



A Model for Multi-Level Incentive Calculation

Rashi Singh^{*1}, Upasana², Jai Pratap Dixit³, Dr. Nikhat Akhtar⁴, Atebar Haider⁵

^{1*} B.Tech Scholar, Computer Science & Engineering, Ambalika Institute of Management & Technology, Lucknow, India

²Assistant Professor, Department of Computer Science & Engineering, Ambalika Institute of Management & Technology, Lucknow

³HoD (CSE, IT), Ambalika Institute of Management & Technology, Lucknow

⁴Associate Professor, Department of Computer Science & Engineering, Ambalika Institute of Management and Technology, Lucknow

⁵Assistant Professor, Department of Computer Science & Engineering, Ambalika Institute of Management & Technology, Lucknow

Abstract: The Incentive Calculation Model (ICM) is a dense and a demanding need. It is difficult to quantify motivation while taking into consideration all government regulations and the criteria are often unknown, in order to define a genuine and concrete output, because manual systems of calculation are prone to flaws and miscalculations, resulting in unclear findings. Information that is ambiguous cannot be used to make strategic judgments. Calculating incentive gains in an investment is an important aspect of forecasting in order to go forward, and it will also aid in analyzing the success factor of any form of investment. This is an attempt to present the difficulties encountered in determining the incentive in the project. This work investigates the novel ideas used to calculate the incentive by creating the ICM. ICM is intended to provide a clear picture of the project's government objectives and efforts. The architecture of the Incentive Calculation Model, as well as the project's inputs and outputs, are discussed in this document. The research uses a test of hypothesis to evaluate and contrast the manual technique for computing incentives within the Incentive Calculation Model. On these datasets, graphical analysis is used to determine which investment will generate which incentive and in which state. We attempted to demonstrate how this approach aids investment planning by identifying crucial investment determinants. Finally, this report summaries some of the key lessons gained as well as the important cost, schedule, quality investment, and user satisfaction benefits realized.

Keywords: Incentive Calculation Model (ICM), Database, PHP, Bootstrap, CodeIgniter, JavaScript.

1. Introduction

Incentives are a powerful tool for aligning sales behavior with company objectives, but their effectiveness is dependent on the plan's quality as well as the process [1] of calculating and conveying what each sales rep or dealer would receive as a reward for their efforts. Data [2], technology, and people are the three pillars of incentive compensation management. For accurate sales strategy and compensation plan formulation,

data is essential. The sales organizations that have the most insight and visibility, which means the most accurate and full data, are the most successful. When it comes to creating and calculating complex plans, [3] technology is the enabler of process automation. However, if the technology is sound, it may also be used to transform data [4] into usable information. People are at the core of everything, as they always are. People devise incentive pay systems in order to influence the conduct of others. Compensation analysts create, calculate, and monitor programmes that directly affect sales representatives and dealers. They're also in charge of resolving any disagreements that arise when expected and actual rewards differ. In states such as Uttar Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, and Gujarat, the Incentive Calculation Model is a template that might be valuable to economists and investors (users) as well as managers (administrator). ICM enables for the definition of government incentives as well as the tracking of user data to ensure user reliability and integrity. In ICM, there is a backup generating feature that lets government officials and managers to assess data provided by users in an investment. This tool can assist managers in estimating incentive per investment size [5]. This tool assists administrators in documenting and analyzing the available incentives. This model stores user information such as usernames, investment types, and contact information. The application has a user-friendly interface with different controls offered by the model's rich user interface. Different types of incentives are displayed utilizing graphical representation features. The model includes features that allow economists to track incentives based on a predetermined set of values [6]. The model also includes tools for efficiently managing various outputs and sub-outputs online.

2. Problem Definition

The interface has been built with flexibility in mind, and straightforward graphical principles have been kept in mind in the assessment and analysis, all of which are linked through a browser interface. The top-level GUIs have been divided into three categories: administrator interface design, user interface,

and security authentication. The administrative user interface will keep track of the various users' information. It will assist the administration with all transactional statuses, such as which users are sending emails and which users are receiving them, as well as user information history and the system's statistics in various strategies.

3. Specifications for Requirements

Following a thorough investigation, the system was determined to have the following modules. Authentication and security, admin (manager) module, association module, and calculation module are the modules involved. The user information should be compared to the information in the user tables, and if it is a valid user, they should be notified. Once entered, access to the various modules can be enabled / disabled based on the user type, and each user can input their own username and password, which is saved in the database. The following submodules make up this module. In the login module, the administrator can register new employees and save their information in the database (see figure 1). He also adds fresh investment facts to the database, such as investment size, starting amount, and location. Admin oversees several types of users in the users management module. He has the ability to add/view user information as well as delete it if necessary, as seen in Figure 2. The user-admin management module of the association module comprises the following sub modules. Here, the admin will inform the user about relevant facts for the investment, such as development cost, expected sale [7], investment amount, and job creation. When the user is ready to invest, he can contact government officials through the task management module, and the process will begin once the officials get the necessary information from the database. All of the static inputs are analyzed and incentives are delivered in the calculating module, which is a substantial task.

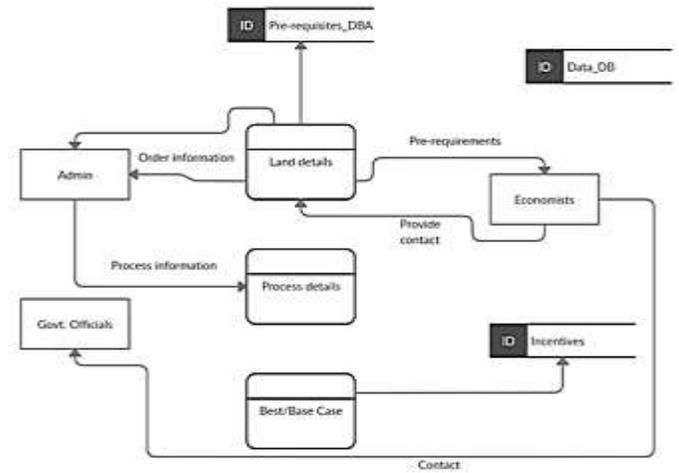


Figure 2 The 1 Level Data Flow Diagram

3.1 Data Model Layer

The data model (Model) is a representation of the data structure of a web application built with CodeIgniter. Model classes are defined in the source code for this purpose. These are unique functions that allow you to access, store, or update data from a database.

3.2 The Presentation Layer

The part of the application that consumers see is called the presentation (View). This is usually an HTML document with PHP content that is dynamically integrated. A view can be thought of as a template. In CodeIgniter, you may define webpage elements like the header and footer, as well as RSS-sites, in the view. Web applications typically employ several views to refer to content that uses the same data model. Distinct programme features might be displayed in different views as a result of this.

3.3. The Controller Layer

The controller (Controller) acts as a go-between for the model depicted in Figure 3, view, and any other resource needed to process an HTTP request or dynamically construct a website. This component receives incoming requests, evaluates the data, picks the required view, and sends content from a database that the data model has loaded.

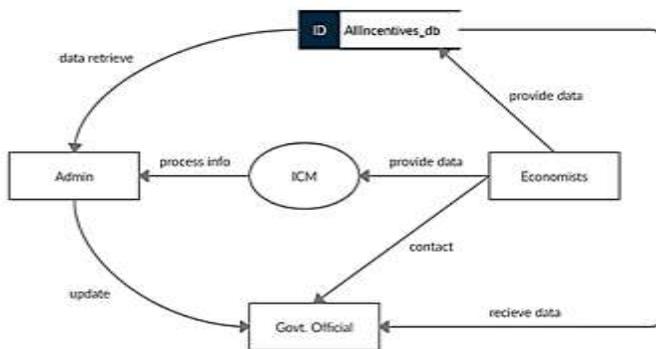


Figure 1 The 0 Level Data Flow Diagram

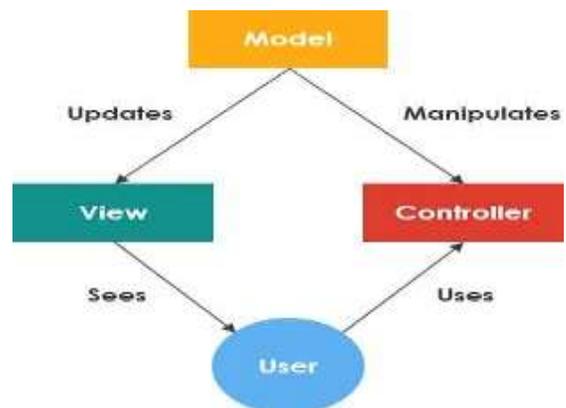


Figure 3 The Block diagram of Process Flow

4. Use Case

The software engineer can express an analytical model using the modeling notation, which is governed by a set of syntactic, semantic, and pragmatic rules. A UML system is represented by five separate [8] perspectives, each of which describes the system from a different angle. From the user's point of view, this view depicts the system. From the point of view of the end-user, the analytical representation depicts a usage scenario. The data and functionality in this model come from within the system. The static structures are modeled in this model view. It depicts the interactions of collection between various structural elements given in the user model and structural model view [9], and it reflects the dynamic of behavioral as parts of the system. The structural and behavioral components of the system are depicted as they will be constructed. This diagram depicts the structural and behavioral aspects of the environment in which the system will be implemented. Figure 4 shows a use case diagram that depicts the system's functioning from the perspective of a user. To illustrate the functionality of the system, use cases are utilized during requirements elicitation and analysis. The behavior of the system from the outside is the topic of use cases. External entities that interact with the system depicted in Figure 5 are known as actors. Users such as administrators, bank customers, and others, as well as another system such as a central database, are examples of actors.

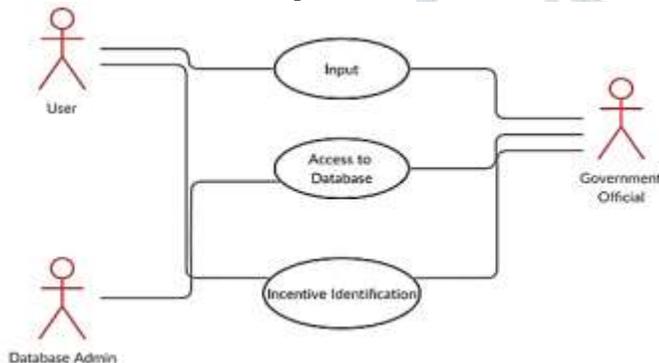


Figure 4 The Use Case Diagram

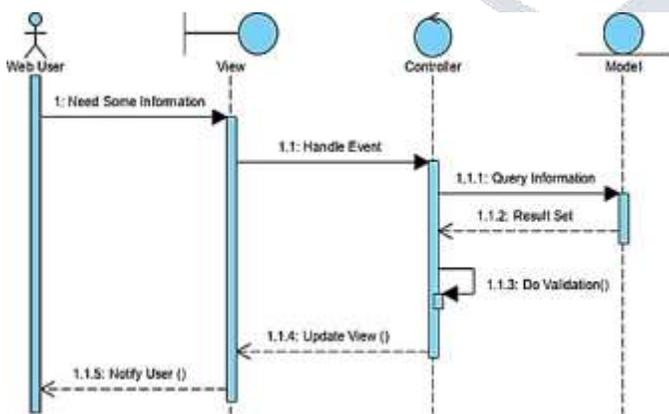


Figure 5 The Sequence Diagram

5. Implementation

We and our project team will work carefully to complete the mission and generate the deliverables during the implementation phase [10]. HTML stands for Hypertext Markup Language and is the most widely used markup language for online pages. It allows you to describe the

structure of text-based information in a document by labelling particular text as headings, paragraphs, lists, and so on, as well as add interactive forms, embedded images, and other objects to that text. HTML is composed of labels (also known as tags) enclosed by angle brackets. HTML can also specify the appearance and semantics of a document to some extent, as well as include embedded scripting language code that can alter how web browsers and other HTML processors behave.

HTML is also commonly used to refer to content with the MIME type text/html, or to refer to HTML in general, whether in its XML-descended form (such as XHTML 1.0 and later) or in its SGML-descended form. An element's attributes are name-value pairs separated by "=" and written within the element's start label, following the element's name [11]. Although values containing specific characters can be left unquoted in HTML, the value should be surrounded in single or double quotations (but not XHTML). It is deemed dangerous to leave attribute values unquoted.

5.1 JavaScript

The Netscape Communication Corporation created JavaScript, a script-based programming language [12]. JavaScript was initially known as Live Script before being renamed JavaScript to reflect its connection to Java. The development of both client and server components of Web-based applications is supported by JavaScript. It can be used to develop programmes that are executed by a Web browser within the context of a Web page on the client side. It can be used to develop Web server applications that process information submitted by a Web browser and then adjust the browser's display accordingly on the server side. Despite the fact that JavaScript allows both client and server Web programming, we recommend it for client-side programming because it is supported by the majority of browsers. JavaScript is virtually as simple to understand as HTML, and you can add JavaScript commands in HTML texts by encapsulating them between two scripting tags [13]. The languages JavaScript and Java are diametrically opposed. Java applets are typically presented in a box within the online document, but JavaScript can alter any portion of the web content [14]. While JavaScript is ideal for small apps and adding interactive elements to Web pages, Java can handle extremely sophisticated programmes.

5.2 Bootstrap

Bootstrap is a free front-end framework that makes web development go faster and easier. Bootstrap [15] includes a variety of HTML and CSS-based design templates for typography, forms, buttons, tables, navigation, modals, image [16] carousels, and more, as well as optional JavaScript plugins. Bootstrap also allows you to easily create responsive designs. Anyone with a basic understanding of HTML and CSS can get started with Bootstrap. The responsive CSS in Bootstrap adjusts to phones, tablets, and desktops. All modern browsers (Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera) are compatible with Bootstrap 4. Bootstrap comes with a plethora of features. These features not only make it stand out, but they also make it more popular, even among web designers who prefer to take things slowly [17]. Despite the fact that Bootstrap is built with responsive 12-column grids, layouts, and components, it is also extremely simple to customize. A fixed grid or a

responsive grid can both be achieved with a few changes. Column offset and nesting are also simple in both CPU-based and mobile-based browser grids. Bootstrap's responsive utility classes are another notable feature.

A specific piece of content can be made to appear or hide only on devices based on the size of the screen being used by using responsive utility classes. This feature is extremely useful for web designers who want to create mobile [18] and tablet-friendly versions of their websites. A responsive add-on feature of a website is the drop-down component menu. To incorporate it into a website, a variety of plugins, mostly Java-based, are tested. However, thanks to Bootstrap and its simple customization options, this can be accomplished in a matter of minutes. Inexperienced users can develop a website using the easily available templates by following a short tutorial or demo on the Bootstrap website.

5.3 Hypertext Preprocessor (PHP)

PHP is a programming language that allows web developers to create dynamic content that interacts with databases. PHP [19] is primarily used to create web-based software applications. This lesson will assist you in constructing your PHP foundation. PHP is an HTML-enabled server-side programming language. It's used to manage dynamic content, databases, and session monitoring, as well as to create full e-commerce websites. PHP (PHP: Hypertext Preprocessor) is a widely used Open-Source general-purpose scripting language that is well suited for web development and can be integrated in HTML. It has a simple syntax that borrows from C, Java, and Perl. The language's primary objective is to allow web developers to easily create dynamically generated web pages, but PHP is capable of much more. The availability of rich pre-defined functions is PHP's key strength. The core distribution makes it simple for developers to create dynamic websites with protected data. It's fairly simple to optimize PHP programmes. PHP is noted for its versatility and embedded nature, as it can work with HTML, XML, JavaScript, and a variety of other languages. PHP is compatible with a variety of operating systems, including Windows, Unix, MacOS, Linux, and others [20]. PHP scripts can operate on a variety of devices, including laptops, mobile phones, tablets, and computers. It integrates well with a variety of databases. Advanced PHP features are used to construct desktop applications. The PHP executable can be run from the command line as well as directly on the system [21]. Without the use of a server or a browser, heavyweight apps can be constructed. It's also a great way to interact with relational databases. All PHP frameworks are open source, which means that users don't have to pay anything and can use them for free. Users can simply download PHP and begin utilizing it in their projects or applications. Even in businesses, the entire cost of software development is lowered, resulting in increased reliability and flexibility. When working on large projects, code maintenance is also a crucial part of the web development process. There are a variety of PHP frameworks available, such as MVC (Model View Controller), that make code development and maintenance easier. The files relating to each module are kept in their own folders.

5.4 CodeIgniter PHP Technologies

CodeIgniter is an Application Development Framework - a toolkit - for PHP web developers. Its goal is to allow you to develop projects much faster than if you were writing code from scratch by providing a rich set of libraries for commonly needed tasks, as well as a simple interface and logical structure to access these libraries. CodeIgniter [22] allows you to focus on your project creatively by reducing the amount of code required for a given task. Wherever possible, CodeIgniter has been kept as flexible as possible, allowing you to work the way you want without being forced to do so. To make the system work the way you need it to, the framework's core components can be easily extended or completely replaced. In a nutshell, CodeIgniter is a flexible framework that aims to give the tools you require while remaining unobtrusive. The files that make up the framework are kept in this directory. While the application directory gives you a lot of freedom, the files in the system directory should never be changed. To offer the needed functionality, you should instead extend the classes or build new ones [23].

The browser-accessible section of your web application is stored in the public folder, which prevents direct access to your source code. It contains the index.php file, the main.htaccess file, and any application assets you upload, such as CSS, JavaScript, or pictures. This directory contains any directories that a programme may need to write to during its lifetime. This includes directories for cache files, logs, and any uploads a user may make. Any extra directories that your programme may need to write to should be added here. As an added security step, you can make your other major folders non-writable. CodeIgniter is built to give optimum performance in a clean environment in little time. To do this, each development process is designed to be as simple as possible. It is dynamically instantiated (libraries are loaded on request, making it light-weight) and loose coupling from a technical standpoint. Figure 6 shows component singularity (each class and its functions are closely focused only on their purpose) and component singularity (each class and its functions are narrowly focused only on their purpose). The default file for CodeIgniter is index.php. It sets up the foundation resources. The Router [24] is in charge of deciding what should be done with the data. If the requested cache file exists, the data is sent immediately to the browser, bypassing the rest of the process. The HTTP request and supplied data are passed through a security check before being loaded into Application Controller. According to the request, the Application Controller loads Models, Libraries, Helpers, Plugins, and Scripts. View will receive the finished page, which will then be delivered to the web browser. If View page is not cached then it will be cached first for future requests.

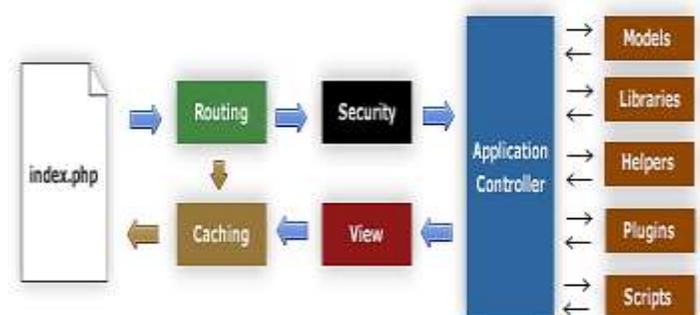


Figure 6 The CodeIgniter Architecture

6. Results and Discussion

The incentive calculation model has been successfully designed and is undergoing quality assurance testing. We met all of the project's objectives, and the project satisfies the organization's requirements. The prototype built will be used to search, retrieve, and generate information for the requests depicted in Figure 7. A formal strategy used to promote or encourage specific acts or behavior by a specific group of people throughout a defined period of time, as depicted in figure 8, is known as an incentive programme [25]. Business management [26] and sales [27] both use incentive programmes to inspire staff and to attract and keep customers. This concept is also known as compensation for performance in scientific literature.

Figure 7 The Data Entry Form

State	Is the incentive package differentiated as per location within the state?	Applicable industrial policy within state	Total incentive - base case scenario	Total incentive - best case scenario
Andhra Pradesh	No	Andhra Pradesh Industrial Policy, 2015-2020	804	804
Uttar Pradesh	Yes	Industrial and employment promotion policy, 2017	1587	1587
Tamil Nadu	Yes	Tamil Nadu Industrial Policy, 2014	3607	3611

Figure 8 The State Wise Outputs

Points-based incentive programmes are a type of programme in which users accumulate points and redeem them for rewards. Employees and customers can both benefit from point-based schemes. Points can be awarded based on a variety of criteria, including positive employee behavior [27], the demonstration of organizational values, repeat customer purchases, the sale of new products, increased overall sales, or even the use of proper safety precautions, depending on the programme type and organizational objectives. Calculates the

incentive as a financial amount based on participants' quarterly license accomplishment against their objectives. When participants assist a services group in closing deals, as shown in figure 9, they receive an accelerated rate. The selection of proper rewards is critical to the success of any programme. The goal of selecting rewards is to find objects that will pique the participant's attention or emotions while also supporting the program's objectives (see Figures 10 and 11). Effective rewards will drive short-term conduct as well as long-term motivation.



Figure 9 The State Wise Graphical Outputs



Figure 10 The Best Case

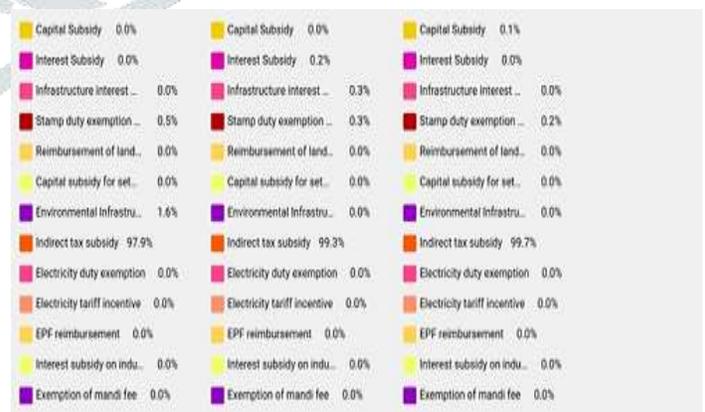


Figure 11 The Graphical Data Representation

7. Advantages

It may result in a simple mechanism for distributing incentives to other investors. A financial benefit of commissions is that you know you'll only be charged if you make a sale. As a result, you usually don't have to pay commissions unless you

also make money from the sales. This is why many sales-heavy businesses pay [28] on a straight commission basis. Only compensating people for the results they deliver allows managers to properly regulate labor expenditures and maintain optimal selling efficiency. Companies use commission incentives primarily to push salespeople to work harder, more effectively, or more efficiently in order to convert leads into sales. Although the motivational influence varies, salespeople who are motivated by money are more likely to pursue more prospects and work harder to close sales. Salary remuneration is typically taken for granted by employees. Knowing that more effort or outcomes will result in higher remuneration can encourage you. Top performers are rewarded and recognized for their achievements. This may encourage them to keep improving. Companies that have the best case incentives from the government [29] likely to focus more on output and collaborate and cooperate to increase profits, which would undoubtedly benefit the government indirectly. Observing the winners' actions can teach them how to achieve similar results. An incentive plan provides something for which to compete if your workplace encourages healthy competitiveness [30].

8. Conclusion

The Incentive Calculation model was successfully built and tested for accuracy and quality on all counts and with proven results. During the course of this project, we were able to achieve all of our goals for calculating incentives in a more efficient and adaptive manner. Previously, it was considered that keeping track of all of the aggregate data and calculating all of the profit and loss would be tough, but our product disproves this assumption by providing the user with a new and interactive platform that allows him to address all of his queries in a single click. The prototype will be used to search, retrieve, and generate information for the requests in question. It not only aids capitalists, but also the government in documenting government subsidies for certain projects. In terms of adaptability and implementation, the project perfectly embodies the core of our concept. The project is easily adaptable to the needs of the user and can meet all of his or her requirements with some additional suggestions (if needed). All plan aspects, including thresholds, accelerators, splits, adjustments, tiered commission rates, and bonuses, may be built and monitored using the Incentive Calculation model. One of the model's concluding principles is to quickly deploy important payments while standardizing plans across regions, geographies, business users, channels, and other factors. A solid compensation strategy is straightforward and predictable. It is simple to comprehend, allowing people to link their performance to their remuneration. People can plan their efforts because it is predictable. To accommodate new product releases and uncertain markets, a good plan is fair and flexible. It is both cost-effective and competitive. Finally, it satisfies the requirements of its three most significant stakeholders: customers, salespeople, and government and economists.

9. Future Prospects

This project creates a single shared data source, removing source confusion and version control difficulties. Budgets, strategies, quotas, and sales targets should all be shared across the organization to keep everyone focused on the same bigger

corporate goals. Any future changes are simple to implement because it is built on object-oriented design. The code can be reused as many times as needed without causing any issues with the Project's applications. Security can be improved utilizing developing technology based on future security issues. There may be some new detrimental bugs that we are unaware of for the time being, but as they arise in the future, we will be able to adapt our code to accommodate them, making it more secure. The number of states involved can be raised as needed in the future. As a prototype, the project now focuses on only a few states, but as demand grows, more states may be added. Textile and food processing industries could be included to the list of investment sectors. Our project can only be implemented in a few industries, but it can be expanded. The investment model can be applied to both Greenfield and brownfield sites. New GST slab rates of 5 percent, 12 percent, and 28 percent can be added. Because it is a dynamic variable that can be adjusted, it usually varies according to the government. In the future, modules such as studied historical data can be added to the model. For the time being, we have only used a small amount of past data; but, in the future, by studying more history data, we will be able to apply more, making it less error-prone. Change compensation plans as needed to reflect new products, territories, or business goals. Expand your compensation platform to include new reps, and provide sales leaders the flexibility to change pay plans on the fly or apply the same standards across the board. The project has a user-friendly interface that makes it simple to understand even for those who are unfamiliar with it. As technology advances, it will be feasible to modify the system and adapt it to the intended setting, allowing it to be used by a wider range of people.

References

- [1] D. Yang, G. Xue, X. Fang, and J. Tang, "Incentive mechanisms for crowd-sensing: Crowdsourcing with smartphones," *IEEE/ACM Trans. Netw.*, vol. 24, no. 3, pp. 1732–1744, Jun. 2016
- [2] Yusuf Perwej, "An Experiential Study of the Big Data", *International Transaction of Electrical and Computer Engineers System (ITECES)*, USA, Volume 4, No. 1, Pages 14-25, 2017, DOI: 10.12691/iteces-4-1-3
- [3] D. K. Folinias and E. H. R. Daniel, "Estimating the Impact of ERP Systems on Logistics System", *International Journal of Enterprise Information Systems*, vol. 8, pp. 14, 2012
- [4] Yusuf Perwej, Md. Husamuddin, Majzoob K.Omer, Bedine Kerim, "A Comprehend the Apache Flink in Big Data Environments", *IOSR Journal of Computer Engineering (IOSR-JCE)*, USA, Volume 20, Issue 1, Ver. IV, Pages 48-58, 2018, DOI: 10.9790/0661-2001044858
- [5] T. Luo, S. S. Kanhere, S. K. Das, and T. A. N. Hwee-Pink, "Incentive mechanism design for heterogeneous crowdsourcing using all-pay contests," *IEEE Trans. Mobile Comput.*, vol. 15, no. 9, pp. 2234–2246, Sep. 2016.
- [6] W. Wu, W. Wang, M. Li, J. Wang, X. Fang, Y. Jiang, and J. Luo, "Incentive mechanism design to meet task criteria in crowdsourcing: How to determine your budget," *IEEE J. Sel. Areas Commun.*, vol. 35, no. 2, pp. 502–516, Feb. 2017

- [7] Poranki KR, Perwej Y, Perwej A. ,” The Level of Customer Satisfaction related to GSM in India”, RJSITM., 4(3):32-3, 2015
- [8] Booch, G., Rumbaugh, J. and Jacobson, I. The Unified Modelling Language User Guide. 1999, Reading, Massachusetts: Addison Wesley.
- [9] Curtis, G. and Cobham, D. Business Information Systems: Analysis, Design and Practice. 2002, Harlow, Essex: Pearson Education Limited
- [10] Ian Devlin, "HTMLS Multimedia Develop and Design, " The Pragmatic Bookshelf, 2011.
- [11] Peter Lubbers, Brian Albers, Frank, Salim, "Pro HTMLS Programming, " Apress, 2010
- [12] P. Thung, C. Ng, S. Thung and S. Sulaiman, "Improving a Web Application Using Design Patterns: A Case Study" in International Symposium in Information Technology 2010, Malaysia:IEEE, Kuala Lumpur, Sept. 2010
- [13] C. Anderson, "Type inference for javascript", Mar. 2006
- [14] Firoj Parwej, Nikhat Akhtar, Yusuf Perwej, "An Empirical Analysis of Web of Things (WoT)", International Journal of Advanced Research in Computer Science (IJARCS), ISSN: 0976-5697, Volume 10, No. 3, Pages 32-40, 2019, DOI: 10.26483/ijarcs.v10i3.6434
- [15] A. M. Zoubir and D. R. Iskander, Bootstrap Techniques for Signal Processing, U.K, Cambridge Cambridge Univ. Press, 2004
- [16] Yusuf Perwej, "An Optimal Approach to Edge Detection Using Fuzzy Rule and Sobel Method", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Volume 4, Issue 11, Pages 9161-9179, 2015, DOI: 10.15662/IJAREEIE.2015.0411054
- [17] A. C. Davison and D. V. Hinkley, Bootstrap Methods and their Applications, U.K., Cambr. Cambridge Univ. Press, 1997
- [18] Yusuf Perwej, Shaikh Abdul Hannan, Firoj Parwej, Nikhat Akhtar , "A Posteriori Perusal of Mobile Computing", International Journal of Computer Applications Technology and Research (IJCATR), Volume 3, Issue 9, Pages 569 - 578, 2014, DOI: 10.7753/IJCATR0309.1008
- [19] Zhimin Zhang, "Comparative Analysis between ASP.NET PHP and JSP", Friend of Science Amateurs, vol. 33, pp. 132-133, 2008
- [20] Liang Guo and Hui Gao, "The research on comparison between ASP PHP and JSP", Heilongjiang Science and Technology Information
- [21] Andreas Veglis and , "PHP and SQL Made Simple", IEEE Distributed Systems Online, vol. 6, no. 8, 2005
- [22] A Subari, S Manan and E Ariyanto, "Design of E-office system in vocational school Diponegoro University using code igniter framework", IOP Conference Series: Material Science and Engineering, pp. 1-8, 2020
- [23] A Gunaryo and Y Kurnia, "Design of Website-Based Queue Retrieval Application on Andi Motor using Codeigniter Framework", JOU. TECH-E, vol. 03, no. 02, pp. 1-8, 2020
- [24] Yusuf Perwej, "The Ambient Scrutinize of Scheduling Algorithms in Big Data Territory", International Journal of Advanced Research (IJAR), Volume 6, Issue 3, Pages 241-258, 2018, DOI: 10.21474/IJAR01/6672
- [25] T. Luo, S. S. Kanhere, J. Huang, S. K. Das, and F. Wu, "Sustainable incentives for mobile crowdsensing: Auctions, lotteries, and trust and reputation systems," IEEE Commun. Mag., vol. 55, no. 3, pp. 68–74, Mar. 2017
- [26] Asif Perwej, A Pervasive Review of the Customer Contentment in the Bhilwara Banking Sector.", International Journal of Advanced Research Social Science and Humanities bearing (IJAR), Volume: 07, Issue: 01, Page 518-527, 2019
- [27] F. Abdallah and W. Elhoss, "The Impact of Management by Objectives (MBO) on Organizational Outcome in a Digital World: A Case Study in the Aviation Industry", Digital Economy. Emerging Technologies and Business Innovation, pp. 15-28, 2019
- [28] Asif Perwej, Kashiful Haq, Yusuf Perwej, "Blockchain and its Influence on Market", International Journal of Computer Science Trends and Technology (IJCT), ISSN 2347 – 8578, Volume 7, Issue 5, Pages 82- 91, Sep – Oct 2019, DOI: 10.33144/23478578/IJCT-V7I5P10
- [29] Al-Mushayt, O.S., Perwej, Y. and Haq, K.,” Electronic-government in Saudi Arabia: A positive revolution in the Peninsula”, arXiv preprint arXiv:1205.3986, 2012
- [30] H. Zheng, D. Li, and W. Hou, “Task design, motivation, and participation in crowdsourcing contests,” Int. J. Electron. Commerce, vol. 15, no. 4, pp. 57–88, Jul. 2011