Touchless shopping - Eliminating the "fiction" in science fiction

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Imagine all the the perks of online shopping, the seamless browsing possibilities, the clear overview of the products that are for sale etc. Imagine combining these features with the advantages of conventional shopping, to be able to feel, touch and try on a clothing item directly. Now you don't have to choose between the two, the future of shopping is here.

We have developed a new way for consumers to shop, combining the advantages of online-and physical shopping into one touchless product. With a great connection and trust in confidence from a company called Crunchfish, the quest for a gesture based interactive shopping-window concept began.

The technology the concept was based upon falls under the category "touchless technology" and it is based on methods within the field of human machine interaction where a user is able to interact with-and give commands to a computer system without physical touch. These gestural commands are then registered by a camera, then interpreted and executed by the system in the way the user expects.

Two digital prototypes were developed, using Keynote, which illustrates the way the final products will work. One of them, an interactive shopping window for a real estate agency is a brand new way of looking for properties. Instead of displaying a couple of houses for sale in the window of a real estate agency, our technology enables the whole shopping window to become a big display of properties that you can look at, browse through and even save to your phone to be viewed later. Signing up for an open-house has never been easier, simply drag the property you are interested in to your phone and the realtor will call you back. No more waiting on the phone or filling in your contact information with a tiny keyboard on your phone, a simple gesture will take care of it for you!

Figure 1: The image shows the welcome message displayed after a user's face has been detected.

The other prototype is a shopping window for a clothing store, designed to erase the lines between online- and physical shopping. We wanted to create something that would attract customers back to the physical stores, breaking the trend of people abandoning them in favor of online stores. When asked, 72 out of 89 respondents to a survey about shopping habits said that the major reason for shopping online is better prices. The other factors were easier searching, browsing and comparison of items as well as the convenience of ordering from the comfort of your home.

The shopping window displays inspirational images of models wearing the clothes available in the store. For example, an image of a backyard BBQ in New England could be floating by, putting the clothes in context. When you see an item you like, the item can simply be grabbed and pulled out to be viewed more closely. Saving it to your shopping cart is done by simply dragging the item to your phone, before entering the store and picking the item up. The inspirational approach was chosen to aid browsing of the clothing items without having to browse like you would a regular online store, gestures should be fun and spontaneous!

Figure 2: The image shows what it looks like when an item has been grabbed and pulled out.

Probably the most interesting results of the project were extracted from the user tests. The tests were performed on two groups of people, one group having extensive knowledge of the touchless technology-field and the other group lacking any knowledge of touchless technology at all. The tests concluded that the experienced group performed well, which was more or less the expected result. However, the inexperienced group performed quite well even though they had no previous experience. The inexperienced group learned very quickly how to perform the gestures and tasks, which indicated to us that even a person without any previous knowledge is able to learn how to use our system and methods very fast. The reason behind this is the design of the gestures, they allow users to interact with the interface in a spontaneous and seamless manner.