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Major Project



Project

- Student Attendance

An application to take and monitor attendance of the student.

Abstract

- Attendance taking in higher learning class is still practiced in many institutions. By the introduction of technologies, the pen-and-paper(the conservative practice) is deemed ineffective and time consuming. On top of that error created by human while taking attendance and ease of tempering with the data as well as attendance taking physically is very time consuming.
- Many apps have been developed to deal with these issues. But many of them only transform the process from pen-and-paper to touch-and-click(physical to electrical) whereas the attendance is still taken by same human.

Aim

- Registering/monitoring the student attendance
- Lecturer can register the attendance
- Dean/Administration can monitor it along with students.

Why do we need it ?

- We Are living in the digital era where the student attendance management system is an essential requirement for every school, college and education institute. The traditional way of attendance takes a lot of time as teachers have to take attendance in every lecture. With this online attendance app, teachers can mark the attendance online.

Purpose

- Lecturer can fill up and submit the attendance easily
- Principal/Dean can monitor anytime anywhere,
- Administration can generate a report based on student attendance
- Administration can also contact the students after monitoring student attendance

Technology Used

- Platform:-
ASP.NET with c#.
- Tools:-
Microsoft visual studio
SQL Server.

Methodology is agile methodology used,

Agile Methodology

1. Extreme Programming (XP) :
The purpose of XP is to get better software quality and awareness to shifting customer desires.
2. Scrum :
An agile process people usually use for product development mostly for software development.
3. Feature Driven Development(FDD) :
FDD is a client-centric, architecture-centric, and pragmatic software process
4. Crystal Method :
Developed by Alister Cockburn which is an agile software development methodology. Where people are more emphasized in software development rather than process.

Development Platform

- .Net Framework
- Microsoft Visual Studio
- C#,
- Microsoft ASP. Net
- Operating System Windows 10

Microsoft visual studio

- integrated development environment (IDE) from Microsoft
- used to develop console and graphical user interface applications along with Windows Forms applications, web sites, web applications, and web services .
- all platforms supported by Microsoft Windows, Windows Mobile, Windows CE, .NET Framework, .NET Compact Framework and Microsoft silverlight.

Microsoft visual studio

- different languages like Visual Basic .NET, C#, ASP .NET, XML/XSLT, HTML/XHTML, JavaScript and CSSetc.

.NET Framework

- includes three main application models :-
 - Windows Presentation Foundation (WPF)
 - Windows Forms
 - ASP.NET.

Pros of .NET development

- Object-oriented software development model
- trustworthy and easy caching system
- Visual Studio Integrated Development Environment
- Flexible use and easy repairs [6]

Disadvantages of .NET development

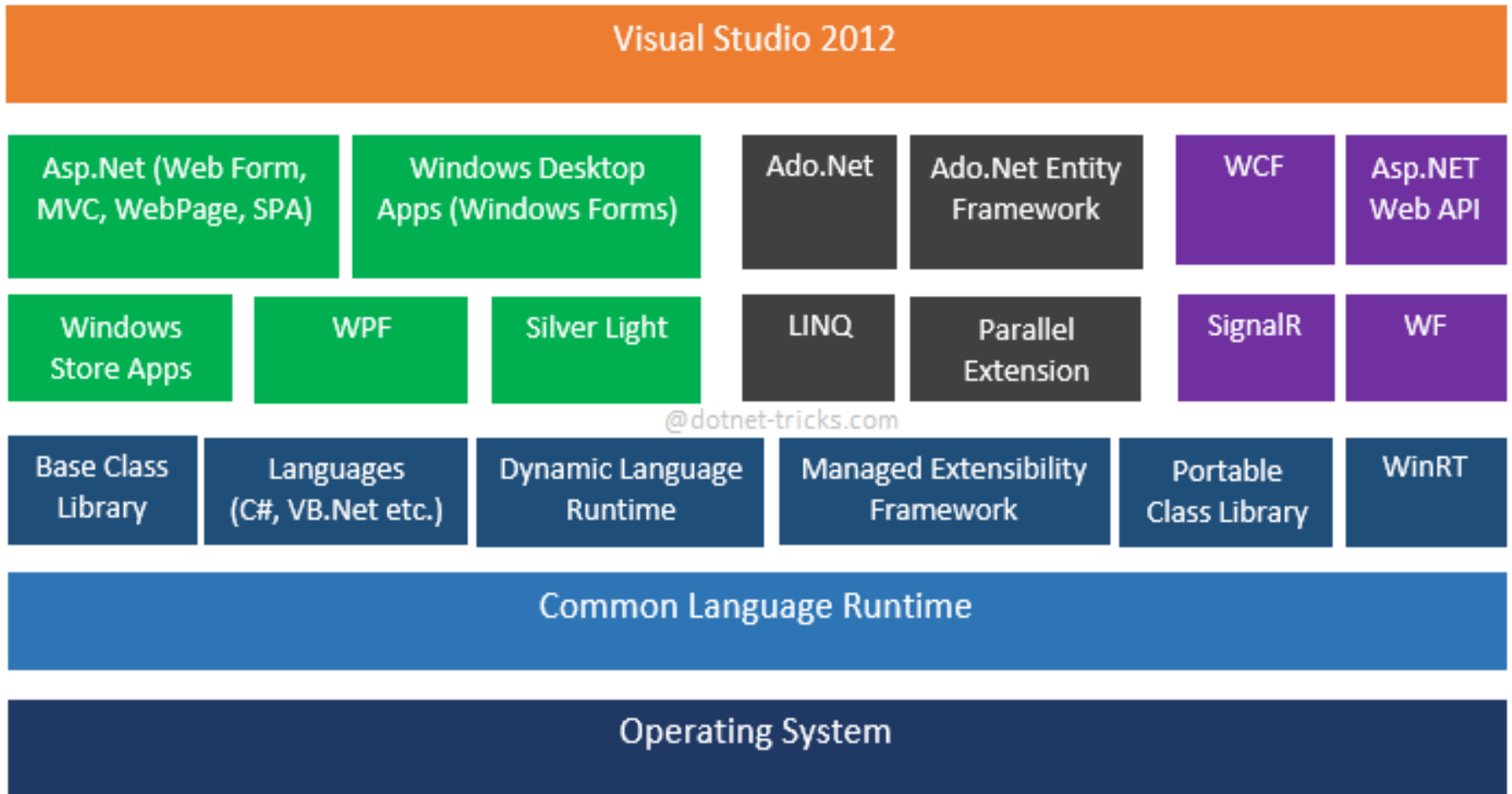
- restricted Object-Relational Support
- The breach among release and stability
- Memory leaks

[6]

.NET Framework

- . In this project ASP.NET framework is used as a front end tool for creating The web pages required in the system, C#.NET is used as code behind and SQL server is used as a back end tool for the sake of data manipulation as and when necessary.

.NET Framework



.NET Framework 4.5 Architecture

ASP.NET

- Integrated with the .NET Framework
- Compiled, Not Interpreted
- Multilanguage
- Hosted by the Common Language Runtime
- Object-Oriented
- Easy to Deploy and Configure

Features of ASP.NET

- Multiple Language Support
- Increased Performance
- Server Controls
- Improved Security
- Greater Scalability
- Easy Configuration and Deployment

Why c#?

- C# is frequently considered as a mixture that takes the finest of C and C++ to produce a truly modernized language.[4]
- It can be used to make almost anything but is predominantly strong at creating Windows desktop applications and games.[4]
- the .NET framework supports many more coding languages. C# has rapidly gained popularity. [4]

Why C# ?

- It's high-level language
- quite easy to read
- many of the most compound tasks abstracted away
- Memory management
- It's also a statically-typed language, so the code is checked before it is turned into an app.

Design view

Digital Class

—

[Change Password](#)

[Logout](#)

Dashboard

Admin

Attendance

Student

Time Table

Change Password

Logout

Login Page Design view

Digital Class

ContentPlaceHolder1 (Custom)

Admin Login Area

Admin Form

User Name

div.form-group

Password

Login

Attendance Design view

Add New			Select All			Delete					
			ID	Timetable ID	Day Name	Time	Student ID	First Name	Last Name	Attendance Date	Attendance Status
☐	☐	☐	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound
☐	☐	☐	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound
☐	☐	☐	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound
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☐	☐	☐	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound	Databound

View2

Admin Form	Timetableid
	Unbound ▼
Studentid	
Unbound ▼	
Attendancedate	
Attendancestatus	
-Select Status-	

Submit Cancel Reset

Future Scope

- In near future I would like to add such thing that parents can monitor their children's attendance. As they don't have to invest their time to go to the school for such things.
 - I can add VPN in the system so it can be secured.
 - Also I would like to add mobile based attendance system using QR code which is not widely available.
 - An idea for QR code is available in "World of Computer Science & Information Technology Journal".
- [5].

Conclusion

- Want to create a system on which attendance can be done. Which connects student, lecturer, Administration and Dean.
- Using Microsoft Visual studio C#,SQL Server along with the platform ASP.NET.
- There are some applications in the market such as CELCAT. But it doesn't have the QR code method which I have discussed further.

Reference

- [1]l. Huikeng, M. YeuQi, D. Norhayati, T. Asni, C. Sengkheau and C. BihLii, *Advanced Science Letters*, 24th ed. American Scientific Publishers, 2018.
- [2]"User interface style and design", *Dotnetprod.bsu.edu*, 2020. [Online]. Available: <https://dotnetprod.bsu.edu/AdminConsole/Documentation/ASPDotNet/StyleDesign/>.
- [3]G. Kumar and P. Bhatia, *Impact of Agile Methodology on Software Development Process*, 2nd ed. International Journal of Computer Technology and Electronics Engineering, 2012, p. 47.

Reference

- [4]A. Mkhitarian, "Why Is C# Among The Most Popular Programming Languages in The World?", *Medium*, 2020. [Online]. Available: <https://medium.com/sololearn/why-is-c-among-the-most-popular-programming-languages-in-the-world-ccf26824ffcb>.
- [5]A. Hoda et al., "World of Computer Science & Information Technology Journal", *Mobile Based Attendance System Using QR Code*, vol. 9, no. 4, pp. 17-21, 2019.
- [6]"The Good and the Bad of .NET Framework Programming", *AltexSoft*, 2020. [Online]. Available: <https://www.altexsoft.com/blog/engineering/the-good-and-the-bad-of-net-framework-programming/>.