**MIT School of Engineering**

**Department of Computer Science and Engineering**

**Project Synopsis**

**Group ID:10**

**Project Title: Inefficient Expense Division and Non-User-Friendly UI in Hotel Billing.**

**Group Members:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Enrollment Number** | **Roll No.** | **Name of student** | **Email Id** | **Contact Number** |
| **MITU22BTCS0467** | **2223604** | **Naman Babbar** | **namanbabbar37@gmail.com** | **8561036710** |
| **MITU22BTCS0303** | **2223616** | **Goutam Kumar** | **goutamp241@gmail.com** | **7296851903** |
| **MITU22BTCS0390** | **2223577** | **Khwaish Agarwal** | **khwaishag03@gmail.com** | **6371172476** |
| **MITU22BTCS0963** | **2223597** | **Vasu Kamra** | **vasukamra007@gmail.com** | **8266356939** |

The hotel industry relies heavily on customer satisfaction to drive revenue and ensure long-term success. To maintain a competitive edge and provide exceptional customer service, hotels face the challenge of addressing two critical issues: the Split-Bill Feature and User-Friendly User Interface (UI). This research paper explores these challenges and presents a solution aimed at enhancing customer satisfaction and streamlining the expense-sharing experience within diverse social groups.

**Problem Statement:**

Customer satisfaction is pivotal in the hotel industry's success. However, several challenges hinder an optimal customer experience, including:

1. Split-Bill Feature: Hotels often lack a streamlined method for dividing expenses among guests sharing a room, resulting in time-consuming and sometimes error-prone processes.
2. User-Friendly UI: Complex and unintuitive billing systems can frustrate guests, leading to a decline in satisfaction and loyalty.

**Abstract:**

This research project focuses on developing a user-friendly split bill application that addresses the aforementioned issues. The primary goal is to simplify the process of splitting expenses among individuals, ensuring a seamless and efficient experience. The application's key feature includes an intuitive UI for effortless navigation, an input mechanism for expenses, and the ability to calculate individual contributions accurately. By addressing these challenges, this project aims to enhance the efficiency of expense-sharing experiences within diverse social groups.

**Literature Survey: Detail survey done**

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| --- | --- |
| **Area of Survey** | **Results** |
| Current Billing Systems | We looked at how hotels currently handle their billing processes. This included examining the methods they use for splitting bills among guests and the technology they employ. |
| Customer Feedback | We studied feedback and reviews from hotel guests to understand their experiences with billing systems. This feedback helped us identify common pain points and areas for improvement. |
| Industry Best Practices | We explored what other successful hotels are doing in terms of billing and user interface design. This involved analyzing case studies and examples of hotels that have excelled in these areas. |
| Technology Trends | We examined emerging technologies and trends in the hospitality industry related to billing and user interfaces. This included looking at how hotels are incorporating digital solutions to enhance the guest experience. |
| Customer Expectations | We considered what guests expect from a hotel billing system. This included understanding the preferences and demands of modern travelers when it comes to ease of use and clarity in hotel billing. |
| Efficiency Studies | We reviewed studies that have investigated the efficiency gains that hotels can achieve by improving their billing processes. This included looking at how streamlined billing systems can save time and resources for both guests and hotel staff. |
| Guest Satisfaction Impact | We examined research on the link between efficient billing and guest satisfaction. Understanding how improvements in billing can lead to happier guests was a key focus. |

By delving into these areas, we gained insights into the challenges and opportunities in hotel billing and user interface design, helping us formulate our proposed system to enhance the guest experience.

**Proposed System (Block Diagram):**

In response to the identified challenges, we propose an upgraded hotel billing system that addresses the following key aspects:

* Split Bill Support: Our system will offer a seamless method for guests to divide expenses, eliminating the need for manual calculations and reducing the risk of errors. This feature will enhance guest satisfaction by streamlining the billing process.
* User-Friendly UI: We will design an intuitive and user-friendly UI that simplifies the billing process, making it accessible to all guests, regardless of their technological proficiency. This enhancement will contribute to a more positive guest experience, fostering satisfaction and loyalty.

**Conclusion:**

Our proposed system aims to revolutionize hotel billing by addressing the challenges of inefficient expense division and complex user interfaces. By implementing split bill support and a user-friendly UI, we anticipate a significant improvement in guest satisfaction, leading to increased customer loyalty and overall business success. Hotel staff will play a crucial role in assisting guests effectively during the process, ensuring a seamless and enjoyable stay. These findings are supported by the referenced literature and the attached annexures, which provide additional context and evidence for the proposed research.

**References:**

* Sage Journals
* emerald insight

**Annexure:**

**Annexure I: Form A-Title Approval (for offline mode)**

**Annexure II: Form B-Market and financial feasibility (verify from guide)**

**Annexure III: Literature survey paper or links**

* [**https://www.posist.com/restaurant-times/features/splitting-bills-going-the-dutch-way.html**](https://www.posist.com/restaurant-times/features/splitting-bills-going-the-dutch-way.html)
* [**https://rady.ucsd.edu/\_files/faculty-research/uri-gneezy/splitting-bill.pdf**](https://rady.ucsd.edu/_files/faculty-research/uri-gneezy/splitting-bill.pdf)
* [**http://troindia.in/journal/ijcesr/vol6iss10/16-20.pdf**](http://troindia.in/journal/ijcesr/vol6iss10/16-20.pdf)
* [**https://studyfinds.org/sharing-food-splitting-dinner-bill/**](https://studyfinds.org/sharing-food-splitting-dinner-bill/)