Paper on Aituc Database Software

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Abstract-**AITUC (All India Trade Union Congress) is organization in India, who looks after the workers, employees, and many individuals needs and welfare of them and their employers. They needed an application as they need to track of the members all over sectors. The application is a step up from paper work.**

Keywords-**planning, languages used, about application, references.**

I.INTRODUCTION

This project was my first project and I got a sponsor. I have created a basic application with database. This application is just to keep track of the members of the union and their data. It was great challenge as the user should need be satisfied with the application. In this project I have used different types of languages like C# and MS ACCESS. I developed the application fast, lightweight, error free as possible, so it could run on any computer running windows xp and higher. I also kept the database as close to the application to make alternation when needed.

These are:
- Abstract
- Introduction
- Research on data fields
- Developing
- Conclusions

II. RESEARCH ON DATA FIELDS

It was easier to communicate with the union leader as they had in mind to create an application and had idea what they wanted in the database. They provided the forms, sheets and a completed format as an example. They provided:

- Registration form
- J-format

As I got the data, I made the database in MS ACCESS. Microsoft Access is a database management system (DBMS) from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. It is a member of the Microsoft Office suite of applications, included in the Professional and higher editions or sold separately. Latest versions have more protections. A trial version of the software is available on Microsoft.

Microsoft Access stores data in its own format based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases.

Software developers, data architects and power users can use Microsoft Access to develop application software. Like other Microsoft Office applications, Access is supported by Visual Basic for Applications (VBA), an object-based programming language that can reference a variety of objects including the legacy DAO (Data Access Objects), ActiveX Data Objects, and many other ActiveX components. Visual objects used in forms and reports expose their methods and properties in the VBA programming environment, and VBA code modules may declare and call Windows operating system operations. It doesn't have a web version.
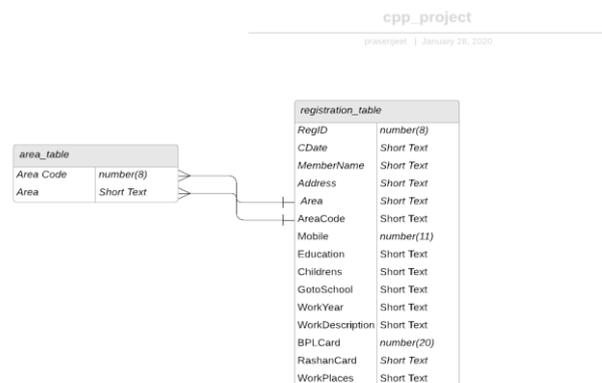

Fig.1 Data Fields

III. STUDIES AND FINDINGS

The most thrilling part is I was unaware about C# and Visual Studio, I started reading its syntax and algorithm. I got some advice from my guide. He taught me the basics of C#. The reason I wanted to use C# is:
- I wanted to learn C#
- Visual Studio is Microsoft's IDE, as we are developing the application for windows, I thought it would be better use this IDE.

• Visual Studio have in-built data binding tools for MS ACCESS database.
• C# have a big community for the beginners and help is provided whoever needs it.

Some Important features of Visual Studio:
• Develop- navigate, write and fix your code faster.
• Debug, profile and Diagnose with ease
• Collaborate- can share the code with your co-workers
• Extend- you can add the extensions to customize IDE

Insight of C#: C# is a general-purpose, multi-paradigm programming language encompassing strong typing, lexically scoped, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed around 2000 by Microsoft as part of its .NET initiative and later approved as an international standard by Ecma (ECMA-334) in 2002 and ISO (ISO/IEC 23270) in 2003. Mono is the name of the free and open-source project to develop a compiler and runtime for the language. C# is one of the programming languages designed for the Common Language Infrastructure (CLI).

C# was designed by Anders Hejlsberg, and its development team is currently led by Mads Torgersen. The most recent version is 8.0, which was released in 2019 alongside Visual Studio 2019 version 16.3.

Attractive points of the language:
• The language is intended to be a simple, modern, general-purpose, object-oriented programming language.
• The language, and implementations thereof, should provide support for software engineering principles such as strong type checking, array bounds checking, detection of attempts to use uninitialized variables, and automatic garbage collection. Software robustness, durability, and programmer productivity are important.
• The language is intended for use in developing software components suitable for deployment in distributed environments.
• Portability is very important for source code and programmers, especially those already familiar with C and C++

IV. DEVELOPING

Application development is the process of creating a computer program or a set of programs to perform the different tasks that a business requires. From calculating monthly expenses to scheduling sales reports, applications help businesses automate processes and increase efficiency. Every app-building process follows the same steps: **gathering requirements, designing prototypes, testing, implementation, and integration.**

So I started developing the application first I developed the GUI of the login and it turned out great.
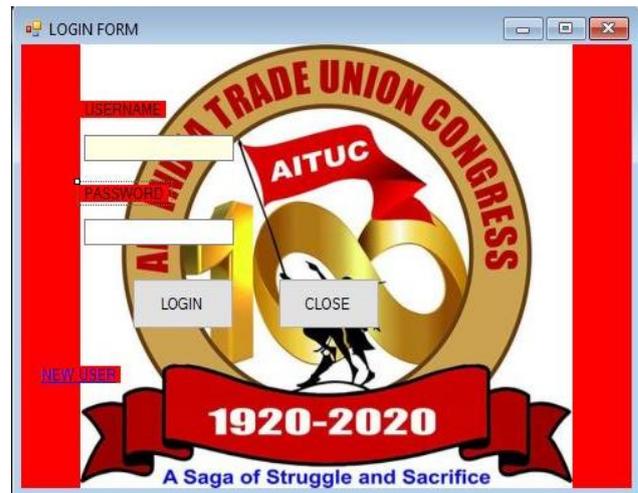

Fig.2 Login Window

After giving it a static username and password, I started developing the next module, I created a simple module and made two panels to save the user's system memory as it would use less memory and less storage.
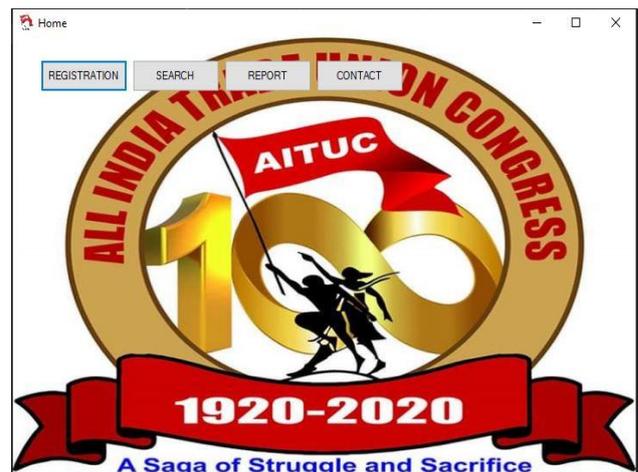

Fig.3 Home Window

In the first panel its all the data they need to fill.

Fig.4 Registration Panel

In the next panel I created a search panel to search and update the data, you can search from the database from the unique fields in the database.
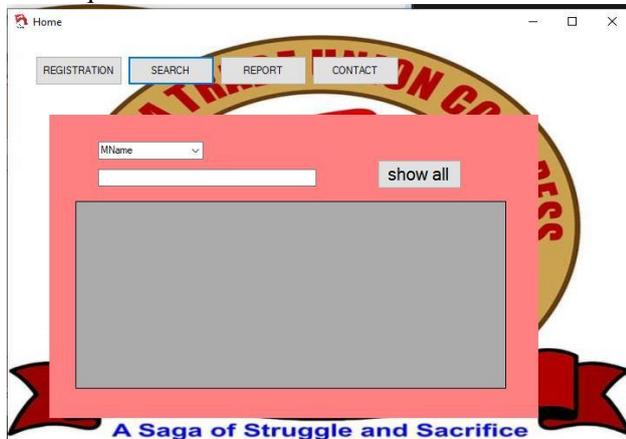

Fig.5 Search Panel

The report button creates an excel file with all the data present in database. The contact button brings up my current phone number and email.

V. CONCLUSION

In this project I have learnt about C# and its simplicity, ease to make GUI, ease of Microsoft Access database. The ease of connecting the GUI to database. This project made a place in my very starting interest of the application development. I also learnt about debugging the application where needed. This project has shown my place where I stand and how much I have to learn, to develop and become a knowledgeable or gain expertise as a computer engineer.

ACKNOWLEDGMENT

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