Imagination Station

GeoX

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Executive Summary/Abstract

Understanding and investing in Customer Experience is key to maintaining a competitive advantage in today's retail market. While digital retail is replete with observational data-gathering methods, brick and mortar stores rely on self-reported customer survey feedback to guide their customer experience strategy. A significant body of research shows that self-reported data is insufficient for making reliable strategic business decisions. GeoX WiFi tracking can allow customer experience professionals to gather observational data on customers journeys through the store.

The GeoX solution consists of three components. First, an administrative mobile application which allows customer experience professionals to set virtual touchpoints monitor in their stores. Second, WiFi routers modified to collect and analyze tracking data. And finally a web application which allows for location data analytics.

Introduction

The customer experience industry has an estimated value of 6 Billion USD, with projections to be worth 16.9 Billion USD in 2022. It is an industry which heavily relies on customers being willing to provide feedback to the companies they associate with. In order to gather this feedback many Customer Experience (CX) companies rely on self reported surveys. Surveys prove to be effective at providing customers a method to voice their opinion. However, statistics show that for every customer who bothers to complain, 26 other customers remain silent. Self reported data, though effective, is only reaching a small percentage of customers.

GeoX provides the ability to capture observational data. This observational data reaches a much larger portion of customers. 95% of all americans have a cellphone and 77% of those carry smartphones. Smartphones are equipped with the ability to use WiFi. GeoX gives retail stores the ability to track and analyze the journey of the customers in their stores. With this information GeoX can provide actionable insights including customer’s time spent in store, store

zones visited, enter and exit times, whether they bought or not, if they spoke with a store employee and more. With this new found data companies will be able to identify in-store behaviors that lead to customers purchasing as well as behaviors of non-purchasing customers. GeoX provides customer feedback that is not available through self reported methods.

Concept Definition

Stakeholders & Requirements

1. The retail companies will be the users of the feedback method. Their feedback on the new method is essential to the success of the innovation. The retail companies care about the product because they need good data/information on how to help consumers get what they need to boost the company's' sales.
2. InMoment is the client who is needing this innovative feedback method to then sell and provide to the retail companies. InMoment's interest in the product is to generate revenue and help gather more meaningful data.
3. The non-purchasing customers are important because if the improved method of gathering data from non-purchasing customers doesn't work it is difficult to innovate the customer experience. Non-purchasing customers have interest in this product because it will help them be heard by companies in what needs to be different for them to have an experience that converts them into purchasing customers.
4. As the team creating the innovative method of non-purchaser feedback, we are also important stakeholders as we are the hub for gathering data from the other stakeholders and using our findings to inform an innovative, app-based solution.

Validation & Verification

We first introduced this initial concept of using WiFi tracking to our sponsor, Joel, as an observational feedback method. After a brief demo of how WiFi tracking can be used our sponsor became very interested. The amount of data that can be acquired from using simple timestamps in zones around a store and mapping a user's path throughout a store. They would be able to deduce mass amounts of relevant data for their clients. Below are some examples our sponsor said this data could be used for:

- You can track if a customer walks in uses the bathroom and walks out, allowing us to remove situations like this, to create data based on real situations
- They can deduce how long a customer stays in one zone.
- Using timestamps for tracking how well a waiter is performing compared to survey data.

The presentation allowed our sponsors to start thinking about all the possibilities our design and project will offer to retail companies. Our presentation really excited the sponsors and they are

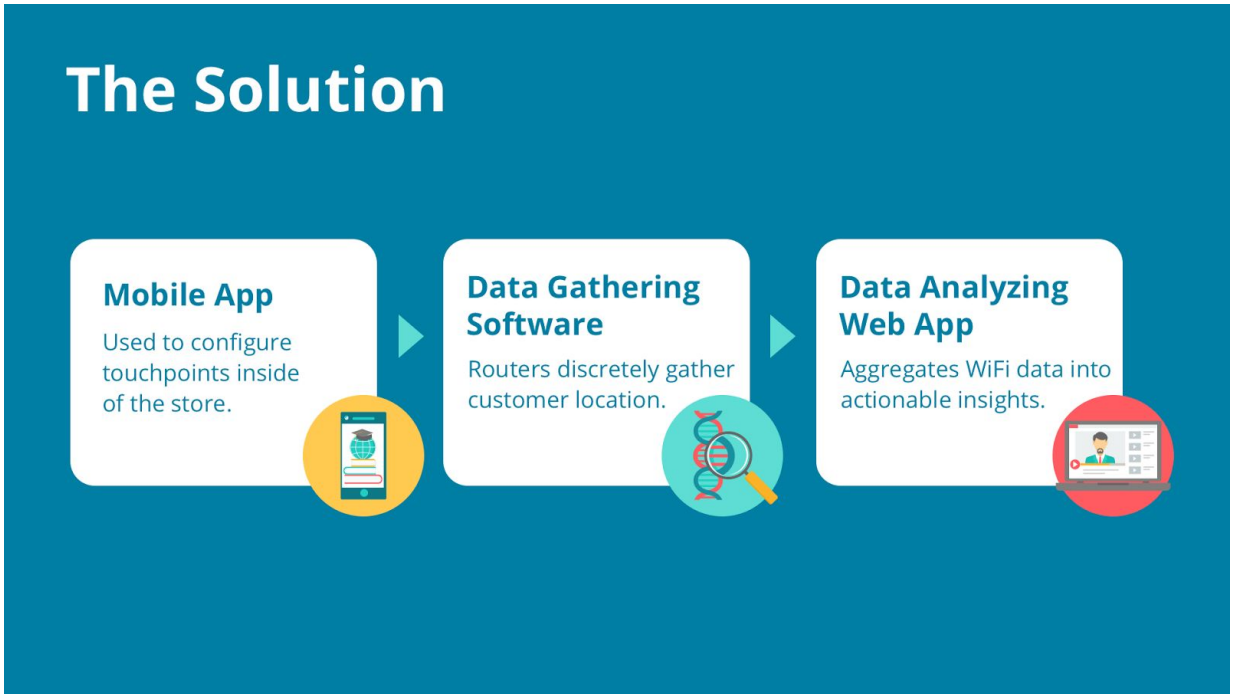
looking forward to the future progress of this project. Our sponsors want us to present to all their clients at the end of February at their CX conference.

System Definition

System Requirements

- TP-Link MR-3020 router with open firmware.
- USB flash drive with more than 4 GB of storage.
- Ethernet connection.
- Full desktop operating system enabled device for development.

Logical Architecture



Traceability

The mobile app meets the needs of customer experience professionals by configuring touchpoints inside stores to gather observational data on customers. The routers and hardware allow accurate data gathering which is what CX professionals need. Without accurate location gathering, the observational data will be irrelevant in the observing stage. The web app is

important for the process because it analyzes the data gathered by the routers by aggregating WiFi data into actionable insights.

Realization Plan

Key Milestone	**Deadline**	**Responsible Party**	**Verification & Validation**
5 min Presentation #1	10/18/2017	Dan	Includes project management methods and project definition.
Project Definition Document	10/30/2017	Group	Well organized and articulated project definition.
Expert Interview	11/3/2017	Seth	Written outline of key insights
Academic Interview	11/3/2017	Nikki	Written outline of key insights
Literature Review	11/3/2017	Dan	Written outline of key insights
Competitive Analysis	11/3/2017	Zach	Spreadsheet of key competitors
5 min Presentation #2	11/18/2017	Seth	Includes project management methods and project definition.
Qualtrics Analysis	11/17/2017	Dan	Written outline of key insights.
Hyp3r Analysis	11/17/2017	Seth	Written outline of key insights
Medallia Analysis	11/17/2017	Zach	Written outline of key insights
Survey Monkey, Ask Nicely Analysis	11/17/2017	Nikki	Written outline of key insights
RFID Tracking Research	11/24/2017	Dan	Verify the validity of RFID tracking in CX
WiFi Tracking Research	11/24/2017	Zach	Verify the validity of WiFi tracking in CX
Bluetooth Tracking Research	11/24/2017	Nikki	Verify the validity of Bluetooth tracking in CX
Project Presentation	12/8/2017	Group	Coherent explanation of project process.

Project Management

Objective Statement

Deliver an innovative feedback method which provides observational in-store location data for retail companies by April 19th, 2018.

Deliverables

Deliverables	**Is**	**Isn't**
Discovery Review	● Comprehensive review of the customer experience industry. ● Period of divergent thought. ● Driven by the project objective statement and user problem statement. ● Group discussion and sharing.	● Time to create solutions. ● Definition of deliverables. ● Individual assignment.
Data Gap Analysis	● Study of where InMoment is in competitive landscape. ● Study of where InMoment may want to be. ● Reliant on competitive analysis. ● Reliant on customer (Joel) interview.	● Time to create solutions. ● Research into each specific company in the analysis.
Stakeholder Document	● List of stakeholders with detailed explanations. ● Groups of stakeholders. ● Stakeholder assignments to team members.	● Specific research for understanding each stakeholder.
Concept Document(s)	● Defined solution document.	● Finished product. ● Tested solution.

	● Reliant on all previous research. ● Supports assumptions with references to research.	
Wireframes	● Visual representation of concept document. ● Communicates functionality. ● Use of black white and gray. ● Reviewed by other designers.	● Built to communicate look and feel. ● Colorful. ● Tested with end-users. ● Pixel-perfect
Low-fidelity Prototype	● Tested with end-users. ● Designed with affordance colors. ● Consistent across each screen. ● Iterated upon multiple times.	● Every use case. ● Representation of final aesthetic.
Demo Video/Presentation	● Presentation of research results. ● Highlights benefits of solution. ● Addresses multiple use cases.	● Comprehensive, only highlights the most important points.
Extended Abstract	● Document of design and solution process. ● Explores flaws of solution and suggestions of fixing those. ● Discusses solutions unique value proposition.	● Complete research paper. ● Written for external use.
High-fidelity Prototype	● Embraces multiple user cases. ● Shows look and feel of final product. ● Embraces InMoment design practices. ● Includes documentation.	● A completely programmed app.

Conclusion

GeoX will provide a innovative method that InMoment can use to understand a larger portion of customers shopping in retail stores. The data obtainable through GeoX will provide insights InMoment can use to further improve customers' experience. It is our Capstone Team's goal to provide an early prototype of this new method that will enable InMoment to begin gathering this observational data. The details in this document will provide a structure for our team as well as help us maintain our vision and provide a solution to our problem statement.

Bibliography/references

https://hackerfall.com/story/passive-wifi-tracking

http://www.pewinternet.org/fact-sheet/mobile/

https://www.helpscout.net/75-customer-service-facts-quotes-statistics/

https://drive.google.com/open?id=1m_wZ3zFBjDk00Tj2InwlcmtGD5oZzLif

Appendix

Github Repository for Prototype:
https://github.com/schollz/find

Competitive Analysis:
https://drive.google.com/file/d/1WP7lX82Vb07ZTn5VIhXdk62C9cwsvIr_/view?usp=sharing

Academic Literature Review:
https://drive.google.com/open?id=18JX49g1jvEQSuNbR-ezu2MTzryEOlmaN-pLwZMqJ9R4

Pre-buyer's Journey Documented:
https://drive.google.com/open?id=1LBhV8T5WNaeTQWOVDCdqu1eDp3WmxasgDW0-0be7Wug