Research Paper

The prescription authenticity.

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Abstract:
The invention relates to a system for verifying the authenticity of medicament entitlement tokens, such as prescriptions , used to control the dispensing of medicaments. The system comprises a network connecting at least one token provider terminal,a system server and a verification terminal . The token provider terminal is operable to provide a signature from a speckle pattern derived from a medicament entitlement token that can be stored by the server system . The verification terminal can then be operated remotely to recreate the signature in order to verify the authenticity of the medicament entitlement token by comparing it to stored signatures. The system relies upon the intrinsic physical properties of the medicament entitlement token to generate a unique signature for each token that is produced. This makes the medicament entitlement tokens themselves very difficult to forge. Moreover, the signatures transmitted over the network do not need to contain any details relating to the content of the medicament entitlement tokens, such as patient data, hence signature data stored by the system can be made privacy neutral so that even if it were to be intercepted or copied this would not compromise confidentiality.Electronic prescription has proved to play an important role in patient safety, quality of care as well as cost control.Electronic Medication Prescription (PEM in Portugal), is a service developed by a Portuguese government institution SPMS EPE –to implement the electronic process of prescription, dispensing and reimbursement of ambulatory Medication, but it originally implements additional safety and control in the medication circuit, as well as increases the Potential to avoid fraud and to reduce costs. The prescription process implements the recent Portuguese law introducing prescription by International Common Denomination. It also introduces features which improve the quality of the prescribing process and increase the safety of The patient. It access to chronic medicines, prescription history and alerts for interaction with allergies and adverse Reactions registered on a nationwide electronic health records and conveyed to the national patient summary. Prescriptions Are also integrated into the electronic patient records within health care institutions, keeping them updated and relevant. Access to prescription by pharmacy is permitted, only when authorized by the patient, through his electronic Personal/citizen identification card, (i.e. with a chip), and prescription code. The dispensing process verifies the accuracy Of medication and also the costing to the government, validating the process as prescription information is accessed.This is a major difference to other electronic prescription services.

I. Introduction :

Prescription is a written medicolegal document by an authorized person for the treatment of the patient and is a reflection of the quality of health-care service being delivered to the patient. It is a skill acquired through training. Prescribing errors promote the irrational use of drugs and decrease the patient compliance.Irrational prescriptions unnecessarily increase the cost andduration of the treatment. Such practices also lead to the emergence of drug interactions, drug resistance, and adverse drug reactions. It ultimately increases the mortality, morbidity, and financial burden on the patient.Prescription audit is a part of the holistic clinical audit and is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and theimplementation of change.Prescription auditing is also an educational activity, and if regularly done, can aid in improving the prescription quality and thus can enable the patient to receive high standard and best-quality care."core drug use indicators." The indicators measure

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performance in three related areas of prescribing practices, patient care, and facility-specific factors. The core drug use indicators have come to be recognized as objective measures that can describe the drug use situation in a country, region, or individual health facility.[1][National library of medicine]Prescription order is an important therapeutic transaction between physician and patient, as it brings into focus the diagnosticacumen and therapeutic proficiency of physician with instructions For restoration of patient's health. The most carefully conceivedprescription orders may become therapeutically useless, however, Unless it communicates clearly with pharmacist and adequately Instructs patient on how to take prescribed medication.Prescriptions are medico-legal documents which need to be Written legibly, accurately and completely. Moreover a good quality prescription is an extremely important factor for minimizingerrors in dispensing medication and it should be adherent toguidelines for prescription writing for benefit of the patient.On the other hand prescription errors may lead to adverse eventswhich may be largely preventable. Thus "A clinically meaningfulPrescribing error occurs when, as a result of aprescribing decisionOr prescription writing process, there is an unintentional significant

1. Reduction in probability of treatment being timely and effective.
2. ncrease in the risk of harm when compared with generally Accepted practice" [2][Journal of Clinical and Diagnostic Research]

II.   Principles:

A registrant's responsibility to confirm the authenticity of a prescription may be fulfilled through the existence of a unique identifier for the prescriber. Where authenticity is questioned, confirmation with the prescriber must occur.A registrant considers the content of the prescription specific to the patient when evaluating the prescription for authenticity.[3][Unique Identifiers for Prescribers, overview]

Electronic prescribing (EP) involves the use of computer systems to facilitate the prescription, supply and administration of medicines within a hospital. EP systems are capture a full prescribing history for a patient in a transferrable manner, and open up the potential for use of databases and decision support tools to assist the prescriber in medicine selection.[13]

III.   Important KEY Lines;[4][Full overview]

3.1Reminder system:

The system provides a user-friendly interface to a user's existing email, and in some embodiments to the user's document management, calendar and other systems, in order to ensure that an appropriate user is notified when action should be taken, and also provides.In another embodiment, the document reminder system automatically creates the reminder based on information inputted by the user in the document management system profile or based on information from the document itself.[4][4]

3. 2Systems and methods for managing tasks:

Systems and methods for creating and sharing tasks over one or more networks are disclosed. In one embodiment, a computer-implemented method for managing tasks over one or more computer systems is disclosed. A task can be stored in a memory device of the one or more computer systems.the present invention is directed to a method and system for workflow management that substantially obviates one or more problems due to limitations and disadvantages of the related art. Additional features and advantages of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention. The objectives and other advantages of the invention will be realized and attained by the structure particularly pointed out in the written description and claims hereof as well as the appended drawings.[5][4]

3.3Systems and methods for creating and sharing tasks:

Systems and methods for creating and sharing tasks over one or more networks are disclosed. In one embodiment, a system comprises a message retrieval module configured to retrieve electronic messages and parse them into a plurality of tasks. The system can also include a task creation module.A primary copy of data is generally a production copy or other "live" version of the data which is used by a software application and is generally in the native format of that application. Primary copy data may be maintained in a local memory or other high-speed storage device that allows for relatively fast data access if necessary. Such primary copy data is typically intended for short term retention (e.g., several hours or days) before some or all of the data is stored as one or more secondary copies, for example to prevent loss of data in the event a problem occurred with the data stored in primary storage.[6][4]

3.4Role-based views access to a workflow:
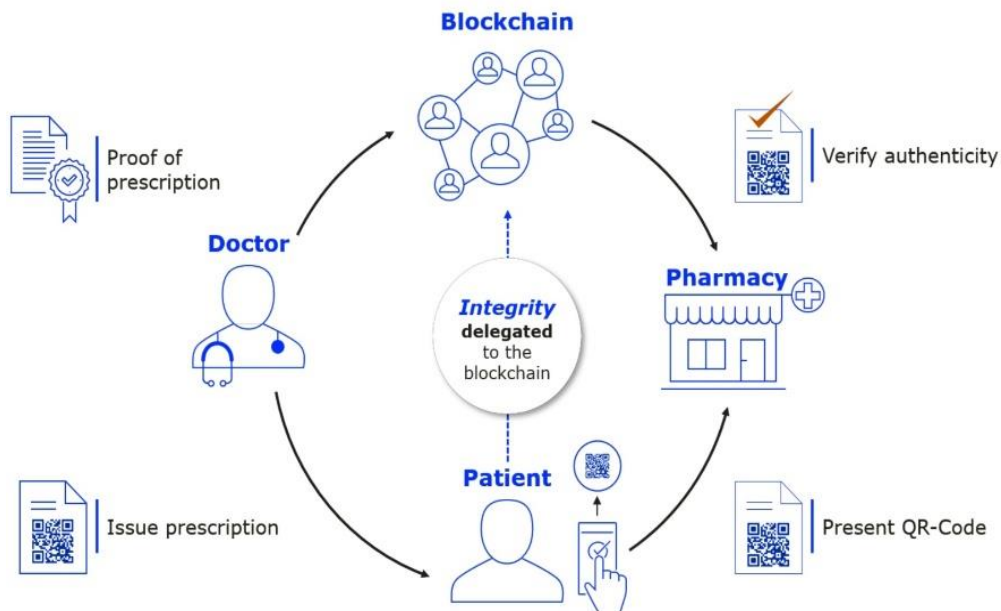
Described is a method for controlling a user's access and viewing rights to a weblog used to track the status of a workflow based on one or more roles or responsibilities of the user in the workflow. Advantageously, the workflow is not required to change when workflow members leave their assigned.Business processes and workflows are typically managed using multiple forms of communications and organization. For example, e-mail is commonly used to inform individuals associated with a business workflow of the occurrence of important events and required actions.[7][4]

4.5Document reminder system**:[DRS][T-25]**
A document reminder system is provided. The system provides a user-friendly interface to a user's existing document management, email, calendar and other systems in order to ensure that an appropriate user is notified when action should be taken on a specific document, and also provides notation.
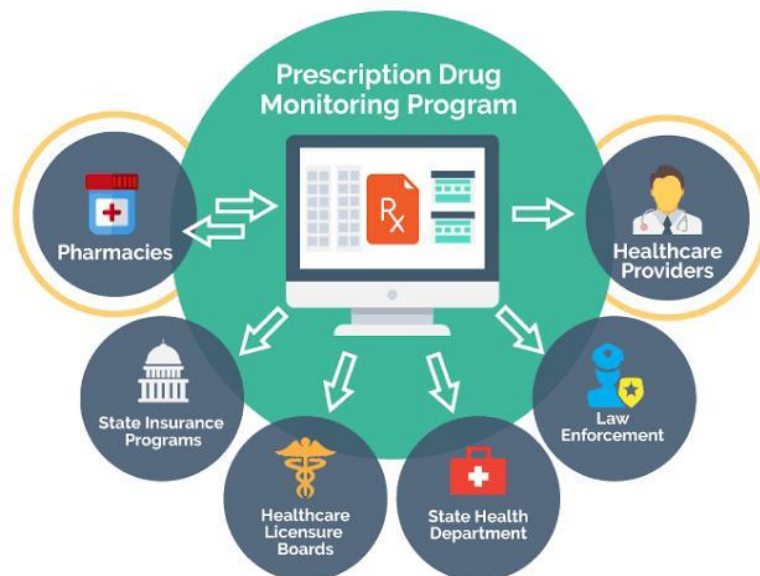
Number are included and if that information has not been Entered yet, for the case where it is a new document that has Not been saved to the document management system yet, thePresent invention will prompt the user to provide the neces Sary information or, in the alternative, to save the document.[8][4]

3.6 Method and system for workflow integration:

A system for performing an intellectual property (IP) management workflow process comprising: A central server comprising aprocessor, presentation wherein the processor is configured toexecute code that includes a workflow program, the workflow program consists IP workflow routine executed. As companies continue to pursue efficiency, consistency, and flexibility, computers and software running on them will help automate, semi-automate, enhance, accelerate, ensure, and ensure business processes. Relying more and more. The demand for increasingly robust software programs with better access and use of business data as a result of rapidly expanding and cost-effective data storage and management capabilities, and increasing bandwidth in data communications Has increased. Workflow management software (WMS) performs various business functions and achieves collaboration between users located both inside and outside the organization and in various locations to optimize, track and manage business processes To provide companies with tools to Business processes typically have an interest or role in developing systematic approaches and processes, and ultimately business-related goals, to identify, track, and share information such as documents, forms, etc. With associated tasks between participants identified and selected. A systematic approach may include a defined set of steps to be followed to advance the process and achieve business related goals. Business processes often involve individuals who are typically involved in data entry, review, and decision making, and do individuals use computer programs and databases to store information and support decisions to advance the process? Or making a decision, using electronic communication to communicate documents, decisions, warnings, etc.[9][4]

A first client computer, wherein t''e first client computer communicates with the central server on a browser basis and receives a graphical user interface workflow screen associated with execution of the first workflow routine from the central server; The system of claim 1, wherein the first client computer communicates signals associated with the IP-related data set to the central server.[Item 18[JP5694200B2]]

IV. Systems, and apparatuses for automated confirmations of meetings:

Methods, systems, apparatuses, and computer program products for confirming attendance of prospective attendees to a meeting or events via time management or event scheduling applications, such as calendar applications, are disclosed. Various embodiments comprise scheduling the meeting,waiting for a period of time, and automatically sending confirmation requests to one or more prospective attendees of the meeting. Some embodiments also comprise sending invitations to and receiving acceptances by one or more prospective attendees. Some embodiments further comprise receiving one or more responses to the confirmation requests from the prospective attendees. Some embodiments may reschedule the meeting, or events of the meeting, based upon responses to the confirmation requests. Various embodiments may send or receive the confirmation requests and responses via instant messaging (IM) messages, e-mail messages, and short message service (SMS) messages.[10][4]

4.1 Visualization of attributes of workflow weblogs:
Described is a method for visualization of attributes of workflow weblogs. A group of workflow weblogs is searched to find weblogs that have an attribute that satisfies a search condition. The group of workflow weblogs can include instantiations of a single workflow. Attributes are displayed for each of the weblogs found by the search. An attribute is displayed using a modified graphical parameter if the attribute satisfies a predefined condition for the attribute type. The modified graphical parameter can include modified text or a modified graphical structure.[11]

4.2 Method for automatically associating contacts in an online social network:
A method for creating and managing contact information in the context of an online social networking community. Each member of the social networking community creates a member profile containing contact information such as email address, telephone numbers, and street addresses.[4]

4.3 Electronic calendar auto event resolution system and method:
A system and method for event resolution. The method includes determining whether a post-scheduled event or a pre-scheduled event conflicts with a scheduled event. The method further includes extracting details of the post-scheduled event or the pre-scheduled event and automatically populating.[4]

4.4 Interacting with a user via a personal information manager user interface:
Systems and techniques for interacting with a user via a personal information manager user interface. In another aspect, a system can include a recruiting server that provides services related to a recruiting process and manages data associated with the recruiting process.[4]

4.4.1 System and method for a user interface in an IP management system:
There is disclosed various embodiments of methods and apparatus for organizing information related to intellectual property wherein such related information includes personnel, messages, docket items, information disclosure documents and matters associated with intellectual property assets.[4]

4.4.2 System providing automated feedback reminders:
A system and method for encouraging the exchange of feedback in an enterprise. An example method includes providing one or more user interface controls for configuring a feedback reminder to automatically include predetermined insight pertaining to a potential participant in a future feedback.[4]

6.5Electronic message organization via social groups:
A mechanism for automatically organizing electronic messages is described herein. Social groups of a particular user that may be representative of topics, people, projects, and the like can be automatically learned based at least inpart upon historical correspondence of the user.[4]

7.Collaboration tool:
A method for enabling collaboration between individuals to design, construct and maintain a building. The method comprises providing a network based computer system including at least one server and multiple clients. The multiple clients allow respective individuals to interact with the server.[4]

7.1 System and method for purging messages in a legal information system:
There is disclosed method and apparatus for storing and processing information in a data storage and processing system used by attorneys, and recording attorney-client communications and communications from a government agency respecting a legal matter. At least some of the attorney-client.[4]

7.2Apparatus for managing issue :
An apparatus for managing issue of the present invention includes: a processing unit for acquiring the issue through an input unit or a communication unit when the issue, which is a unit of work to be processed by a user.[4]

7.3Smart recruiting systems and associated devices and methods:
Smart recruiting systems and methods are disclosed herein. Smart recruiting systems configured in accordance with embodiments of the present technology can, for example, provide autonomous and smart assistance in processing and analyzing task messages (e.g., received via emails, telephone calls.[4]

7.4 Presentation of organized personal and public data using communication mediums :
Systems, methods and computer program products for providing information associated with an attachment (e.g., attachment received through an instant message system, online collaboration tool, electronic message and the like). A sidebar may allow a user to view comprehensive profile.[4]

7.5Authenticated session work tracking and job status reporting apparatus:
A workroom is automatically established for each job created and is associated with a unique email address. The workroom allows members to hold live meetings, communicate in real-time, including via email, upload/manage/share files, and automatically provide transcripts of communication.[4]

7.5.1Guidance to Registrants Regarding Prescriptions Using Unique Identifiers:
'Signing' a prescription no longer refers to only a pen-and-ink signature on either a traditional prescription pad or a computer generated prescription. A prescriber can utilize a number of unique identifiers which can be considered equally appropriate to *'sign'* a prescription such as;

• A traditional pen-and-ink signature.

• An electronically captured image of a unique signature (generated on a signature pad).

• A unique prescription authorization process which ensures that the prescriber has reviewed and authorized each individual prescription.

• Many prescribers, in advance of a province-wide e-prescription and related electronic medical record (EMR), are contracting with third-party software providers to implement a 'unique prescription authorization process' which permits the secure attachment of a prescriber's unique identifier and transmission of the prescription to a pharmacy with no paper-based intermediaries.A unique prescription authorization process acts similarly to a password and creates a digital signature on each individual prescription as it is being electronically generated by the prescriber. Mechanisms to authenticate a prescriber using a unique prescription authorization process include.

• Hardware tokens – may be a physical device such as a key fob and can be used in addition to or in place of a password.

• Biometric identification – which refers to the identification of humans by their characteristics or traits such as a thumbprint reader, DNA, or voice recognition and does not require a traditional password.[8]

• Regardless of which mechanism is used the result is a secure step in the process whereby the individual prescriber consciously affixes their digital signature to each individual prescription.[18]

In contrast, the process of 'cutting and pasting' a digitized image of a prescriber's signature onto a prescription does not constitute a unique authorization. Rather, it functions as the electronic equivalent of a rubber stamp. The establishment of a unique authorization process is required to ensure each prescription is individually authenticated by the prescriber.

7.The Responsibility of the Registrant:

1.As always, when determining whether to dispense a prescription a registrant must evaluate the prescription as a whole.

2.In addition to assessing the prescriber's method of authorizing the prescription, registrants must consider the content of the prescription and its appropriateness, given the patient's condition and prescription history.

3. If, upon assessing the prescription as a whole, registrants are unsure of a prescription's authenticity or appropriateness.

4.it is the responsibility of the registrant to confirm the prescription with the prescriber.

5.With respect to determining the authenticity of the prescription utilizing a unique prescription authorization process, the registrant is not responsible for assessing the specific details of the unique identifier, only that a unique prescription authorization process is in place.

6.Once initial confirmation has been established with the prescriber that a unique prescription authorization process is in place, it should be documented in the pharmacy.

7Subsequent prescriptions from that prescriber can then be received and processed in accordance with Standards of Practice.

8. Digital Prescription;

8.1Electronic Prescribing (e-Prescribing):

Electronic Prescribing is the process of generating, authorizing and transmitting prescriptions from doctors and other prescribers to pharmacists and other dispensers. It eliminates hand-written prescriptions by physicians and facilitates the electronic delivery of prescriptions to pharmacies.[13]

8.2 Electronic Prescription:

An electronic prescription is a prescription that does not involve paper-based intermediaries such as prescription pads, or faxed copies.[13]

8.3 Digital Signature:

A digital signature is a secure means of electronically signing an electronic document. For example, digital signatures can make use of digital certificates from a certification authority, hardware tokens or biometric identification.

8.4 Digitized Image:

A digitized image is from the same as a digital photo image of a pen-and-ink signature. The image of the pen-and-ink signature can be readily cut from one electronic document and pasted into another.[13][16]

8.5 Authentication:

Authentication is a process that ensures that the prescription is authorized by the prescriber at the time the prescription is generated by the prescriber's computer-based system.[13]

8.6 Transmission:

Transmission is the process where the prescription is sent by the prescriber's computer-based system to a pharmacy.[17]

9.Main Benefits:

• A functionally-rich EP system will make a larger amount of clinical data available to healthcare professionals at the point of patient care. 12 This may necessitate the acquisition of new skills in clinical data evaluation, which may have implications for continuing professional development (CPD). This may also lead to a state of "information saturation" for busy health professionals, which could cause increased levels of stress in daily practice. [13][14]

• An EP system may well enable new and unfamiliar ways of working. These may be beneficial to health professions in the long run, but may be stressful in the short term. Moreover, without good management, especially proactive change management, with the introduction of clear procedures, new ways of working may initially introduce more critical incidents that they resolve.[13][14]

• An EP system may be used to facilitate new ways of doing critical incident based CPD. This is beneficial at a time when health professionals are increasingly regulated in terms of the amount and format of CPD and the use of CPD as the basis for professional accreditation.[13][14]

10.Claims :

1. A computer-implemented method comprising:

Assigning, through a processing device, an activity involving a business object to a worklist group according to a workflow, the workflow identifying a sequence of activities involving the business object, the business object is a software object representing a business transaction, the software object including a plurality of elements representing data associated with the business transaction, the worklist group including a plurality of users;

Incorporating a time limit specifier in the business object through the processing device, the time limit specifier including a time limit element and a persistence identifier element;

Reassigning the activity to another entity through the processing device when a user in the worklist group has not picked up the assigned activity before a deadline specified in a deadline element of the business object;

Automatically readjusting the deadline in the deadline element when reassigning the activity;

When the persistence identifier element is set to persistent, sending an electronic reminder to a manager of the assigned activity through a communications network when the time limit element has lapsed regardless of whether the assigned activity is designated as complete, the manager varying depending on whether the activity has been reassigned; and

Otherwise, when the persistence identifier element is not set to persistent, sending the electronic reminder to the manager of the assigned activity when the time limit element has lapsed and the assigned activity is still designated as incomplete.

2.   The method of claim 1, wherein the time limit element is one of a date and a time.

3.   The method of claim 1, wherein the time limit element is a duration of time.

4.   The method of claim 1, wherein the electronic reminder is sent to the manager independent of any other reminders.

5.   The method of claim 1, further comprising inserting a reminder flag in a work list of the manager depending on the time limit specifier together with a link to the business object.

6.   The method of claim 1, wherein sending the electronic reminder includes sending a pop-up window alert to a display of a terminal with which a recipient of the electronic reminder is associated.The method of claim 6, wherein the pop-up window alert includes a link to the business object.

7.   The method of claim 1, wherein sending the electronic reminder includes sending a text message or e-mail to a recipient of the electronic reminder.

8.   The method of claim 8, wherein the text message or e-mail includes a link to the business object.

9.   The method of claim 1, wherein the time limit specifier setting the electronic reminder does not automatically clear from the business object.

10.   The machine-readable medium of claim 11, wherein the time limit element is one of a date and a time.

11.   The machine-readable medium of claim 11, wherein the time limit element is a duration of time.

12.   The machine-readable medium of claim 11, wherein the electronic reminder is sent to the manager independent of any other reminders.

13.   The machine-readable medium of claim 11, the method further comprising inserting a reminder flag in a work list of the manager depending on the time limit specifier together with a link to the business object.

14.   The machine-readable medium of claim 11, wherein sending the electronic reminder includes sending a pop-up window alert to a display of a terminal with which the recipient of the electronic reminder is associated.

15.   The machine-readable medium of claim 16, wherein the pop-up window alert includes a link to the business object.

16.   The machine-readable medium of claim 11, wherein sending the electronic reminder includes sending a text message or e-mail to a recipient of the reminder.

17.   The machine-readable medium of claim 18, wherein the text message or e-mail includes a link to the business object.

18.   The machine-readable medium of claim 11, wherein the time limit specifier setting

19.   The electronic reminder does not automatically clear from the software object.

20.   A management module executed on the central server, wherein the management module creates an authorized user account and assigns roles and privileges associated with the created authorized user account involved in executing an IP workflow routine Ru is adapted to, and the management module,A workflow creation module executed on the central server, wherein the workflow creation module is adapted to facilitate creation of a user-defined IP workflow routine by generating a user interface , the user-defined IP workflow routine the first and second user-defined workflow tasks including, andworkflow creation module,A first user-defined workflow tasks running on the central server, the IP-related data sets Ru is adapted to process the first user-defined

21.   workflow task received via the user interface workflow screen ,A second user-defined workflow tasks running on the central server, the IP-related data sets Ru adapted to process the second data set representing a response to relevant review, the second user and a defined workflow tasks, and the central server,Wherein an adapted database to store IP related data sets IP-related data including the communication with the central server, it sees contains a database that is adapted to exchange the central server and data,The workflow creation

module further includes a modifier adapted to be associated with a user-defined workflow task to further define the operation of the user-defined IP workflow routine;The workflow screen is generated by a workflow routine defined by a user based on the IP related data,The exchange of data and instructions is performed by the first user-defined workflow task based on the IP-related data set and by the second user-defined workflow task based on the second data set system.

22.   A study in the UK tested the Salford Medication Safety Dashboard (SMASH), a web application to help GPs and pharmacists find people in their electronic health records who might face safety hazards due to prescription errors. The dashboard was successfully used in identifying and helping patients with already registered unsafe prescriptions and later it helped monitoring new cases as they appeared[12].[National Institute for Health and Care Research]

11.SYSTEM OVERVIEW:
Input and output data flows of the proposed system. The input includes user's medicine prescriptions and personal preferences. The mobile application obtains user's medicine prescriptions by taking its pictures. For personal preferences, the user may block time periods such as sleeping hours, religion activities time, etc. Proposed system tries not to insert in-take events into those time slots.[Researchgate]

12.In case of Normal proscription :
A prescription is an order for medication issued by a physician, dentist, or other properly licensed medical practitioner. A prescription designates a specific medication and dosage to be prepared by a pharmacist and administered to a particular patient.A prescription is usually written on preprinted forms containing the traditional symbol (meaning ''recipe,'' ''take thou,'' or ''you take''), name, address, telephone number, and otherPertinent information regarding the physician or other prescriber.[5][Page no.49][Howard C Ansel, PhD Professor]

Researchers have reported a correlation between sociodemographic variables and prescription medicine diversion practices (i.e., trading, selling, or sharing of prescribed medicines).[6]Overview

13.Conclusion and Future scope :
Authentication is a process that ensures that the prescription is authorized by the prescriber at the time the prescription is generated by the prescriber's computer-based system.

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