Integration Test Plan for BASS (Blind Accessible Shopping System).

Authors: Dave Becker, Sean Durkin, Micah Garnett, Brian McBurney, Pat Mulhern

1 Integrateable Componenets

1.1 Store Database

The Database must satisfy the following interactions:
1.) Be correctly populated with store information including: product information, RFID tag information, and planogram information
2.) Stored procs must be able to query the correct information from the database. Testing that the database is correctly populated is in part done by writing the stored procs necessary to ascertain database information. Comparing the returned results from the stored procs to the information stored in the database in part validates the database structure.

1.2 Barcode Reader

The Barcode reader must satisfy the following interactions with software
1.) Correctly scan a product - code must be written that notifies the user what product has been scanned. To this end, code must be able to determine what UPC barcode the barcode reader has scanned. Once this is done, the UPC barcode is a unique identifier in the products table of the database. There is a 1-1 relationship between a unique product and a UPC barcode. Thus, once it is verified that the barcode reader scans the correct barcode, it is verified that the
correct product can be relayed to the user.

1.3 RFID reader

The RFID reader must satisfy the following interactions with software:
1.) Ability to read an RFID tag - test code must be written to verify the RFID reader can read a single tag.
2.) Ability to continually read an RFID tag - code must be written that continually polls the RFID reader to see what, if any tags, have been read.
3.) Code must be written to handle when the RFID reader is not reading tags. This happens when the user walks off the directed path. Although not quite an RFID reader test, the code that waits for a response from the RFID reader must consider what actions to take when there has been no response in the appropriate amount of time.

1.4 Wireless Mic / Voice Recognition

The bluetooth wireless mic must satisfy the following interactions with software:
1.) Read a command from the user - code must be written that allows the mic to understand certain voice commands from the user.
2.) Respond correctly to a user command - code must be written that tests if the proper responses are generated once the voice commands are interpreted.

Voice must satisfy the following requirements: 1.) ability to communicate to the user: read directions, describe the log in screen, respond to user requests - code must be written to test that the correct voice response are given to various actions.
2 Complete System test

A true complete system test involves the following:
1.) populating the database with store information
2.) creating a user shopping list that has a wide array of products, located at various points throughout the store
3.) Having the user walk the path specified by voice output.
4.) Assume the user will walk off the path once or twice, or instruct them to walk off the path once or twice
5.) Have the user correctly scan items with the barcode reader
6.) Instruct the user to try various voice commands and ensure the proper results and read back to the user
7.) Test how successful the user is in obtaining their products by walking the specified path