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Project Report

Strategies for Improving Mobile Search

Project Sponsor

W.W. Grainger

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Executive Summary

W.W. Grainger has been looking to re-vamp their mobile website. As part of the process they are looking for innovative ways for customers to search for products via their mobile phones. Our team was tasked with helping Grainger in identifying technologies for mobile search, innovative uses of the technologies, and the key players associated with each technology. As a result of the research Grainger would be able to gain key insights in mobile search technologies and have some leading information as to how the technologies could be implemented into their improved mobile site or application.

In order to complete this goal, we started with research into W.W. Grainger, its customer personas and the types of products that are going to be searched on the mobile device. As a group we came to the conclusion that we should focus on the customer persona Al the man working in the field. We felt Al's job required quick innovative ways to search for products while under pressure in the field and so all technologies researched should be aimed at helping Al. After our research of the company we then moved on into doing a benchmark analysis of best-in-class companies who currently used mobile search for their stores. Our benchmarking revealed that most companies have limited search capabilities that allow users to search via keywords and product categories. One interesting finding was that each company assessed had built in scanning applications that allowed users to scan QR Codes. Only two companies observed used photo searching tools, and none used any form of voice recognition technology.

Once we assessed best-in-class companies, we identified three key technologies, namely, QR Codes, visual recognition, and speech recognition. For each technology, we researched how it worked as well as the vendor landscape. We contacted a set of these vendors and were fortunate to receive some feedback as well as insights as to what types of new products that are being developed. Each technology and company researched offered a unique solution. Following evaluation of these potential options, we developed some recommendations for Grainger.

QR codes seemed to be the technology most used by companies today. QR codes are open source and platform independent so they are free to create and can be used by any smart phone. While QR codes are free to create companies such as *3G Vision* and *Kaywa* offer mass creation and QR code management. Voice recognition at the current moment is limited in how it could provide Grainger with a better user search experience. Companies such as *LumenVox* and *Nuance* can help Grainger in creating an API for their products, however for industrial equipment this will take some time and user experience may suffer. Visual recognition offers some promising solutions. Visual companies such as *IQ Engines* offer visual search that not only use algorithms to complete queries, but people as well. With *IQ Engines* actual people receive the image taken, identify the image, and return it to the user. This all takes at most 40 seconds.

With all our research we have determined that a near-term opportunity for Grainger would be to implement a QR code based application as well as consider placing QR codes into catalogs or notices sent to customers. Visual search is also an option if companies such as *IQ Engines* can be used. Voice recognition will have to wait, but Grainger can start looking into options now and can try to be the first company to jump on any new innovations that may come about in the next few years

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