

Towards Buying Experience with Things: Experimental Study @Starbucks

Rubina Sarki
Center for Imaging Media Research
Korea Institute of Science and Technology
Seoul, South Korea
Korea University of Science and Technology
Daejeon, South Korea
Email: rubinas2512@gmail.com

Yong-Moo Kwon
Center for Imaging Media Research
Korea Institute of Science and Technology
Seoul, South Korea
Korea University of Science and Technology
Daejeon, South Korea
Email: ymk@kist.re.kr
(Corresponding Author)

Abstract—Buying experiences (money spent on doing) provide unceasing happiness than buying materials (money spent on things) [1]. In this paper, we present a novel scheme to enrich a new shopping service with buying experiences in a coffee shop which will provide enduring happiness by bringing out the concept of *experience take-out* for customer service. The experience in our case refers to digital contents like, music, mummer sound and social networking sites (SNS) contents (images and tweets). Our content will be web-based and it allows the customer to emulate the coffee shop environment irrespective of the location. This is achieved by collaboration between experience take out terminal (display system) located in a coffee shop, with near field communication (NFC) and a smart phone with WiFi and Android beam which sends data using NFC peer to peer mode. Moreover, our concept motivates buying experience of a coffee shop in the form of digital contents and disperse happiness, with the ultimate solution for coffee house lovers to enjoy its environment irrespective of place and time.

Keywords—Digital content, Shopping service experience, SNS, Web-based.

I. INTRODUCTION

The mix of calm and soft murmur in a coffee house environment created by ambient noise, light, people and music attracts a great number of customers. Coffee shops often invest a huge sum of money to improve its environment. This fact hints that business in recent years is focusing more into providing experiences on top of selling services. However, the customers who are in a hurry and cannot afford to spend time in coffee shops are unable to get such experiences. An emulation of the coffee house environment through a portable prop can offer a solution to fill this void. The experience of the emulated coffee shop environment engages customers in a way that creates a memorable event than just buying coffee and drinking it.

The coffee house is known to be the place where social members congregate, expend their precious time, relax, enjoy with their loved ones, read, and perform some creative activities. Deep study of the behavior of different coffee house reveals, music, murmur sound gives vibrant energy to creative thoughts, offers relaxation and enjoyable mood. One of the most popular universally known coffee house

example is Starbucks. Starbucks puts a exertion to provide high quality of services for customers. We choose Starbucks as our work domain. Deeper look inside Starbucks, explores that this coffee house is equipped with modern technologies like its known mobile android application and iPhone application along with some facilities within coffee house such as wireless internet connection and an article cites, plan for installing Powermat's wireless charging stations at coffee stores across the US. Enhancing such technology elate customer service with better experience. Therefore, the ultimate goal is to spread Happiness, pleasantness and excitement among customers. Thereby in this paper our effort to bestow more experience practicing through our experience take-out system. We select Starbucks as work domain and we try to implement our approach with Starbucks contents.

We approach the concept of *experience take-out* or *content take-out*, with a *terminal* a large display in coffee houses and customer *smartphone* which is able to transfer data via *android beam using NFC*. The computing, connecting and display capabilities of smart phone provide a good platform to run desired programs with suitable user interface and internet connection. NFC- enabled Smart phones broaden its range in term of usability. NFC in Smart phone and tablets gives quick sharing of data among NFC enabled devices.

We believe that the concept of experience take-out in smart phone can open new doors for implementation of mobile coffee shop environment. Our system model presents the concept of *experience take-out* and enables the customer to experience a coffee shop environment in other places and also encourages the goal of Starbucks to provide better service at the same time. Thus, our research challenge 1) To change the buying paradigms and 2) solution for coffee house environment lover to enjoy a virtual coffee shop 3) to provide happiness, excitement and pleasantness.

II. BACKGROUND AND PREVIOUS APPROACHES

Elizabeth F. Churchill, in her paper, she introduces the interactive community bulletin board within the cafe and art gallery. With a Purpose, to provide a different cafe experience than the usual cafe experience [2]. The idea of placing

Table I
COMPARISON WITH OTHER MUSIC PROVIDING SYSTEM

	Our System	Spotify	Youtube	Jam studio
location accessibility	anywhere	limited	anywhere	anywhere
usability	easy	manual	manual	manual
starbucks jazz	yes	not specific	not specific	not specific
web based	yes	yes	yes	yes

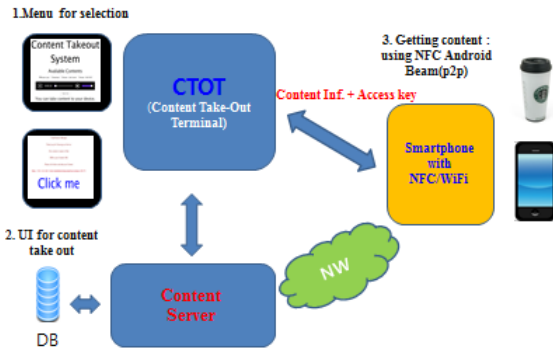


Figure 1. System Architecture

a bulletin board within a cafe or art gallery was to design a display with advertising of products, collaborative play, messaging and conversational exchange. Which seems to be the strategy for providing a different experience within a cafe environment. On the other hand, some authors approach technology solutions for shop lovers [3] using Internet of Things to create an interactive environment where objects are interconnected through technologies like RFID/NFC. In Android mobile phones, android beam using NFC can transfer information effortlessly just by tapping devices. Thus we consider NFC technology in our following work.

III. DESIGN AND IMPLEMENTATION

Experience take-out is a web based platform, which allows users to take coffee house environment experience in the form of digital contents.

We present our system architecture and introduce our approach in Figure 1. Where we have two terminals, first one is content take-out system terminal (display in coffee shop), which will provide a user interface (UI). The second terminal is customers' Smartphone with android beam using NFC peer to peer mode, for transferring content from the large display system of the coffee house. However, the back end content of our system has been handled by server side.

A. Music

In experience take-out terminal, one of our important content is jazz music of Starbucks. Although there are many sources for enjoying jazz music like Spotify, Youtube and many other sites. We compare the accessibility of jazz music provided by Spotify and Youtube, with our system in Table I. Let's review some of its limitations, like in most of the countries Spotify is not accessible, for example, in South Korea we cannot access the Spotify web page.

Music mode provides two options, namely stream and download which is shown in Fig 2. In case of stream mode, jazz music will be currently playing music from the Starbucks play list. For download mode, the system will show the list of the music which is listed by Starbucks for a particular day. Then the customer can select his/her desire jazz music. In Fig 3 we explain how selection can be made. $P1$, $P2$, $P3$, $P4$ denotes the name of the customer. When $P1$ and $P2$ choose same streaming mode selections, in database table the same information for each individual will be stored with a different unique number called accesskey K in another table name *music content*. K is generated by the system whenever a customer selects the same or different content. The purpose of generating a unique number is to provide security of content in server side. Now the question is "how this unique number K provides security?". In our database we have the individual path (URL) for each contents, once that (URL) is known to the public then anyone can access content directly from the server database, that means the contents are not secure and can be accessed by anyone. To prevent that we created a web page with different URL and fetch accesskey K which will be the link for specific original music content, but not original link itself and combine it as a query string. Now, whenever a customer opens a created web page URL + K , sever verifies the K that is stored in database and K in the query string. Thus, when these two K matches, customer can enjoy the service, if not matches it will show an error message. After a certain amount of time, this service will be stopped from server as it has been programmed to provide within a certain time limit, that means user can no longer use the same web page URL + K as a service. In case of download mode when customer name $P3$ and $P4$ will make their selection, the selected song will be stored in different table name *music content* with its unique number K . The method followed will be same as a stream, but this service will be provided to regular customer to encourage their attendance and being a part of their daily life.

B. Murmur Sound

Regarding the murmur sound concept, the reason to avail murmur sound, in our system is because of the concept "A moderate level of ambient noise is conducive to creative cognition". When we studied about coftivity we came to know that group of developers designed this website

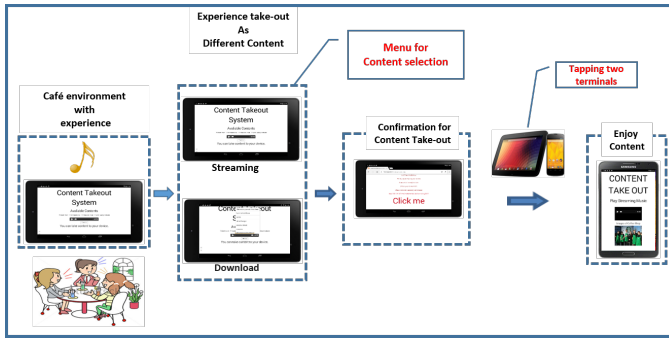


Figure 2. Work Flow

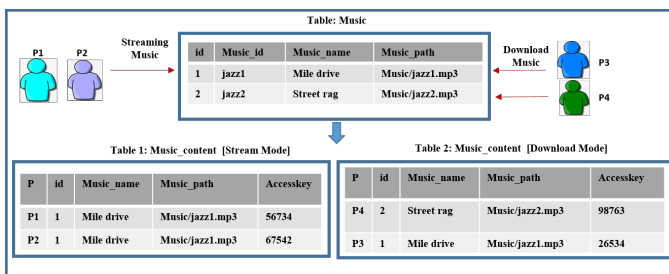


Figure 3. Database for music. Table1:Music content for stream, Table2: Music content for download

where people can enjoy morning murmur, lunchtime lounge, university undertones, Paris paradise and Brazil Bistro (Musical chatter of a Brazillian coffeehouse) etc. But to access few important murmur sounds from different countries like Paris paradise and Brazil Bistro we need to download some premium version, which means not easily accessible. Hence, we compare our system with a few of similar existence in Table II. There are few similar sites one of them is asoftmurmur being a project done by Gabriel Martin provides different type of ambient sound includes, rain, thunder, waves, wind, fire, birds, crickets, coffee shop, singing bowl, white noise etc. With knowledge from some articles, we came to know that people enjoy listening murmur sound when they are alone. Thus murmur will be our second content for service, to provide a good experience and bring happiness. We list and store murmur sound in the database according to the Starbucks of different countries. Therefore, we collected murmur sounds from different countries and then put it into a database. This idea can bring collaboration and bond among people from Starbucks to build their coffee shop environment together. Here our *Murmur* option will be in a front end menu, where customers can select their desire choice as murmur sound according different countries. Security and selection process method is same as above mention in music mode.

Table II
COMPARISON WITH OTHER MURMUR PROVIDING SYSTEM

	Our System	coffitivity	spotify	softmurmur
location accessibility	anywhere	limited	anywhere	anywhere
usability	easy	manual	manual	manual
starbucks murmur	yes	not specific	not specific	not specific
web based	yes	yes	yes	yes

C. SNS contents

We include Social Networking Sites (SNS) as they are very popular these days for expressing emotions, providing communication between people, connecting together. Other aspects reveals social networking sites are the best source to inform people about your current and recent activities. So whenever people, visit different places they use social networking sites like Facebook, Twitter, Instagram, flicker, Pinterest to share their happiness, sadness, enjoyment via, tweets, images, and comments. There are millions of people posting every day about something new and fascinating things. These data's can be collected and utilize to spread information, awareness and virtual experience. So using this data's as content can be advantageous to enjoy virtual coffee shop environment.

The concept starts with providing a virtual coffee shop environment to increase excitement. Our system's front end provides a radio button to click on the option called *SNS's Contents*, when the selection is made by customer system will provide different countries name list (which are the location of most popular Starbucks). Therefore, customers can take virtual environment of desire country's Starbucks.

Current system offers few country's Starbucks SNSs namely, Seattle, Paris, South Korea and Japan, as an input query string. Fig 4 shows, collecting/gathering and filtering SNSs contents. At first we collected different data in the form of tweets and images from social media like twitter and instagram. Then gathered data have been filtered with its query keyword, popularity, and famousness and remove noise like retweet, url, etc. Finally get the selection based contents (images and tweets) to enjoy desired virtual coffee shop environment. We apply same security process like verifying assess key.

D. Android beam using NFC peer to peer mode

Android beam is a feature of the operating system in new generation android smart phone, which allows data to transfer using Near Field Communication (NFC). The Author in Shoplover [3] mentions NFC as a key feature. The first NFC mobile phones are Nokia 6131, Nokia 6212, where in new smart phone samsung, nexus. This technology is embedded in almost all Android smart phones. It has a wide range of accessibility. Android beam considers as a rapid short-range exchange of data like (web bookmarks, contact

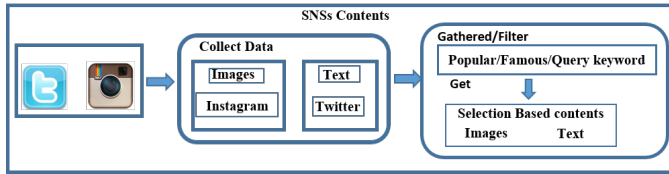


Figure 4. SNSs Contents Collection, Filter and Get

Table III
RESULT BASE UPON PEOPLE SURVEY

	Take-out coffee without content(%)	Take-out coffee with content(%)
Happiness	64	78
Excitement	56	89
Plesantness	44	75

info etc). We used android beam of smart phone to transfer content from one device to another in one touch. Android beam using NFC is ideal for sharing contents, sharing web pages via NFC does not send the web page itself. Rather, it sends the URL and causes the other device to open it in the device's default web browser.

IV. FEATURE DESCRIPTION AND RESULT

Experience take-out is fun and experience based design, which provides a new shopping experience with extreme measure of happiness. The final result for system designed is shown in Figure 5. In the above, we discuss with our possible approach, with relevant results, customer can enjoy our service anywhere, this will fill the void. Our main motivation behind this work is to change the concept of buying Things with buying experience, which ultimately increase happiness, excitement and pleasantness.

Students from same institute were asked to participate in user test. They use our system prototype, like selecting, tapping device and taking content. After the task is done, We ask them to rate their experience before and after use of our system in term of happiness, excitement, and pleasantness. The result has been plotted in Table III. The main feature for experience take-out is,

- Webpage front end*, with list menu, does not need any kind of registration, customer can select menu according to his/her desire.
- Database*, for storing content, and store access key along with selected contents.
- Accesskey + URL*, accesskey is for security and which provide a unique URL every time. Only an authorized customer can use the content.
- Near field communication*, is the very secure medium for transferring data, this will allow content to be transferred very efficiently just in a one tap from one place to another.

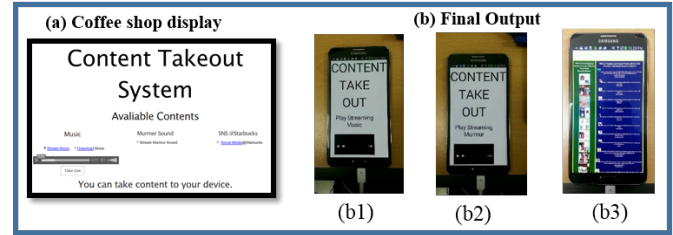


Figure 5. Result

V. CONCLUSION

Experience take-out is totally a new concept of taking digital contents which are available within the coffee house. The contents which can be digitized are Starbucks jazz music, Starbucks murmur sound from different countries and SNSs contents related to different countries Starbucks. By this work we would like to bring the concept of buying, coffee house environment (experience) along with coffee (things) which encourage buying happiness (experience) with buying things (materials). In this era of full technologies, this is our small approach to bring changes in regular buying concept. Our concept of "experience take-out" from the coffee shop environment is unique. Buying experience means buying of movie tickets, museum tickets or tour tickets, but with the approach of buying experience with buying things together can bring new changes.

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