

## Technology behind Tax: Application of .NET technology in Taxation

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**ABSTRACT:** The purpose of this research is to study the application of modern technology in the field of Taxation.

Tax is a major factor influencing the growth of any country. In this paper we study the application of .NET technology in the field of Taxation process in order to automate the process and to build an application which is used to prepare, review and process partner tax documents. This paper discusses the principles behind the Foundation for Windows Presentation (WPF) and its application in tax technology.

**KEYWORDS:** e-filing, .NET Framework, WPF, XAML

### I. INTRODUCTION

TAX in general is the compulsory charge or levy imposed on taxpayers. This has effect of both increase and decrease in the economy and growth of any country. Being from a technical background, having knowledge about the process of tax is really important. Things such as globalization and ever-changing legislation pose a number of challenges and we think about introducing technology into the corporate tax departments with growing challenges. It allows for more consistency and compliance, streamlines the procedures, improves openness and facilitates global collaboration. Tax technology frees up time and helps us to turn the attention of the team toward more strategic research, allowing you the ability to lift the tax profile within the company and create a sustainable future structure.

Electronic filing is the form used by the tax preparation program pre-approved by the tax agency involved, such as the IRS or the Canada Revenue Agency, for filing tax returns over the Internet. E-filing has many advantages that have made this tax reporting program extremely common in recent years; once the tax office begins accepting returns, the taxpayer can file, at any convenient time, a tax return from the comfort of his or her home. Electronic filing, or e-filing, saves the tax department time and money because tax data is transmitted directly to the department's servers, reducing the possibility of keying and recording errors considerably. While the IRS has worked with several organizations to provide individuals and businesses with electronic filing. A taxpayer also has the option to file the return on his own using e-filing property tax preparation software or may hire tax practitioners who also use the software to file an individual or business tax. One advantage of e-filing is that the tax filer will obtain a confirmation or notice of rejection within 24 hours of submitting the electronic records. The acknowledgment is evidence that the records have been issued and are in the process, while the denial notifies the taxpayer that the IRS has not approved his or her return. The notice of refusal should provide details about what needs to be corrected in return for acceptability. In addition to the prompt confirmation note, as e- filed returns can be processed much quicker than paper returns, the taxpayer can typically expect quicker tax refund, if necessary.

#### A. Schedule K-1 Documents

Schedule K-1 is a tax form issued annually by the Internal Revenue Service (IRS) to invest in partnership interests. The aim of Schedule K-1 is to report the share of the profits, losses, deductions and credits of each partner of the partnership.

A typical example of a k-1 form is shown in the below figure. This form can be enhanced and produced using the applications of .NET framework for multiple partners with less time consumption and the best quality service to the clients.



Fig: Schedule K-1 Form

Now when filing our taxes we make use of the above form but we are not aware of the technology used to produce such forms for our convenience. In this paper we study the ways in to automate the process of tax filing for large number of partners. The use of these k-1 documents can be automated using the latest technologies like RPA, automating with Visual Basics since the input to any tax form would be in an excel based template. By automating the traditional K-1 documents we can process multiple partners at a time.

In the present study we demonstrate the idea of building secure desktop application for streamlining the processing of taxes for large organizations. The application is built on a .NET framework and uses the WPF technology for its UI development.

## II. WINDOWS PRESENTATION FOUNDATION

As part of .NET framework 3.5, released in 2007 by the Windows Presentation Foundation. Even though a designer is still available for organizing the controls in a window, the layout generated is not stored as code. The Windows Design Framework is Microsoft's leading technology for developing graphical interfaces for Windows users. This is a user interface architecture with immersive and intuitive user interfaces for creating Windows client applications. The application's user interface, 2D graphics, 3D graphics, documentation, and multimedia are combined into a shared framework to help developers create interactive applications. It's the sub-set .NET system, first adopted as part of the .NET Framework through Microsoft .NET 3.0. While it is a departure from previous technologies in terms of its programming model and underlying principles, it is increasingly important to implement new UI technologies such as WPF as the user experience continues to evolve. The programming experience of WPF would be comparable to that of Windows Styles because it is still a subset of the .NET Framework; however, the programming model is closer with the "code-behind" approach to ASP.NET web development. The biggest advance in WPF is XAML, a new language offering a sXAML model of declarative application programming stands for eXtensible Application Markup Language — a pronounced "zammel." UIs can be specified without the need to program with this new markup, which is very close to creating an HTML web page. In contrast to Windows Forms, WPF forms are designed to drag and drop objects into the UI using the interactive template and configure them in the properties box. Unlike applications in Windows Forms where the designer produces code in C# or VB.NET to create controls on the object, the interactive designer creates a XAML script in a WPF program. The XAML code defines the objects of control that make up the UI, and their properties. Using the .NET Framework, the XAML compiler converts the XAML into object instances while running the program.

### III. RELATED WORK

As we discuss about the development in processing of taxes in an easy and efficient manner, there are many important concepts when we take up tax, one example is e-filing. Many development are made in the process of e-filing in order to give better quality service to the end-user or the tax payer. E-filing is like other e-commerce applications an IS application in which the citizen communicates with a complex IT network [1]. Faster refund is further to be said as the most important benefit when tax return is done electronically [2]. Now coming to the technology behind developing the process of e-filing, there are many advances made to automate the process in order to save time and also to use the resource efficiently. WPF addresses the need for technologies and resources that make it easy to as much as possible separate the UI from the rest of the program implementation. The WPF system allows developers to decouple visual behavior from the underlying logic of the program and provides a unified API and support tools to create sophisticated UIs. This paper proposes work done to help the organizations who are responsible to deliver tax variables of different client involved with them.

The use of computer information technology in auditing is caused by the need to improve auditors' work performance and the quality of an audit procedure itself. [3]. Taxation of the present day is closely related to information technologies. Automation systems enable an auditor to use powerful methods of contemporary information technology when evaluating an economic entity's accounting data, while the organization can adopt practically recommendations from auditing companies

The use of computers during collection of customer information allows the following procedures to be carried out:

- a) Checking and balance of account transactions in machine database;
- b) Analytical methods to detect deviations from commonly accepted parameters in computer databases;
- c) Testing the economic entity's database which is subject to audit;
- d) Testing of data, software, and techware, as well as mathematical support for the audited economic entity.

### IV. SECURE .NET DESKTOP APPLICATION

The idea is to design an application for the use of tax professionals to streamline the processing of large volume tax deliverables and is used by multiple industries.

It is a secure .NET desktop application with an Excel-based import template used to prepare, review and process partner tax documents.

The front end development is done with WPF and XAML language. Some of the requirements are listed below

1. Microsoft .NET framework 4.0 (or higher).
2. Adobe Professional
3. Microsoft SQL Express

The abstract process can be illustrated from the below figure.

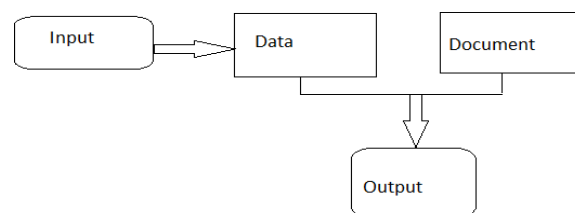


Fig: Process flow Diagram

Preparation efficiencies by removing preparation and review processes, Risk mitigation, Up front error validations limit the back and forth preparation efforts with the tax filing software. It also reduces the time complexity in processing large amount of data and for multiple partners. And also provides security to the client specific information thus maintaining trust from the clients.

The above figure gives the idea of the actual process.

The input in the form of excel based template which contains client specific data and documents which is nothing but A form and its associated footnotes or a letter are processed in the application in larger volumes. The output includes the XML and also the pdf forms which are sent to the government system. The main advantage here is we make use of automated k-1 suites in order to maintain data of large number of clients and to process them in the same application. The output of the application will be the XML produced to the government system through which an individual can file his taxes.

## **V. PERFORMANCE EVALUATION**

In addition to growing the level of computerization and rapid growth of computer network communication technologies in government, financial institutions, tax administrations, customs office, other government departments. The XML method is for electronic filing only in Go System or OneSource Income Tax (OIT). Validates the data to make sure it meets IRS or state electronic filing data structure requirements, and generates an XML file that is aggregated with the tax return XML in Go System or OneSource Income Tax (OIT).

The benefits of XML include the following: Improved performance within the tax return software.

## **VI. CONCLUSION**

Tax Processing is most important part of any country which adds to the revenue of that country which helps in economic growth and development. So making use of technology in tax processes enables increase in development and economy. In this paper we study the principles of using .NET frameworks and its subnets to build application which would provide faster way in the process of tax. Also it decreases most of the manual work and hence gives rise to automation. Developing desktop applications enables security of data and also helps to avoid online attacks. Further development is carried out in order to automate the process of XML output which can enhance the system.

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