aspx page, while dynamic code stays in an .aspx.vb or.aspx.cs or.aspx.fs record (contingent upon the programming dialect utilized) [2].

Intelligent Tutoring Systems are computer-based systems designed to teach students in a field, in other words, to play the role of a teacher to the fullest extent by introducing artificial intelligence [3]. ITSS have the shared objective of empowering learning in a significant and compelling way by using many technologies [4]. The main goal of the ASP.Net intelligent tutoring system was to make accessible the advantages of one-on-one educational in a cost-effective way to the students of ASP.Net [5].

2. LITERATURE REVIEW

The subject of the intelligent tutoring system has been addressed in many papers because of its importance in the field of education in addition to its positive result, such as An Intelligent Tutoring System Authoring Tool designed by Abu Naser teaches how to use java program [4]. SQL-Tutor, teaches and explains to students the way of writing queries in...
relational database through several lessons in the basics of writing query [6], ITS for Health problems related to addiction of video game playing [7], TS for C# Language [8], effectiveness of the CPP-Tutor [9], teaching AI searching algorithms [10], teaching database [11], and ITS for Teaching the 7 Characteristics for Living Things [17], ITS for teaching the right letter pronunciation in reciting the Holy Quran [12], ITS for teaching advanced topics in information security [13], Oracle Intelligent Tutoring System (OITS) [14], ITS for learning Computer Theory[15], e-learning system [16], ADO-Tutor: Intelligent Tutoring System for learning ADO.NET [18], ITS for Parameter Passing in Java Programming [22], and Predicting learners performance using NT and ITS [19], CPP-Tutor for C++ Programming Language [20], a comparative study between Animated Intelligent Tutoring Systems (AITS) and Video-based Intelligent Tutoring Systems (VITS) [21], ITS for stomach disease Intelligent Tutoring System [23], ITS for diabetes [24], Computer Networks [25], DSE Tutor for Teaching DES Information Security Algorithm [26].

3. ASP.Net ITS Architecture

In this paper we used ITSB tool to build intelligent tutoring system for learning building websites using ASP.net, ITSB authoring tool is developed using Delphi Embarcadero XE8, 2015; ITSB authoring tool has two faces. The first, Admin can add materials and questions and answers etc. and the latter, students learn the course material and answer the exercises [4]. Intelligent Tutoring System consists of four main components and can be listed as follows: domain module, teaching module, student module and user interfaces module [28].

- General introduction about ASP.net and its components.
- ASP.NET - Environment Setup.
- ASP.NET - Life Cycle.
- ASP.NET - Event Handling.
- ASP.NET - Server Side.
- ASP.NET - Server Controls.
- ASP.NET - HTML Server.
- ASP.NET - Client Side.
- ASP.NET - Basic Controls.
- ASP.NET – Directives.
- ASP.NET - Managing State.
- ASP.NET – Validators.

3.2 Student Module

Each student can access the system through his own account and then review the lessons from the beginner to the professional, the student also follows the examples of the lesson and then solve the exercises, the exercises are presented to the student is easy to difficult if the student responds to the new lesson or if you fail to return to the lesson again.

The system gives hints to the student if needed, as the system shows the student's degree.

3.3 Teaching Module

This module as controller that controls operations in ITS, the student can answer questions if has good degree or more he can move to next level, but if he fails he back to exercises of the same level.

The degree of difficulty increases as the student moves from a lower level to a higher level and if the student obtains a higher degree than good.

3.4 User Interface Module

The user interface is divided into two sections for the teacher to add lessons, examples, exercises, modification and deletion, in addition to adding new users to the color adjustment and many settings. The student interface is the one through which lessons are reviewed, exercises are solved and the student's degree is determined.

Here some of screenshots of teacher interface and student interface. As shown in Fig2 – Fig9.
Figure 2: Student Login Form.

Figure 3: Form for adding ITS Basic Data
Figure 4: Form for adding Students Data

Figure 5: Interface for modifying Fonts of all screens of the system
Figure 6: Form for adding questions and answers

Figure 7: Student lessons and examples form
4. ITS EVALUATION

We tested some students interested in the language of ASP.net using the intelligent tutoring system and the results were excellent and all of them showed a desire to use the system because it is the work of the human teacher to the fullest.

5. CONCLUSION

ITSs are seen as future's mentoring framework and many examinations fulfilled around there. When they are contrasted with customary classroom climate, ITSs are very effective and moderately having instructors' spot, they go up against supporting obligation for understudies. In customary showing condition, understudies' contrasts aren't considered.
In this paper, we have designed intelligent tutoring system for student learning websites developing by ASP.net using ITSBS tool. The system was created for students who need to think about ASP.net or increment their knowledge in this field easily. The evaluations of the system have been done by teachers and students.

REFERENCE


www.ijeais.org/ijapr


