



# APPROX. KNOWL

## Project proposal

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# George.

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## APPROXIMATE KNOWLEDGE

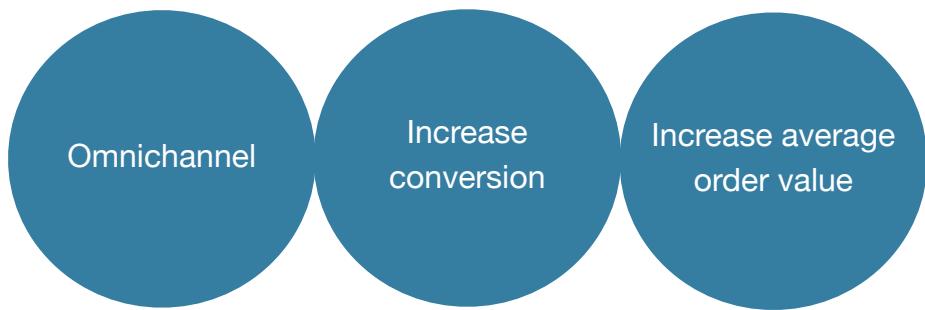
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## APPROXIMATE KNOWLEDGE

## OBJECTIVE

Develop a concept software product/app to support mobile online retail experience for the George branch of ASDA. The design concept must be accessible and work on a range of devices whilst considering browser versions, current technologies and be innovative in nature. Wireframes and design mock ups will be provided to highlight the features and nuances of the system and provide an overview for the concepts user experience.



## TEAM STRUCTURE & STRATEGY

Initially the team began researching existing technologies used in the retail industry and schemes currently implemented or launched existing products and applications in the market and looking at reports for future trends of retail technology integration and omnichannel.

The full team then conducted a cross analysis of consumer issues in the industry to understand the needs, demands, current failures and successes of retail technology implementations.



## APPROXIMATE KNOWLEDGE



Initial brainstormed ideas categorised by device

Alongside initial research, part of the team separately visited a retail store to get an understanding first hand of the issues that stores face and what technologies would help them to increase conversion and order value.

Initial ideas were brainstormed based on aforementioned research with longevity and future proofing considered in the range of 5-10 years. Different wireframes of varying interfaces were then designed on paper and using wireframe software. The team then worked to constructively criticise each idea based on viability and the strengths and weaknesses of the differing interfaces. A strong emphasis was placed on keeping designs simple, usable and intuitive.

When ideas were finalised the team were able to specialise in different areas of the project, some working on further research on advanced human computer interaction, specifically around the areas of: head up displays, gestures & smart watches/ glasses. This approach made the team considerably more effective and was advantageous once the full team had an understanding of the vision and direction.

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## APPROXIMATE KNOWLEDGE

# THE CONCEPT: OMNI-CHANNEL JOURNEY

"The future is omni-channel: a mix of all the different ways people like to shop, blended together but all saying the same things. This means in store, on the web, through mobile, TV and social media." (Eaglen, 2013).

## THE MARKET

The current retail environment sees greatly increasing user adoption of technologies for online retail needs, "by 2014, nearly everyone in western Europe will have access to a smartphone connected to the internet." (Eaglen, 2013) leading to a declining reliance on physical retailers with shopping phenomenons such as show rooming emerging. Show rooming is the concept of a customer entering into a retailer purely to 'touch and feel' a product and later make an online purchase for the price advantages.



## THE CHANNELS

1. Amalgamate online retail experiences with the retail channel
2. Amalgamate retail advantages with the online/home market channel
3. Target customers on the move

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## APPROXIMATE KNOWLEDGE

### THE TECHNOLOGIES

The Approach is achieved through use of 4 main technologies from tried and tested to cutting & bleeding edge.

All of the devices will work independently, but all devices are designed to integrate seamlessly to improve customer experience.

SMART WATCHES



GOOGLE GLASS



KINECT



SMART PHONE



Shopping list/ Wish lists are synced across all devices, and google glass and smart watches work as push notification centres to assist in-store and on-the-go experiences.

The approach is achieved through leverage of technologies such as Microsoft Kinect that already exist in the home and their gesture and imaging technology allowing users to virtually 'try on products' and push them to an integrated wish / shopping list to then view in store when is convenient for them.

*"60% of our communication is non verbal" - Edward T Hall, Social Anthropologist (Gu, 2012)*

A lot of the inspiration for gesture design of the Kinect interface is based on existing gesture interfaces as due to the relatively barren research on gesture interface design (Donovan, 2011). Customers are encouraged to use more natural communication methods and simple gesticulation for natural expression of meaning (Donovan, 2011). Based on gesture research, more simple 'low level' gestures are used to allow the product to be available to a range of users with differing technology backgrounds.

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## APPROXIMATE KNOWLEDGE

## FEATURE OVERVIEW

Feature	Description	Watch	Glass	Kinect	Phone
In store navigation	<ul style="list-style-type: none"> <li>• Direct the customer to products</li> </ul>	✓	✓		✓
In store scan and go	<ul style="list-style-type: none"> <li>• Allow customer to scan items as they shop</li> </ul>	✓	✓		✓
Push notifications and suggestions on the move	<ul style="list-style-type: none"> <li>• Provide weather based product recommendations</li> </ul>	✓	✓		✓
Easy pay methods (ApplePay, PayPal)	<ul style="list-style-type: none"> <li>• Remove barriers to payment</li> <li>• Assist in conversion</li> </ul>	✓		✓	✓
Recommended products	<ul style="list-style-type: none"> <li>• Help to increase average order value</li> </ul>	✓	✓	✓	✓
Synchronised shopping/wish list	<ul style="list-style-type: none"> <li>• Integrate with in store navigation</li> </ul>	✓	✓	✓	✓
Scanning barcodes	<ul style="list-style-type: none"> <li>• Product information</li> <li>• Similar products</li> <li>• In store product location services</li> </ul>	supported devices	✓	✓	✓

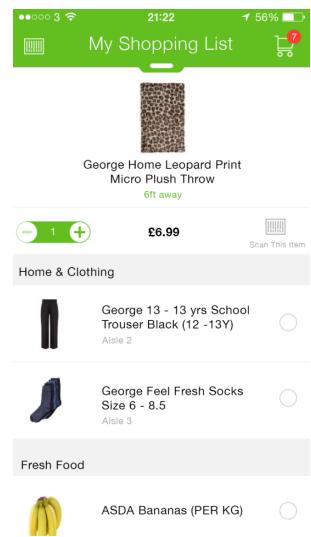
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## APPROXIMATE KNOWLEDGE

# FUNCTIONALITY BREAKDOWN

### IN HOME

With the Xbox Kinect application the user is able to virtually 'try-on' ASDA George clothes in an endless aisle format. The customer will be able to see all items available at the store and online, try them on, see reviews and see more information about the product before proceeding. Using Kinect's gesture control the user is able to navigate through the application. The app will encourage the customer to purchase or add the item to the customer's wish-list, which can then be accessed by the ASDA application at any location.

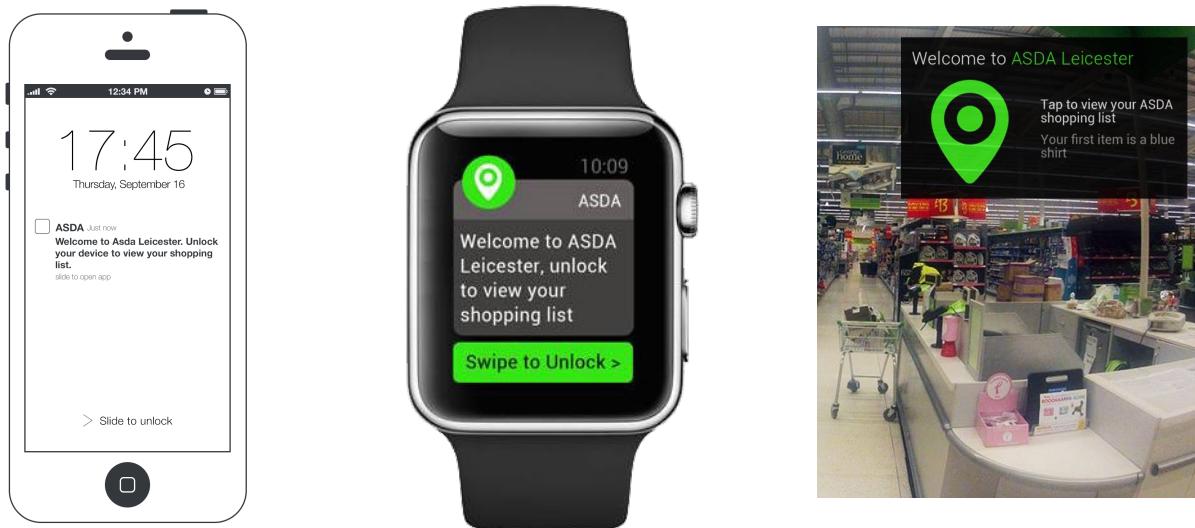


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## APPROXIMATE KNOWLEDGE

### ENTERING ASDA

Upon entering ASDA, the mobile application will connect to the entrance beacon, this will invoke a welcome notification on all of your connected devices. Once viewed/dismissed, the notification will disappear.



The notifications displayed on the mobile app will be native to the device's platform. The wireframe above depicts an iOS device, so a simple swipe gesture on the notification will open your shopping list within the Asda app.

On Smart Watches a similar notification is displayed to the user. A simple swipe gesture will open your shopping list within the Asda app.

Similarly, Google Glass displays a native alert notifying the user to view their shopping list. It also informs the user of the first item in their shopping list

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## APPROXIMATE KNOWLEDGE

### VIEWING YOUR SHOPPING LIST

You're able to view your shopping list across all of the three device categories outlined below. The shopping list feature proposed here is a completely location-driven concept. Using the beacons positioned in-store, the app will automatically re-arrange items in your shopping list based on the items distance from the user. The beacon technology also provides the user with accurate in-store directions, these can be viewed on the mobile device or supplementary device (Google Glass or Smart Watch).

The showcase panel displays information on the closest item in your shopping list; the app directs the user towards this item automatically. Once the customer reaches the product, the toolbar below the showcase panel slides down and enables the user to specify a quantity and actually scan the item using in-built barcode scanning feature. If the customer decides to 'impulse buy' (purchase an item not currently in their shopping list), they can do so by tapping the alternative barcode button on the navigation bar. Doing so will invoke the barcode scanning view which allows the user to scan single/multiple items. Discreet directions are also built into the mobile application, enhancing the user's single-device navigation experience.

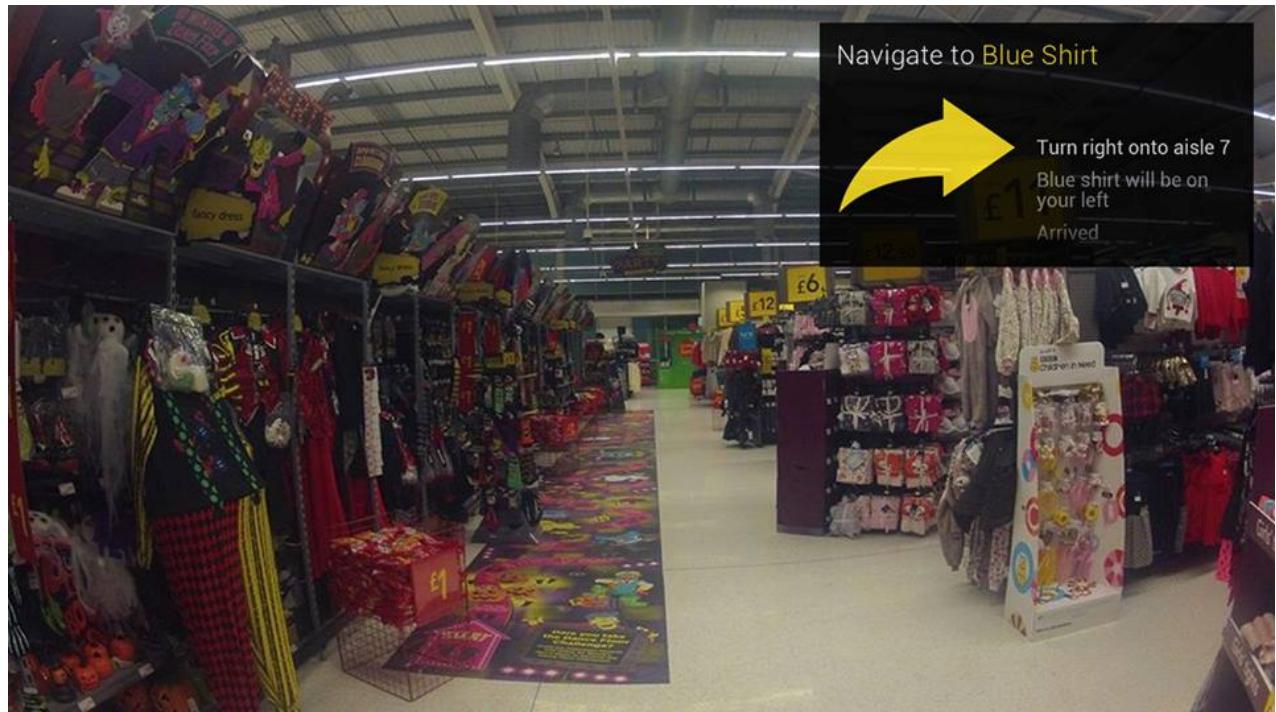


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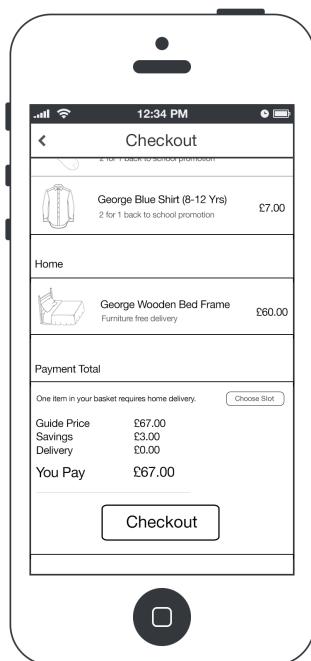
The shopping list can also be viewed on Google Glass via the mobile application. The Glass UI we have developed creates an immersive navigation experience, directions are displayed on the HUD and once you reach the item, a product information card is also displayed on the HUD. The customer is then able to scan the item using their mobile app or Google Glass.

The shopping list can also be viewed on a Smart Watch via the mobile application. The concept interface allows the user to view product information and provides in-store directions.



## APPROXIMATE KNOWLEDGE

### CHECKOUT



Items in your basket can be removed using a swipe gesture; the change will be reflected in the payment breakdown panel. If some items are only eligible for home delivery, a notification above the payment panel will appear notifying the user about this, they will be able to select a delivery address and slot later at the kiosk. Tapping the checkout button enables the user to swipe their device next to the NFC receiver at the kiosk, this transfers their basket details to the kiosk allowing them to specify their delivery options if necessary and/or make payment for their items. The customer has the option to pay using Apple Pay, Paypal, Credit/Debit card or coupon/voucher code. If they choose to pay with Apple Pay or Paypal, payment will be taken via NFC; alternatively, they have the option to pay with Cash or by card using the chip and pin reader.



Payment can also be taken on the Smart Watch via NFC if the user chooses to pay via Apple Pay or Paypal.

## APPROXIMATE KNOWLEDGE

## COSTINGS

	Cost (£)	Time (days)	Total
<b>Prototyping</b>			
Kinect	900	10	9,000
Google Glass	900	10	9,000
Smart Watch	750	10	7,500
Mobile Application	600	10	6,000
			<b>31,500</b>
<b>Development and testing</b>			
Kinect	1,500	25	37,500
Google Glass	1,500	25	37,500
Smart Watch	1,250	25	31,250
Mobile Application	1,000	25	25,000
			<b>131,250</b>
<b>Implementation</b>			
Kinect	750	5	3750
Google Glass	750	5	3750
Smart Watch	750	5	2500
Mobile Application	750	5	2500
			<b>12,500</b>
<b>Marketing</b>			
Brief	250	1	250
Pre-production	250	1	250
Filming	500	2	1000
			<b>1,500</b>
			<b>£176,750.00</b>

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# ACCESSIBILITY CONSIDERATIONS

Below are a sample of available accessibility options to provide a more holistic & inclusive experience based on professional guidelines such as W3AG (WCAG, 2008).

### KINECT FACE BASED GESTURE RECOGNITION SUPPORT

To provide accessibility for disabled user face based technologies would be used, enabling physical disabled users to authenticate using token technologies providing security and confidence in a secure login method. Face based gestures can also be supported for the physically disabled to ensure that users who are largely confined to the home or a wheelchair are able to try on products and order them straight to the home using simple face based gesture interfacing (Lee, 2014).

### COLOUR BLIND SUPPORT

Across the devices, settings are applied to allow the colours to be manipulated based on the users preferences and abilities. For google glass it is also argued that a single colour set is usually best to provide the least intrusive, most readable experience & the simplistic design is embodied in our mocks and wireframes (Mortensen, 2014).

### VOICE SUPPORT

All the devices chosen support voice activation for users that would have difficulty navigating across a GUI. This however is not the preferred method for our original interfacing as many users have expressed frustrations with voice support, especially in the context of a public place (Mortensen, 2014).

### DEVICE VIBRATION

To enhance the accessibility for the smart watches, the device will vibrate when turn-by-turn directions are being presented to the customer. Mobile devices will also support this accessibility feature in case the impaired user does not own a smart watch.

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