Individual Income Tax Profile Maintenance System for Bangladesh

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Abstract—A tax called an income tax is one that is levied against people or organizations (taxpayers) in relation to the income or profits they have made (often referred to as taxable income). In most cases, income tax is calculated as the sum of the tax rate and the amount of taxable income. The type of taxpayer and the type of income are two factors that can affect the tax rate.The purpose of this study is to build a system where the people of bangladesh maintain their tax profile including tax calculation, profile maintaining, savings documents etc.This system uses research done in light of the National Income Tax Returns 2022–2023 in its writing. Based on one's ability to pay, income tax is levied.The fundamental tenet of collecting income tax is "The more a taxpayer earns, the more he should pay." This website serves as a platform for users to compute their taxes, Any time the hard copy is lost.

Index Terms—Taxation, Tax Calculation, Income Tax, Tax Policy, Taxation Theory, Taxpayer Education.

I. INTRODUCTION

THE Finance Act of 2022 fixed the rates of the Income Tax Surcharge and further amended the Income Tax Ordinance of 1984. Additionally, the Income Tax Ordinance of 1984 issued various Statutory Regulatory Orders (SRO) and made necessary amendments to the Income Rules of 1984. Income tax, a standard tax system, plays a pivotal role in bringing economic prosperity and development to all citizens equally. It serves as a driver of development, facilitating the achievement of tax revenue collection targets, simplifying tax services, and modernizing tax laws as necessary. In line with these objectives, the National Board of Revenue is pursuing a taxpayer-friendly tax policy by rationalizing tax rates and incentives and expanding the tax base [1].

The tax rates in Bangladesh fluctuate annually, sometimes increasing and at other times decreasing. The Personal Income Tax Rate in Bangladesh is levied on various sources of income, including labor, interest, and dividends. Revenues generated from the Personal Income Tax Rate serve as a significant income source for the government. An individual's total income is comprised of seven heads of income, including salaries, interest on securities, income from house property, agricultural income, income from business or profession, and income from other sources. The tax return form facilitates the calculation of tax liability, tax payment schedules, and the refund of overpaid tax amounts. Most countries require individuals to complete tax return forms annually, with a deadline for submission. Failure to submit a tax return by the due date results in penalties.

As previously reported, Finance Minister Mustafa Kamal delivered the Bangladesh Budget Speech for 2022-2023 in June 2022, and the budget measures were subsequently approved in Parliament through the Finance Act of 2022 [2]. In the case of a normal male person below the age of 65 years, income tax is applicable if the income is taxable. Tax rates for females, third genders, taxpayers aged 65 and above, physically challenged individuals, the mentally retarded, and gazette war-wounded freedom fighters are the same after exceeding the maximum tax-free threshold. Individual assesses are required to pay income tax on their total income and submit their tax return each year by November 30, a day celebrated as Tax Day in Bangladesh [3].

In this paper a website is developed for calculating personal Income tax, storing their previous tax returns and other necessary documents for Bangladesh perspective.Every people using this website also find out necessary information's/ queries related to income tax.

II. RELATED WORKS

In recent years, numerous studies have been conducted in the field of tax calculation in Bangladesh, shedding light on various aspects of this complex system. These studies include an analysis and design of individual tax return systems [4], an exploration of income tax compliance and policy issues in developing and emerging economies [5], an examination of tax culture from the Bangladesh perspective [6], and an overview of tax reforms in Bangladesh with a corporate focus [7]. Additionally, research has investigated factors influencing income tax e-filing adoption [8], the relationship between tax structure and economic growth [9], and the adoption of e-tax filing and its implications for e-governance [10].

These studies collectively contribute to a comprehensive understanding of tax calculation within the context of Bangladesh, covering areas such as technical aspects, compliance challenges, cultural influences, and economic impacts.

III. THEORETICAL STUDY

In the intricate web of economic systems, tax calculation stands as a pivotal junction where fiscal policy converges with real-world financial transactions. At its core, tax calculation embodies the mechanics of quantifying an individual's or entity's financial obligation to the government – a duty that resonates far beyond mere arithmetic computations. Its importance reverberates through the corridors of finance, economics,

and public policy, shaping the very fabric of societal progress and resource allocation.

In the context of Bangladesh, taxation theories shape fiscal policy. The ability-to-pay principal underscores equity by taxing higher incomes more. The benefit principle ties taxes to services used, aiding governance transparency. Optimal taxation theory balances revenue and economic behavior, aiding growth. Progressive tax structures reflect ability-to-pay, fostering shared responsibility. The benefit principle promotes services funding alignment. Optimal taxation navigates efficiency and revenue, vital for Bangladesh's development path. For tax calculation, the rules of Bangladesh Tax revenue (2022-2023) have been followed. If the individual income of a natural person taxpayer is more than 3,00,000 taka per annum, Taxpayers of a third gender, women, and taxpayers aged 65 years or above if their annual income is more than 3,50,000 takas have to pay the tax. A gazette freedom fighter has to pay tax if his income is more than 4 lakh 75 thousand rupees per annum. A disabled taxpayer will have to pay a tax if his income exceeds Rs.450,000. For agriculture Income from farming will add a tax-free limit of 2,00,000 taka. And for job holders house rent the lowest between 50% of basic (yearly) and 25000 monthly will be tax free. The lowest between 10% of basic (yearly)and 10000 monthly will be tax free for medical allowance. And for transport the lowest between 30000 yearly and paid allowance will be free [11].

Gross Income	Tax Rate	Amount of Tax
Up to the first 3,00,000 taka of income	Null	Null
Next, on the first 1,00,000 taka of income	5%	5,000 Taka
Next, on the first 3,00,000 taka of income	10%	30,000 Taka
Next, on the first 4,00,000 taka of income	15%	60,000 Taka
Next, on the first 5,00,000 taka of income	20%	1,00,000 Taka
On the remaining amount above 34,00,000	25%	8,50,000 Taka
Total income tax amount on 50,00,000 Taka:		10.45.000 Taka

Fig. 1: Income Tax Rate.

Tax calculation projects, like most projects, aim to introduce innovation rather than repetitive processes. This project offers a valuable resource for individuals seeking tax information and conducting annual calculations. The project's interface prioritizes intuitiveness, logical navigation, and clear labeling to enhance user satisfaction and task completion. It is grounded in understanding and addressing the unique needs, preferences, and behaviors of users in Bangladesh. Cultural sensitivity considerations, encompassing language preferences, cultural norms, and local contexts, are thoughtfully integrated to maximize user engagement and comprehension.

The application empowers users through educational content, providing explanations of tax concepts, terminology, and calculations. It serves as an educational tool, promoting financial literacy and informed decision-making. Transparency, fairness, and ethical representation of tax-related information are core principles of the application's design. User feedback

is actively sought and integrated to refine the user interface, functionality, and user experience, ensuring a continuous improvement process aligned with user preferences. Ensuring compatibility across various devices and browsers commonly used in Bangladesh, the application minimizes cognitive load by simplifying processes, using clear labels, and organizing information strategically. It remains adaptable to evolving regulatory changes in the dynamic landscape of Bangladesh's tax codes

In summary, the 'Tax Calculation' web application excels through its user-centric design, usability, security, ethics, and adaptability, effectively catering to the distinct needs and preferences of users in Bangladesh.

IV. METHODOLOGY

Figure 2 illustrates the flow chart of the "Tax Calculation" web application, showcasing the step-by-step user journey and core functionalities. Users initiate the process by signing up for the application. After successful registration, they log in to access the application's features. Upon logging in, users can access informative content about tax calculation. This section offers users insights and knowledge related to tax calculations, aiding their understanding. When users decide to calculate their tax, they enter the tax calculation section. They input their basic information and select their occupation. Subsequently, users provide additional details required for the calculation. Users input their financial information, and the application's algorithm computes the tax owed. The result is displayed to the user, offering a clear breakdown of the calculation. Upon receiving the tax calculation result, users have the option to generate a tax report. This report summarizes the calculation and provides a printable format for their records. After reviewing the tax calculation and report, users proceed to make tax payments.
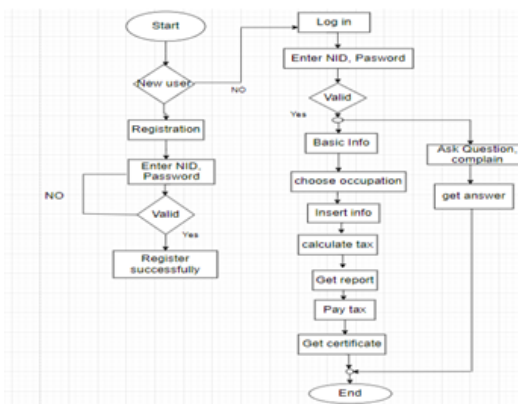

Fig. 2: flow chart of tax calculation web application.

The application guides users through the necessary steps to complete the payment process. The flow chart emphasizes the application's user-centric approach, seamless navigation, and comprehensive functionality to assist users in accurately calculating their taxes and managing the payment process.

The tax calculation process is a crucial component of the application's functionality, ensuring accurate determination of tax liabilities for users in Bangladesh.

A. Technology Stack

This section outlines the methodology for developing the " Tax Calculation" web application, highlighting key system requirements and technological tools that contributed to its success. The application's development hinged on a carefully chosen technology stack:

1) Server Environment and Database: XAMPP provided a robust development environment, while MySQL facilitated secure data storage.

2) Front-End Development: HTML, JavaScript, CSS, and Bootstrap 4 combined for an interactive and responsive user interface.

3) Back-End Development: PHP enabled dynamic functionality, powering tax calculations and data processing.

4) Responsive Design and Security: The methodology embraced responsive design principles using Bootstrap4,ensuring cross-device compatibility. Security was prioritized through encryption, data handling protocols,and user authentication.

B. Login activities and Users Management

The " Tax Calculation" web application employs a structured approach to user registration, approval by the admin, and subsequent dashboard access to ensure secure and efficient user management.To access the application's features, general users are required to complete a registration process.During registration, general users provide essential information and create their accounts.This step serves as the initial entry point for general users into the application.

Fig. 3: Login page

C. Admin Dashboard

Admins are equipped with a dashboard where they can efficiently manage general user registrations. Admins have the authority to approve or delete general user registrations, ensuring user data integrity. Access to user profile information allows admins to oversee general user's details and ensure compliance with application policies. Admin can see their own profile information and can change passwords. They can see general users information and can answer their complains and questions.
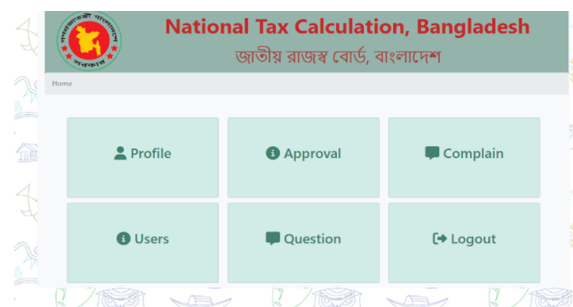
Fig. 4: Admin dashboard.

D. General users Dashboard

Upon admin approval, general users gain access to their personalized dashboard. They can conveniently update their passwords from within the dashboard, ensuring data security The dashboard provides access to user profiles, enabling users to maintain accurate and up-to-date information.

Fig. 5: General users dashboard.

1) Prospectus: : Here user can see the latest tax information (2022-2023) PDF. So, if they want to know something they can read this PDF.

2) Profile: General users can view and update their profile information, including the option to change their password.

3) Tax calculation: After logging in, general users can calculate their income tax on the tax calculation page. Initially, users select their basic information and submit it. Following this, they choose their occupation, provide the necessary details, and submit the form. General users have the option to select multiple occupations if applicable. Upon submission, the application calculates their total tax using tax rules, which general users can then view.

(a)   (b)

4) Tax Report and Tax history: After calculating their tax, general users can access their tax reports and tax history. Additionally, general users can review tax limitation and tax-free rules. If desired, general users have the option to download their reports.

5) E-TIN: (Electronic Taxpayer Identification Number) is a unique tax index number required for tax submissions. Users can access the E-TIN registration page to obtain their E-TIN number.

6) Certificate: Upon tax payment, admin updates the payment status, allowing general users to access and download their tax certificates.

Fig. 7: Certificate page.

7) Ask Question and Complain: General users can submit complaints regarding issues and receive feedback from admin. Users can also ask tax-related questions, with admin providing answers visible to all general users.

V. DISCUSSION AND FUTURE RECOMMENDATION

A. Discussion

The "Tax Calculation" web application represents a significant step toward facilitating user-centric tax management and compliance in Bangladesh. This section delves into the key aspects of the application's development, implementation, and user engagement, providing insights into its implications for economic development and public finance. Administrative tools streamlined user management tasks, allowing admins to efficiently approve registrations, update payment statuses, address complaints, and provide answers to user questions.

B. Future plan

As part of the ongoing development and refinement of the "Tax Calculation" web application, several areas for future work and enhancements have been identified:

1) Expansion of Occupation Options: While the current version of the application includes four occupation types, there are additional occupation categories yet to be integrated. Future iterations of the application will aim to incorporate all relevant occupation types, ensuring comprehensive tax calculations for a wider user base.

2) Enhanced Payment System: Acknowledging the need for a more streamlined payment process, future upgrades will focus on an integrated payment system. This improvement will enable users to conveniently pay their taxes from the comfort of their homes, eliminating the need to visit external payment channels.

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