
HEALTH CARE SERVICE AUTOMATION

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ABSTRACT

Recent technological advancements leveled at perfecting patient care, streamlining missions, and boosting common effectiveness have significantly converted the healthcare region. Within this frame, the use of Salesforce to construct a HealthCare Service Automation (HSA) has shown off to be an important and innovational option. This design investigates the coinage and perpetration of an HSA utilizing the Salesforce platform and was created for a college-level research project. The thing of the design, its significance, and the main points that will be covered in the coming epitome, report, and exploration paper are epitomized in this preface. Hospital administration is more important than ever in a time when there's a growing want for high-quality healthcare services and a seat on case- centered care. HealthCare Service Automation (HSA) is each-inclusive software program aimed to make managing nonidentical corridor of sanitarium missions more operative. These systems carry electronic health records(EHR), billing, force operation, assignment scheduling, and patient enrollment , among other places. The design's thing is to produce a strongHSA that's customized to meet the personal conditions of a hospital or other healthcare installation by exercising the features of Salesforce, a well- known CRM platform. Salesforce provides a largely configurable platform; it's substantially famed for its operations in deals and client relationship operation. It can serve as an intertwined result that centralizes patient data, facilitates message between healthcare professionals, raises patient participation, and expedites executive procedures when exercised to the healthcare assiduity. The applicability of this design is set up in its capability to revise healthcare quittance and append to the body of knowledge describing the use of slice bite technology in the healthcare region

Keywords: Appointment Scheduling, Electronic Health Records (EHR), Telemedicine, Data Analytics, Billing Automation.

I. INTRODUCTION

Healthcare institutions face a special challenge in incubating these connections while efficiently managing patient information and furnishing quality care. using the capabilities of Salesforce, our project creates a dynamic and customizable system that enables hospitals to cultivate stronger patient-doctor connections, performing in bettered patient satisfaction and better clinical issues. In this preface, we will claw into the vital part our Healthcare Service Automation project plays in creating and incubating patient-doctor connections, establishing how it utilizes Salesforce technology to revise the expressway healthcare institutions take their missions and, in turn, deliver prideful patient care. In the demesne of healthcare, establishing and maintaining operative patient-doctor connections is at the gut of furnishing optimal medical care. Our Healthcare Service Automation project, powered by Salesforce technology, not only streamlines hospital operations but also places a significant emphasis on fostering and enhancing the pivotal patient-doctor relationship. The being healthcare system exercised in the healthcare region is facing with several cases like quality, security, and effectiveness of patient care, this case can be answered by furnishing a whirlwind expressway of processing and penetrating to the voluminous measure of patient information with integration and operative application of data to identify the Risky case and give the screen of data effectively. The major places of patient Administration module comprehended distributing Enrollments , Recording Personal Details, Handling Hospital Admissions, Assigning Insurance Details, and Recording Transfers within the hospital and Creation of Discharge Summary. The Billing module allowed Billing and receivables, appeared into multitudinous modes of Payment and Rates Definition for Services. drugstore module comprehended Consumables operation, conservation of medicine Composition, Batch-wise Stock of medicines, and medicine Categorization for reciting.

1.1 Appointment scheduling: Appointment scheduling in healthcare service automation refers to the use of technology to streamline and optimize the process of scheduling and managing appointments for medical services. This automation plays a crucial role in improving efficiency, reducing administrative burden, and enhancing the overall patient experience. Here are key aspects of appointment scheduling in healthcare service automation:

1. Online Appointment Booking:

Patients can schedule appointments through online platforms, allowing them to choose convenient time slots without the need for phone calls. This feature is often integrated into the healthcare provider's website or a dedicated patient portal.

2. Automated Reminders:

Automated reminders through SMS, emails, or mobile apps help reduce no-shows by reminding patients of their upcoming appointments. Reminders can include appointment details, preparation instructions, and links to reschedule if needed.

3. Integration with Electronic Health Records (EHR):

Seamless integration with EHR systems ensures that appointment scheduling aligns with a patient's medical history, reducing errors and enhancing continuity of care. Health providers can access real-time patient information, making the scheduling process more informed

1.2 Electronic Health Record :

- 1. Efficiency:** EHRs streamline workflows, reducing the need for paper-based records and manual data entry. This improves efficiency in healthcare service delivery.
- 2. Data Accessibility:** Authorized healthcare providers can access patient information quickly, leading to faster and more informed decision-making. **Coordination of Care:** EHRs facilitate better coordination among healthcare providers, ensuring that everyone involved in a patient's care has access to the same, up-to-date information.
- 3. Interoperability:** EHRs aim for interoperability, allowing seamless data exchange between different healthcare systems. This ensures that patient information can be shared securely among different healthcare providers, promoting continuity of care. **Patient Engagement:** EHRs often come with patient portals, enabling individuals to access their own health records, schedule appointments, and communicate with healthcare providers. This promotes patient engagement and empowers individuals to take an active role in their healthcare.
- 4. Decision Support:** EHRs may include clinical decision support tools that provide healthcare professionals with alerts, reminders, and evidence-based guidelines to assist in making informed decisions about patient care. **Security and Privacy:** Ensuring the security and privacy of patient data is a top priority in EHR systems. They employ advanced encryption, authentication, and access control measures to safeguard sensitive information.

1.3 Billing Automation:

Billing automation in healthcare service automation refers to the use of technology and software solutions to streamline and automate the billing and invoicing processes within the healthcare industry. This automation is designed to enhance efficiency, reduce errors, and improve overall financial management for healthcare providers.

1. Automated Coding and Charge Capture:

Automation tools can assist in assigning appropriate medical codes to procedures and diagnoses, ensuring accurate billing. Automated charge capture helps in identifying all billable services and items, preventing revenue loss due to missed charges.

2. Claim Submission and Adjudication:

Billing automation systems facilitate electronic claim submission to insurance providers. This accelerates the billing process and reduces the likelihood of errors. Automated adjudication processes help in verifying claims against payer rules, minimizing claim rejections.

3. Real-Time Eligibility Verification:

Automated systems can verify patients' insurance eligibility in real-time, reducing the risk of denied claims due to coverage issues. This ensures that healthcare providers have accurate and up-to-date insurance information before providing services.

4. Patient Billing and Payment Processing:

Billing automation includes generating and sending patient invoices promptly. It also encompasses automated payment processing, allowing patients to pay their bills online. This improves the overall patient experience and accelerates the revenue cycle.

5. Compliance and Regulatory Reporting:

Billing automation systems often include features to ensure compliance with healthcare regulations and reporting requirements. This helps healthcare providers stay up-to-date with changing regulations and reduces the risk of penalties. Analytics and Reporting:

II. LITRATURE REVIEW

1. A.M. Mosadeghrad, P. Esfahani, M. Afshari, Strategies to improve hospitalefficiency in Iran: a scoping review, Payesh Health Mon. 18 (1) (2019) 7–21. The article likely delves into the exploration and analysis of strategies aimed at enhancing the efficiency of hospitals in Iran. It may provide insights into various approaches, methodologies, and practices that can be employed to optimize hospital operations and improve overall efficiency in the healthcare system. This scoping review may offer valuable information for healthcare professionals and administrators seeking to implement effective strategies for enhancing hospital efficiency within the context of the Iranian healthcare system.
2. Shrivastava, M. (2014). Salesforce essentials for administrators. Packt Publishing, Ltd. This book is likely to provide comprehensive guidance and instructions for Salesforce administrators to effectively manage and utilize the Salesforce platform. It could cover various aspects of Salesforce administration, such as user management, data management, customization, security, and other key functionalities within the Salesforce ecosystem. Please note that as my knowledge is limited to the information available until 2022, I might not have specific details about the content of this book. If you need more information or specific details from the book, I recommend checking the book itself or searching for its reviews and summaries online.
3. Salesforce Health Cloud Product Team : Publisher: Salesforce, Inc Publication Date: 2020-07-07. This guide provides an overview of Salesforce Health Cloud and how it can be used to manage healthcare organizations. It covers topics such as patient relationship management, care coordination, population health management, and clinical data management.
4. Published in Healthcare IT News on March 8, 2022, John Halamka Patient relationship management (PRM): Salesforce can be used to manage patient relationships throughout the care journey, from onboarding to discharge and beyond. This includes tracking patient interactions, managing appointments, and sending personalized communications. Care coordination: Salesforce can be used to coordinate care between different providers, facilities, and payers. This includes sharing patient information, managing referrals, and tracking care plans. Population health management: Salesforce can be used to manage the health of populations of patients, such as those with chronic conditions. This includes identifying high-risk patients, providing proactive care, and tracking population health trends.
5. Prof. Roshan R. Kolte, Apurva V. Dhomne, Payal D. Ghumade, Priya Dhoke, Shweta M. Ghode , Shubham N. Deshmukh International Research Journal of Modernization in Engineering Technology and Science The feature of this system includes admin login from which users can view and manage the whole system. Admin has different features like maintaining patients, doctors, and appointments. Patient modules are finding doctors and applied for appointment and view prescription. Doctor modules are view appointments, give prescriptions and view patient details. Overall, this project of is being developed to help the hospital management, maintain the hospital entities in the best way possible and also reduce the human errors.

III. METHODOLOGY

Healthcare Service Automation using Salesforce CRM strategy includes utilizing the capacities of Salesforce to smooth out processes, upgrade patient commitment, and work on generally speaking productivity in medical

services conveyance. Here is a bit by bit manual for carrying out medical services administration robotization utilizing Salesforce CRM:

1. Evaluation and Arranging:

Recognize key medical care processes that can profit from computerization, for example, patient onboarding, arrangement planning, charging, and correspondence. Characterize clear targets and objectives for computerization, including further developed proficiency, improved patient experience, and decreased functional expenses.

2. Salesforce CRM Arrangement:

Make a Salesforce account and modify it as indicated by medical care necessities. Set up custom items for patient data, arrangements, charging, and other pertinent information .Design security settings to guarantee consistence with medical care information protection guidelines.

3. Patient Onboarding and Responsibility:

Utilize Salesforce's work process computerization apparatuses to make robotized onboarding processes for new patients.

Execute patient entryways or local area mists to work with secure correspondence between medical services suppliers and patients. Use Salesforce Promoting Cloud for customized patient commitment through email missions and correspondence.

4. Arrangement Planning:

Execute a custom arrangement booking framework inside Salesforce utilizing instruments like Lightning Scheduler or custom turn of events. Incorporate with schedule instruments to give ongoing accessibility and decrease planning clashes.

Computerize arrangement updates through Salesforce work processes or Cycle Developer.

5. Charging and Claims The executives:

Use Salesforce Charging for overseeing medical care charging processes. Incorporate charging and asserts the board frameworks to robotize the charging lifecycle. Influence Salesforce CPQ (Design, Value, Statement) for precise and computerized charging processes.

6. Electronic Wellbeing Records (EHR) Coordination:

Incorporate Salesforce CRM with EHR frameworks to guarantee consistent admittance to patient wellbeing records.

Guarantee consistence with medical services information interoperability principles (e.g., HL7, FHIR) for productive information trade.

7. Examination and Revealing:

Use Salesforce Investigation and Einstein Examination to acquire bits of knowledge into patient results, functional productivity, and monetary execution. Make custom dashboards and reports to screen key execution markers (KPIs) progressively.

8. Consistence and Security:

Execute powerful safety efforts to safeguard delicate patient information. Guarantee consistence with medical care guidelines like HIPAA (Health care coverage Versatility and Responsibility Act) while dealing with patient data.

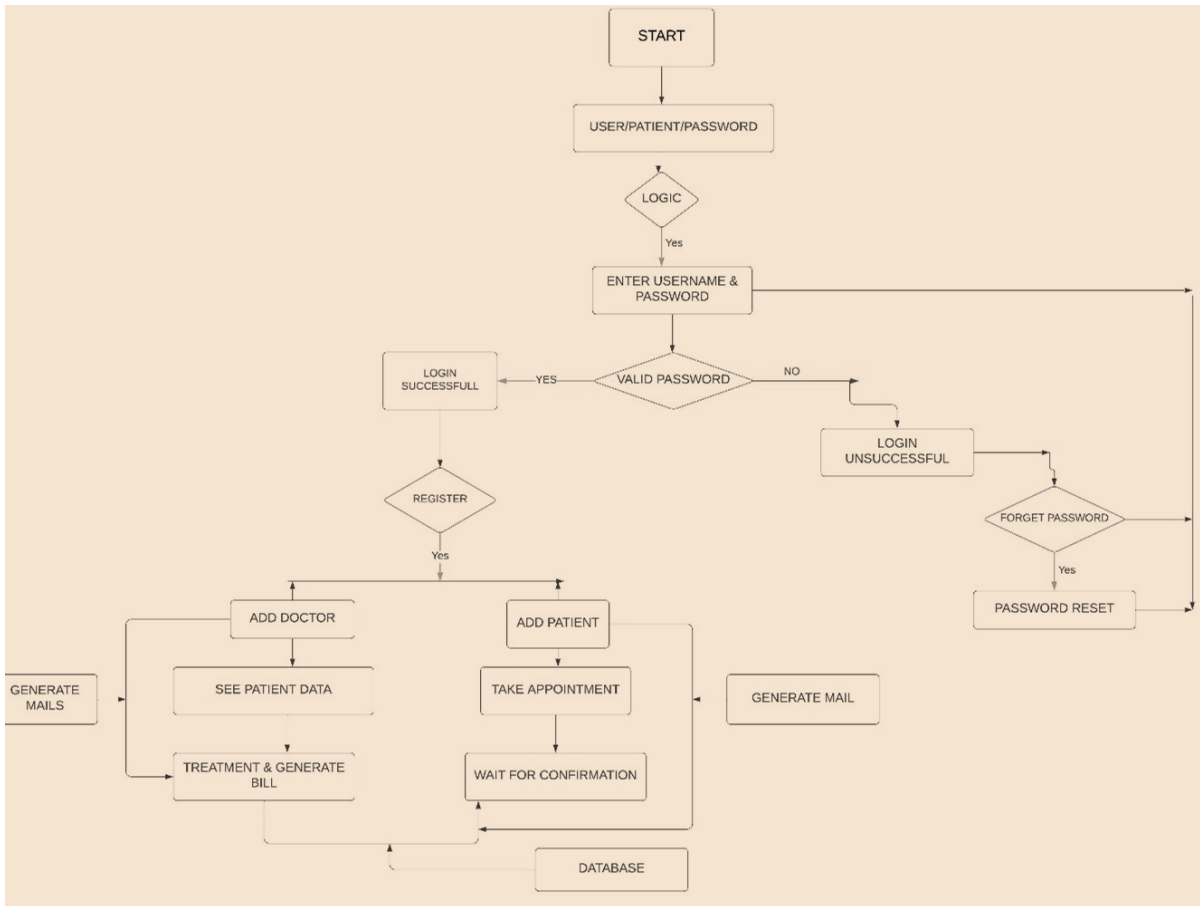
9. Preparing and Change The board:

Give preparing to medical care staff on utilizing the Salesforce CRM framework. Carry out change the board systems to guarantee a smooth progress to the computerized processes.

10. Persistent Improvement:

Assemble input from clients and patients to distinguish regions for development. Consistently survey and update computerized cycles to adjust to changing medical care needs.

IV. FLOWCHART



V. INPUT AND OUTPUT

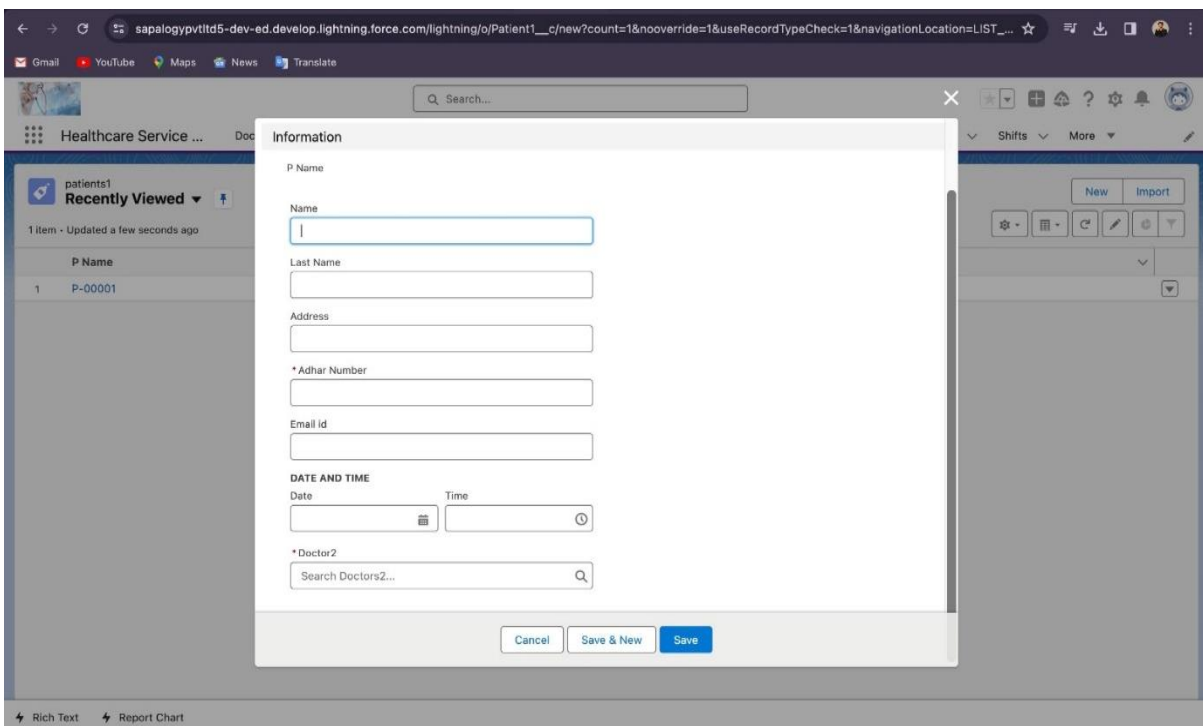


Fig. 1: Input

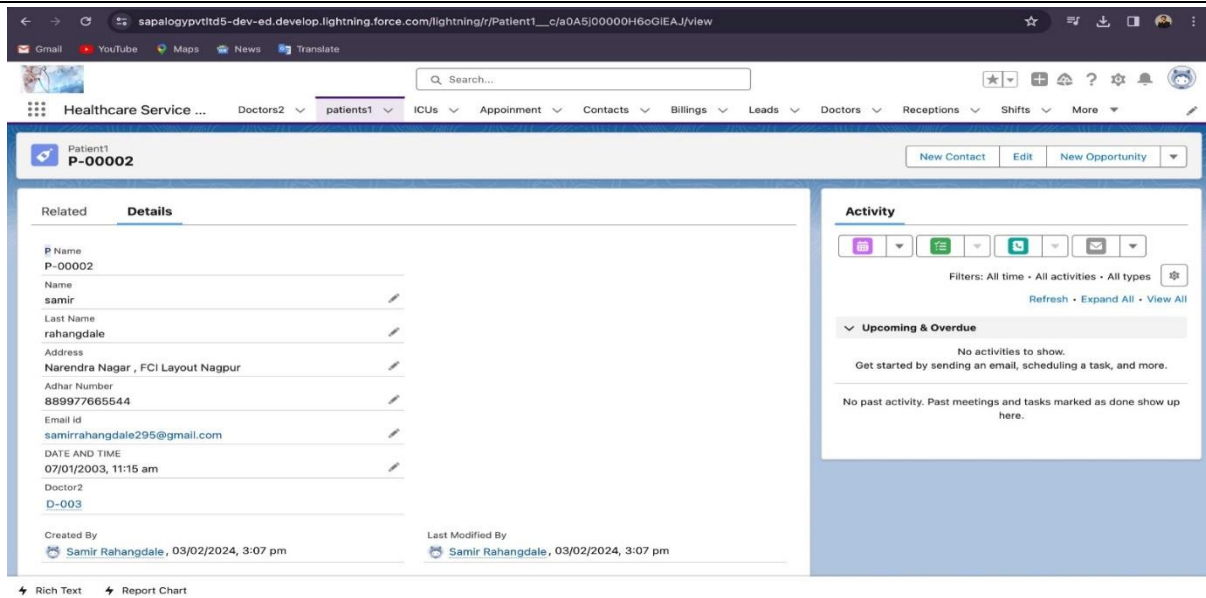


Fig. 2 Output

VI. FUTURE SCOPE

A HealthCare Service Automation (HSA) implemented using Salesforce has significant future scope, as it combines healthcare management with a robust CRM and cloud platform. Here are some crucial areas of implicit growth and evolution for such a project:

- 1. Patient Engagement and Experience:** Improving patient engagement and experience is an ongoing concern in healthcare. Salesforce's CRM capabilities can be abused to produce substantiated message and follow-up strategies, enhancing patient satisfaction and loyalty
- 2. Supply Chain Management:** Effective supply chain management in hospitals is pivotal, especially in emergencies. Expanding the HSA to take force, order inventories, and track deliveries can conduct to cost savings and better debacle preparedness.
- 3. Data Security and Privacy:** As the HSA collects and stores sensitive patient data, ensuring data security and privacy will be an ongoing concern. Enhancements in encryption, access controls, and compliance with data security ordinances will be essential.
- 4. Customization and Scalability:** Hospital management systems frequently need to be acclimatized to the special requirements of non-identical healthcare installations. Offering customization options and the capability to gauge the system tallying to the size and conditions of non-identical hospitals can be a significant competitive advantage.

VII. CONCLUSION

The implementation of healthcare service automation using salesforce-CRM offers a comprehensive and scalable solution to address the challenges and opportunities facing healthcare organizations today. By leveraging Salesforce's robust platform and automation capabilities, healthcare providers can transform their operations, enhance patient care, and achieve organizational success.

VIII. REFERENCES

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