Smart Shelf: Project Proposal

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ABSTRACT
UPDATED—November 16, 2017. This sample paper describes the formatting requirements for SIGCHI conference proceedings, and offers recommendations on writing for the worldwide SIGCHI readership. Please review this document even if you have submitted to SIGCHI conferences before, as some format details have changed relative to previous years. Abstracts should be about 150 words and are required.

ACM Classification Keywords
H.5.m. Information Interfaces and Presentation (e.g. HCI): Miscellaneous; See http://acm.org/about/class/1998/ for the full list of ACM classifiers. This section is required.

Author Keywords
Smart Fabrication, Smart, Shelf, HCI, Physical Computing

INTRODUCTION
Today the word smart is almost everywhere. There are smart homes and smart fabrications.

MOTIVATION

PROBLEM

Title and Authors

RELATED WORK
There are several development work happened last few year in human computer interaction(HCI), home automation and embedded technology. A big set of these work is giving intelligence to rigid objects and allow human to communicate with them and vice-versa by applying noble HCI techniques. Moreover, post-WIMP devices also offer some features that can be integrate with the modern computer technology development(Ubiquitous computing). However, this post-WIMP GUI concept only applicable if there is a metaphor available in digital or analogue world. For example, searching the meaning of a word in digital dictionary(e.g:Smart phone dictionary). We want explain decent amount of successful research work that overlap at least in certain area with our Digital Shelves

framework; However, there is no implementation or ground work fully overlap with our concept. A technical definition of our project is "Combining different interaction technique to innovate a device that follow the guideline of ubiquitous computing".The most related topic that already are known by HCI community are: QR code for presenting information, Automatic amount calculation, Smart Phone application for device control

QR code for presenting information
Now a days application of QR code become very popular and common due to the smart phone technology. Now people don't need to type search. Pressing a key is enough to get information based on QR code. A very innovative application of QR code in library management. in a case study ' 'Application of QR Code Technology in providing Library and Information Services in Academic Libraries" by Sandeep Kumar Pathak showed that important information can be presented by QR code and user can easily get all those detailed information by scanning QR code. $http : //events.iitgn.ac.in/2017/CLSTL/wp-content/uploads/2017/03/T7_{s}andeepPathak.pdf$. We are implying this idea in to completely different perspective. In our case every drawer will have individual QR code. Each code will represent individual information about items stored in the drawer.

Automatic amount calculation
One major objective our implementation is representing empty or not empty drawer. As it's very ground level work of many automation project, there are many project information available regarding weight measurement. However in our project we are counting the objects based on the overall weight. We don't see this sort of work is not very common to automation community.However, the most related work to that sub task is counting weight based on resistive sensor. An example of this work presented in $https : //circuitdigest.com$:Arduino Weight Measurement using Load Cell and HX711 Module. Here they use Load Cell, but we will use resistive load sensor to calculate the weight signal. And, also their project does not include counting. We will count the number of an object by $totalweight/individaulaweight$ ratio. $https : //circuitdigest.com/microcontroller-projects/arduino-weight-measurement-using-load-cell$

APPROACH

Inputs

Outputs

User Interaction

EXPECTED RESULTS

Time Plan

CONCLUSION

ACKNOWLEDGEMENTS