



Smart Kitchen Management Using IOT

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Abstract — This paper provides an insight into the event of an IOT based prototype to watch the grocery levels at homes and supermarkets. A compatible and reasonable wireless device network is enforced. Serving as an asset for research within the food industry, this implementation will be used to observe the food consumption patterns. What goes along higher than the web and food? however there's a lot of to the present delicious combination than simply posting photos of last night's meal on Instagram. continued our theme around the "Internet of Things," we have a tendency to gift another chance from this game-changing school., we're about to use to application that may rework any dumb room by facultative automatic inventory chase. You'll ne'er run out of bacon again! This application depends on sensing the burden of a room storage instrumentality to trace food consumption. This information will give valuable insights around consumption patterns and facilitate chefs predict and fill their inventory simply in time. One issue once an individual will lay a food menu item 10 the app will show needed item list for this food menu. The feel will play a very important role in image segmentation, since it's a good tool for troubleshooting within the recognition of standards to mechanically examine fruits and vegetables

Keywords- s-Ubiquitous Computing; Pervasive Computing; Smart artifact; Smart Kitchen Cabinet; RFID

I. INTRODUCTION

We are unit develop a project on good buttry mistreatment Sensing the burden of a room storage instrumentation. your buttry can mirror your cookery vogue. Organize your buttry in keeping with kinds offoods in order that you'll notice things. Grains: Rice, pasta, bread, beans, oatmeal, etc. Root vegetables: onions and potatoes, yams, and therefore the like will get in your buttry. and we will decide the particular storage and remaining item countity for a selected period and apprise so as to provide the required strain for crucialthe container's weight, the load cell must be mounted between 2 flat surfaces with the assistance of the 2 ribholes on both sides of it. Once mounted, the flat surface will act as a scale for measurement the burden of a storage instrumentation on our mobile application and Track food consumption. We can additionally work on Generating list of things of remaining item countity .we can additionally generate a notification alerts renewal and termination.

II. Existing system:

There is no such system that predicts grocery store or home ingredient..

Disadvantages of existing system:

1. System cannot predict grocery.
2. It result on profit

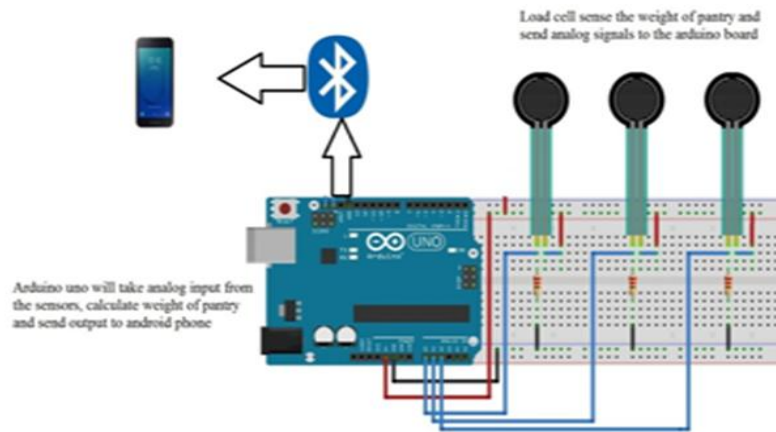
III. Propose system:

Our system will take data input for smart home or supermarket ingredient storage. Weight sensor used to calculated weight in kgs of ingredient available in cell. it is used for Sensing the weight of a kitchen storage container. Getting timely alerts for replenishment and expiry.

Advantages of propose system:

1. Easy Kitchen Storage container
2. Generating list of items
3. Getting timely alerts for replenishment and Expiry
4. Generation of any food item ingredients is easily available.

IV. System Architecture:



V. Literature survey:

Project name: A Smart Kitchen for Nutrition-Aware Cooking

Author: Jen-Hao Chen National Taiwan University Peggy Pei-Yu Chi MIT Media Laboratory Hao-Hua Chu, Cheryl Chia-Hui Chen, and Polly Huang National Taiwan University

Project explanation: A kitchen that intelligently senses cooking activities and provides realtime nutritional information helps facilitate healthy cooking by letting family cooks make informed decisions.

Project Name: Context-Aware Kitchen Utilities

Author: Matthias Kranz, Albrecht Schmidt,

Project explanation: We report on approaches for context-awareness during a room surroundings. 2 devices, associate degree increased chopping board and a sensor-enriched knife, alter the surroundings to see the kind of food handled throughout the preparation of meals

Project name: the semantic cookbook: sharing cooking experiences in the smart kitchen

Author: Michael Schneider

Project explanation : during this paper we tend to gift the Smart Kitchen, AN instrumented setting to mechanically capture, share, and exploit semantically annotated change of state experiences. we are going to describe our hardware and package infrastructure, and gift a primary paradigm application, the linguistics reference book.

System Architecture:

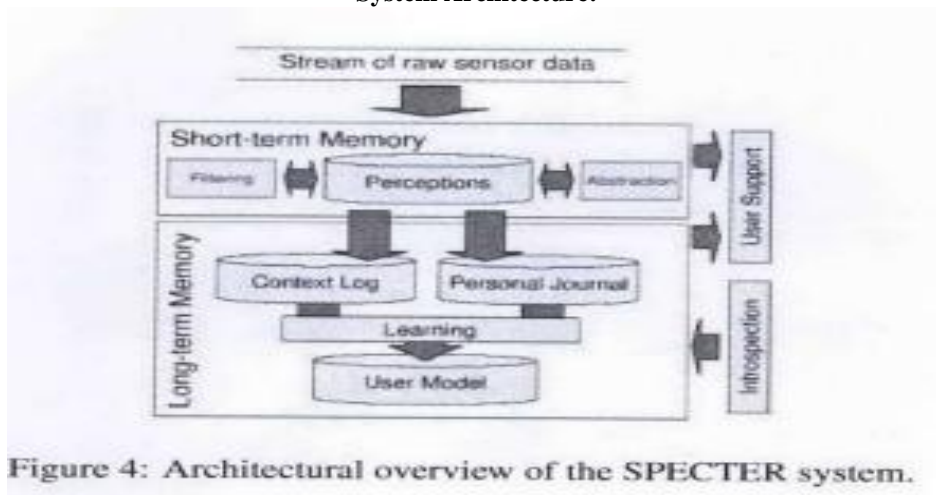


Figure 4: Architectural overview of the SPECTER system.

Project name: Passive UHF RFID-Based Localization Using Detection of Tag Interference on Smart Shelf

Author: Jae Sung Choi, Hyun Lee, Member, IEEE, Daniel W. Engels, Senior Member, IEEE, and Ramez Elmasri, Member, IEEE

Project explanation: In this paper, we have a tendency to gift a completely unique radio-frequency identification (RFID) sensible shelf that accurately locates labeled objects victimisation commonplace passive ultrahigh frequency RFID tags. This standard-based industrial offthe-shelf approach provides important benefits over custom HF RFID and alternative near-field RFID approaches, together with reduced tag prices, minimal

infrastructure prices, and straightforward operation. so as to attain correct location sensing of objects sitting on the shelf, we have a tendency to utilize a completely unique localization algorithmic program that utilizes detected changes in an exceedingly tag's readability to infer the presence of neighboring tags. consistent with our experimentation results, with one RFID reader antenna for 2 woodshelves of size ninety one cm \times 152 cm, our smart-shelf system estimates 9 box-level object locations with a mean error of simply eighteen.48 cm, that could be a seventy one improvement in accuracy compared with the antecedently printed k nearest neighbor (KNN) algorithmic program.

Project name: A Smart Kitchen Infrastructure

Author: Marcus Stander, Aristotelis Hadjakos, Niklas Lochschmidt, Christian Klos, Bastian Renner, Max Muhlhauser

Project explanation: In the future our homes are a lot of and a lot of equipped with sensing and interaction devices that may create new transmission experiences doable. These experiences won't essentially be absolute to the TV, tabletop, good phone, pill or personal computer however are embedded in our everyday surroundings. So as to alter new kinds of interaction, we tend to equipped a normal room with an oversized sort of sensors in keeping with best practices. A Innovation compared to connected work is our info Acquisition System that permits observation and dominant room appliances remotely. This paper presents our sensing infrastructure and novel interactions within the room that square measure enabled by the data Acquisition System

Project name: Implementation of RFID tags in food containers in catering business

Author: Beatriz Bordetas Bravo, Javier Cuadrat Fernandez, Mario Monsreal Barrera, Jesus Royo Sanchez

Project explanation: This article describes the look and producing development of food containers, whose use has been increased through the incorporation of AN UHF RFID Tag. the first use of those containers was to store contemporary merchandise, likesauces or fruits, in industrial kitchens at restaurants and hotels. thanks to the addition of the RFID tags in these containers, additional correct and historic info regarding product and usage may be gathered. Hence, this new infoRFID-based system helps to realize higher internal control, improve events management like cold-storage arearenewal, or scale back merchandise getting ready to expiration date.

Project name: A Smart Kitchen for Nutrition-Aware Cooking

Author: Jen-Hao Chen National Taiwan University Peggy Pei-Yu Chi MIT Media Laboratory Hao-Hua Chu, Cheryl Chia-Hui Chen, and Polly Huang National Taiwan

Project explanation: A kitchen that intelligently senses cooking activities and provides realtime nutritional information helps facilitate healthy cooking by letting family cooks make informed decisions

Project name: Enabling Calorie-Aware Cooking in a Smart Kitchen

Author: Pei-Yu (Peggy) Chi¹, Jen-Hao Chen¹, Hao-Hua Chu¹, and Jin-Ling Lo

Project explanation: As a daily activity, home cooking is an act of care for family members. Most family cooks are willing to learn healthy cooking. However, learning healthy cooking knowledge and putting the learned knowledge into real cooking practice are often difficult, due to non-trivial nutritional calculation of multiple food ingredients in a cooked meal. This work presents a smart kitchen with UbiComp technology to improve home cooking by providing calorie awareness of food ingredients used in prepared meals during the cooking process. Our kitchen has sensors to track the number of calories in food ingredients, and then provides real-time feedback to users on these values through an awareness display. Our user study suggests that bringing calorie awareness can be an effective means in helping family cooks maintain the healthy level of calories in their prepared meals.

System Architecture:

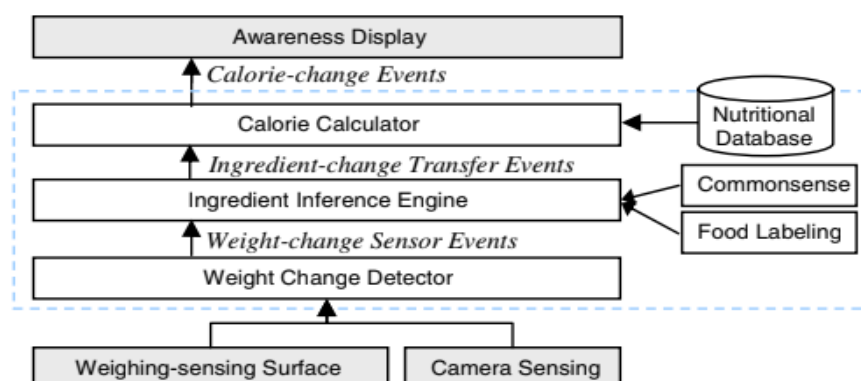


Fig. 2. Calorie tracker architecture

Project name: Making Recipes in the Kitchen of the Future

Author: Noyuri Mima, Ian Frank, Tetsuo Ono, Hillel Weintraub

Project explanation: A kitchen is not just a place of labor. Throughout history, the activity of preparing food has been accompanied (and even used as an excuse for) social interaction and the development of social bonds. Modern lifestyles and convenience foods have reduced the time and effort required for cooking, but at the same time, have lessened the opportunities for interaction. Our contribution is to demonstrate how a “Kitchen of the Future” can use technology to re-introduce such social interactions, and also enable entirely novel forms of communication mediated by computer. Our kitchen supports the automatic generation of web-ready recipe pages, with other possible applications including actual cooking assistance, and communication or education across distances, cultures and generations

Project name: The Diet-Aware Dining Table: Observing Dietary Behaviors over a Tabletop Surface

Author: Keng-hao Chang, Shih-yen Liu, Hao-hua Chu, Jane Yung-jen Hsu, Cheryl Chen, Tung-yun Lin, Chieh-yu Chen, and Polly Huang

Project explanation: We are what we eat. Our everyday food choices affect our long-term and short-term health. In the traditional health care, professionals assess and weigh each individual’s dietary intake using intensive labor at high cost. In this paper, we design and implement a diet-aware dining table that can track what and how much we eat. To enable automated food tracking, the dining table is augmented with two layers of weighing and RFID sensor surfaces. We devise a weight-RFID matching algorithm to detect and distinguish how people eat. To validate our diet-aware dining table, we have performed experiments, including live dining scenarios (afternoon tea and Chinese-style dinner), multiple dining participants, and concurrent activities chosen randomly. Our experimental results have shown encouraging recognition accuracy, around 80%. We believe monitoring the dietary behaviors of individuals potentially contribute to dietaware healthcare

System Architecture:

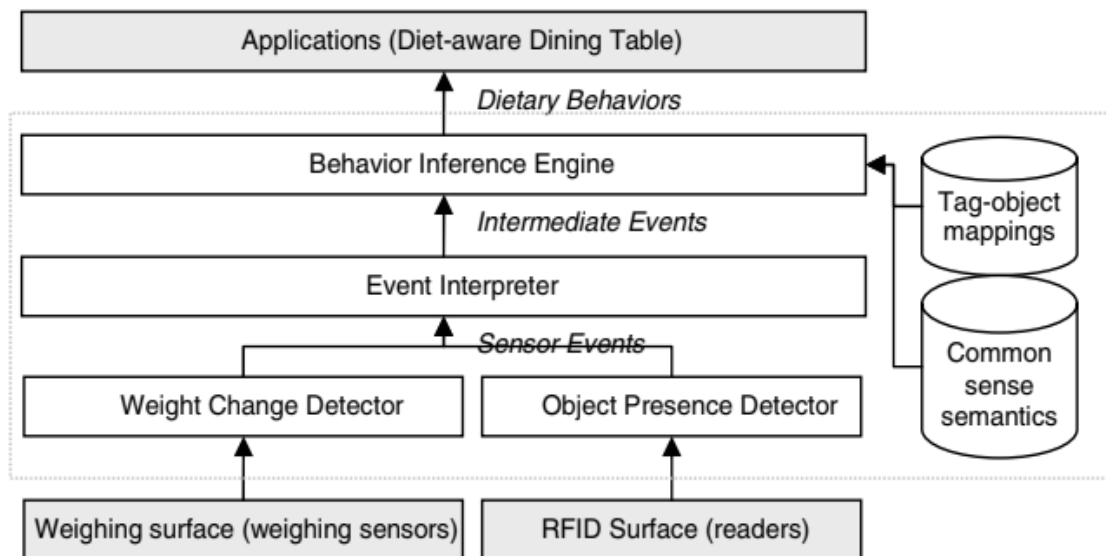


Fig. 4. System architecture

VI. Conclusion

Developed model facilitate America to stay a track of kitchen’s stowage. Sensors will sense the load of room storage containers and calculate the measurements of accessible ingredients in stowage. Thus we will simply resolve the ingredients that is lower and that we should buy it from market. And therefore the instruction on obtainable ingredients also shows to the user.

VII. FUTURE SCOPE:

1. System in addition develops for different for all room storage in town.
2. A future work for this application would be to mechanically place associate in nursing order with suppliers once inventory falls below a important level.

VII. REFERENCES:

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