1. **[Power-saving for IoT-enabled Water Dispenser System](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=AdvancedSearch&qid=4&SID=D3YoSo6SVnBURkRRRwq&page=1&doc=1)**

Por: [Cheng, Wen-Zhi](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Cheng,%20Wen-Zhi); [Cheng, Ray-Guang](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Cheng,%20Ray-Guang); [Chou, Shuo-Yan](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Chou,%20Shuo-Yan)

Conferencia: 42nd International Conference on Telecommunications and Signal Processing (TSP) Ubicación: Budapest, HUNGARY Fecha: JUL 01-03, 2019

Patrocinador(es): IEEE Reg 8; IEEE Hungary Sect; IEEE Czechoslovakia Sect & SP CAS COM Joint Chapter; Sci Assoc Infocommunicat; Brno Univ Technol, Dept Telecommunicat; Budapest Univ Technol & Econ, Dept Telecommunicat & Media Informat; Czech Tech Univ Prague, Dept Telecommunicat Engn; Isik Univ, Dept Elect & Elect Engn,; Istanbul Tech Univ, Elect & Communicat Engn Dept; Josip Juraj Strossmayer Univ Osijek, Fac Elect Engn Comp Sci & Informat Technol; Karadeniz Tech Univ, Dept Elect & Elect Engn; Natl Taiwan Univ Sci & Technol, Dept Elect & Comp Engn; Seikei Univ, Grad Sch & Fac Sci & Technol, Informat Networking Lab; Slovak Univ Technol Bratislava, Inst Multimedia Informat & Commun Technologies; Escola Univ Politecnica Mataro, Tecnocampus; Tech Univ Sofia, Fac Telecommunicat; Univ Paris 8, UFR MITSIC, Lab Informatique Avancee Saint Denis; Univ Politehnica Bucharest, Ctr Adv Res New Mat Prod & Innovat Proc; Univ Ljubljana, Lab Telecommunicat; Univ Patras, Phys Dept; VSB Tech Univ Ostrava, Dept Telecommunicat; W Pomeranian Univ Technol, Fac Elect Engn

2019 42ND INTERNATIONAL CONFERENCE ON TELECOMMUNICATIONS AND SIGNAL PROCESSING (TSP) Páginas: 736-739 Fecha de publicación: 2019

This paper presents the design and implementation of an IoT-enabled water dispenser system. We use the communication module of the commercial water dispenser and our own gateway to collect the temperatures of the hot, warm, and cold-water tanks, users' usage of the three water tanks. We use a commercial clamp meter to estimate the power consumption of the water dispenser. Based on the collected data, we can learn the operation of the water dispenser and the users' behavior. We further demonstrate our preliminary results to use the proposed system to adjust configurable parameters to optimize the power consumption of the water dispenser.

1. **[IoT for Real-Time Measurement of High-Throughput Liquid Dispensing in Laboratory Environments](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=AdvancedSearch&qid=4&SID=D3YoSo6SVnBURkRRRwq&page=1&doc=2)**

Por: [Shumate, Justin](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Shumate,%20Justin); [Baillargeon, Pierre](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Baillargeon,%20Pierre); [Spicer, Timothy P.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Spicer,%20Timothy%20P.); et ál..

SLAS TECHNOLOGY Volumen: 23 Número: 5 Número especial: SI Páginas: 440-447 Fecha de publicación: OCT 2018

Critical to maintaining quality control in high-throughput screening is the need for constant monitoring of liquid-dispensing fidelity. Traditional methods involve operator intervention with gravimetric analysis to monitor the gross accuracy of full plate dispenses, visual verification of contents, or dedicated weigh stations on screening platforms that introduce potential bottlenecks and increase the plate-processing cycle time. We present a unique solution using open-source hardware, software, and 3D printing to automate dispenser accuracy determination by providing real-time dispense weight measurements via a network-connected precision balance. This system uses an Arduino microcontroller to connect a precision balance to a local network. By integrating the precision balance as an Internet of Things (IoT) device, it gains the ability to provide real-time gravimetric summaries of dispensing, generate timely alerts when problems are detected, and capture historical dispensing data for future analysis. All collected data can then be accessed via a web interface for reviewing alerts and dispensing information in real time or remotely for timely intervention of dispense errors. The development of this system also leveraged 3D printing to rapidly prototype sensor brackets, mounting solutions, and component enclosures.

1. [**EUDroid: a formal language specifying the behaviour of IoT devices**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=1)

Por: [Buono, Paolo](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Buono,%20Paolo); [Cassano, Fabio](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Cassano,%20Fabio); [Legretto, Alessandra](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Legretto,%20Alessandra); et ál..

IET SOFTWARE Volumen: 12 Número: 5 Número especial: SI Páginas: 425-429 Fecha de publicación: OCT 2018

1. [**A Homemade Pill Dispenser Prototype Supporting Elderly**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=2)

Por: [Buono, Paolo](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Buono,%20Paolo); [Cassano, Fabio](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Cassano,%20Fabio); [Legretto, Alessandra](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Legretto,%20Alessandra); et ál..

Conferencia: 17th International Conference on Web Engineering (ICWE) Ubicación: Rome, ITALY Fecha: JUN 05-08, 2017

CURRENT TRENDS IN WEB ENGINEERING, ICWE 2017 Colección: Lecture Notes in Computer Science Volumen: 10544 Páginas: 120-124 Fecha de publicación: 2018

People, and mainly elderly people, need a continuous support for different reasons. Recent technologies are offering many possibilities that was not possible to conceive in the past. In particular, the proliferation of IoT devices raise the need to standardize protocols and interaction languages. The aim of this work is to create a device for the management of pills according to the user's therapy, with Internet of things (IoT) devices and by allowing users to manage the pill dispenser by themselves. The work falls into two main areas of current research: the End-user development (EUD) and the Internet of things (IoT). The main issue we cope with such device is to allow the different therapies for each person and for each drug. We propose the EUDroid system, which provides the end user with the possibility to easily activate LEDs and buzzer related to pills from the users' smartphone. The user chooses the type of pill to be associated to each LED, the day and time of activation and some other property. A formal language to configure the device has been adopted in order to allow users to build complex conditions for remind to follow the therapy.

1. [**Enhancing Healthcare using m-Care Box (Monitoring non-compliance of medication)**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=3)

Por: [Bharadwaj, Aakash S.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Bharadwaj,%20Aakash%20S.); [Yarravarapu, Divyank](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Yarravarapu,%20Divyank); [Reddy, Sadiparala Charan Kumar](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Reddy,%20Sadiparala%20Charan%20Kumar); et ál..

Conferencia: International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC) Ubicación: Palladam, INDIA Fecha: FEB 10-11, 2017

Patrocinador(es): IEEE; Electron Devices Soc; SCAD Inst Technol

2017 INTERNATIONAL CONFERENCE ON I-SMAC (IOT IN SOCIAL, MOBILE, ANALYTICS AND CLOUD) (I-SMAC) Páginas: 352-356 Fecha de publicación: 2017

Many of the people around us forget to take medication on time. The proposed model of smart medical box is a single board computer based assistive device for people who suffer with short term memory loss. It is an alarm based device that helps in reminding patients about their medication. The use of Internet of Things (IoT) concepts and health sensing technologies make diagnosis easier and convenient for the doctors as well as the patients [1]. This paper presents an overview of an assistive device for monitoring non-compliance of medication by providing a single platform and a closed loop connection between patients, doctors, and pharmacies. This work gives insight into mechanical design, system architecture and design of android application, information security and integrating the physical system to cloud. The architecture used is a secure one as it uses end-to-end encryption for sending sensor data [2]. This device helps in maintaining one-time medication to the patients, and helps increasing the life expectancy.

1. [**Enhancing Healthcare using m-Care Box (Monitoring non-Compliance of Medication)**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=4)

Por: [Bharadwaj, Aakash S.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Bharadwaj,%20Aakash%20S.); [Yarravarapu, Divyank](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Yarravarapu,%20Divyank); [Reddy, Sadiparala Charan Kumar](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Reddy,%20Sadiparala%20Charan%20Kumar); et ál..

Conferencia: IEEE International Conference on Innovative Mechanisms for Industry Applications (ICIMIA Ubicación: Bangalore, INDIA Fecha: FEB 21-23, 2017  
Patrocinador(es): IEEE; IEEE Bangalore Sect; Dayananda Sagar Coll Engn

2017 INTERNATIONAL CONFERENCE ON INNOVATIVE MECHANISMS FOR INDUSTRY APPLICATIONS (ICIMIA) Páginas: 167-171 Fecha de publicación: 2017

Many of the people around us forget to take medication on time. The proposed model of smart medical box is a single board computer based assistive device for people who suffer with short term memory loss. It is an alarm-based device that helps in reminding patients about their medication. The use of Internet of Things (IoT) concepts and health sensing technologies make diagnosis easier and convenient for the doctors as well as the patients [1]. This paper presents an overview of an assistive device for monitoring non-compliance of medication by providing a single platform and a closed loop connection between patients, doctors, and pharmacies. This work gives insight into mechanical design, system architecture and design of android application, information security and integrating the physical system to cloud. The architecture used is a secure one as it uses end-to-end encryption for sending sensor data [2]. This device helps in maintaining one-time medication to the patients, and helps increasing the life expectancy.

1. [**The "Smartstone": using smartphones as a telehealth gateway for senior citizens**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=5)

Por: [Bellagente, P.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Bellagente,%20P.); [Crema, C.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Crema,%20C.); [Depari, A.](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Depari,%20A.); et ál..

Conferencia: 4th IFAC Symposium on Telematics Applications (TA) Ubicación: Porto Alegre, BRAZIL Fecha: SEP 06-09, 2016  
Patrocinador(es): Int Federat Automat Control, Tech Comm 3 3 Telemat Control Commun Networks; Brazilian Automat Soc, IFAC Brazilian Natl Member Org; Fundacao Amparo Pesquisa RGS; Coordenacao Aperfeicoamento Pessoal Nivel Super; Fed Univ Rio Grande Sul, Sch Engn; Grad Program Elect Engn; Int Federat Automat Control, Tech Comm 1 5 Networked Syst; Int Federat Automat Control, Tech Comm 3 1 Comp Control; Int Federat Automat Control, Tech Comm 3 2 Computat Intelligence Control; Int Federat Automat Control, Tech Comm 4 1 Components & Technologies Control; Int Federat Automat Control, Tech Comm 4 3 Robot; Int Federat Automat Control, Tech Comm 5 1 Mfg Plant Control; Int Federat Automat Control, Tech Comm 5 3 Enterprise Integrat & Networking; Int Federat Automat Control, Tech Comm 7 3 Aerosp; Int Federat Automat Control, Tech Comm 7 5 Intelligent Autonomous Vehicles; Int Federat Automat Control, Tech Comm 9 4 Control Educ

IFAC PAPERSONLINE Volumen: 49 Número: 30 Páginas: 221-226 Fecha de publicación: 2016

A possible solution to reduce healthcare costs in a world that is aging is the adoption of telehealth technologies. Several solutions appeared, in the past suggesting the use of smart devices (mobile phones or tablets) for supporting telehealth. Unfortunately, elderly people may have difficulties in the use of such devices even if user interfaces are becoming friendly and intuitive. This work introduces the concept of Smartstone, that is the use of a (low-cost) smartphone as a simple, effective, and portable gateway/edge server for mobile healthcare towards cloud and Internet of Things (IoT) applications. The Smartstone is designed in order to minimize the user interaction, thanks to its autonomous behavior. The adoption of smart devices as a building block ensures state-of-the-art connectivity and relatively high computational power, complemented by an ensemble of additional onboard sensors. In particular, results about the management of a new photoplethysmographic/bio-impedance monitor and a smart pill dispenser are presented in this work (C) 2016, IFAC (International Federation of Automatic Control) Hosting by Elsevier Ltd. All rights reserved.

1. [**The Autonomous Pill Dispenser: Mechanizing the Delivery of Tablet Medication**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=CombineSearches&qid=5&SID=C36oJIkJYhXcInIcYPh&page=1&doc=6)

Por: [Chawla, Shaantam](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=C36oJIkJYhXcInIcYPh&field=AU&value=Chawla,%20Shaantam)

Conferencia: 7th IEEE Annual Ubiquitous Computing, Electronics and Mobile Communication Conference (IEEE UEMCON) Ubicación: New York, NY Fecha: OCT 20-22, 2016  
Patrocinador(es): IEEE; Columbia Univ; IEEE New York Sect; IEEE USA; IEEE Reg 1

2016 IEEE 7TH ANNUAL UBIQUITOUS COMPUTING, ELECTRONICS MOBILE COMMUNICATION CONFERENCE (UEMCON) Fecha de publicación: 2016

Over 125,000 Americans die annually from not taking medication properly. Problems range from taking the wrong medicine or wrong dosage to forgetting to take the medication entirely. This can cause a wide array of medical complications, depending on the nature of medications the patient takes. This project is an Arduino-controlled, consumer device which dispenses the correct amount of medication of the correct type. A textured cone was found to be the ideal method of trapping precisely one pill at a time to prevent overdose. After the medication is dispensed, the user is notified via SMS that his/her medication is ready to be taken. This device is also configurable via an Android application; a caretaker can select dates and times the medication will be dispensed for up to three types of medication. The device relies on an HC-06 Bluetooth module for a serial activation signal. The first set of results obtained measured how often the correct pill was dispensed and how often a single pill was trapped and dispensed. The success rate was over 93% for each pill type, ranging in diameter from 0.48 cm to 2.29 cm. The second set of results measured time elapsed between the scheduled release of a pill and the actual release of the pill followed by the user receiving an SMS notification. The time elapsed was under 10 seconds for every pill type. Apart from the preliminary step of loading the medication in the device, this model is fully automated and is the most effective in the current market.

1. [**Development of Retrieve/Storage Cabinets for Chemical Reagents**](https://apps.webofknowledge.com/full_record.do?product=UA&search_mode=AdvancedSearch&qid=4&SID=D3YoSo6SVnBURkRRRwq&page=1&doc=6)

Por: [Zhang Hang-wei](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Zhang%20Hang-wei); [Huang Jian-feng](https://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=D3YoSo6SVnBURkRRRwq&field=AU&value=Huang%20Jian-feng)

Conferencia: 3rd International Conference on Mechanical, Control, and Electronic Information (ICMCEI) Ubicación: Chinese Culture Univ, Taipei, TAIWAN Fecha: JUN 27-29, 2014

APPLIED DECISIONS IN AREA OF MECHANICAL ENGINEERING AND INDUSTRIAL MANUFACTURING Colección: Applied Mechanics and Materials Volumen: 577 Páginas: 457-+ Fecha de publicación: 2014

To integrate chemical reagent retrieve/storage (R/S) device with management information system, an intelligent mechatronic system is developed. Three kinds of unit cabinets for reagent bottles are constructed. A Single-chip Microcomputer and a Personal Computer are served as a slave and host control system respectively. A set of special application software is programmed by VC++ and Access to accomplish reagent retrieve/storage, usage reports and surplus warning by short massage based on the Internet of Things. The integration of chemical reagent R/S device with MIS is realized which could make the storage device automation, data visualization and measurement precision.