WEBRTC FOR ONLINE STORES

James Ni

BUSINESS PERSPECTIVES

- Online Stores/Shopping
  - Increasingly becomes the main stream shopping method.
    - Pros: Easy, convenient, price and variety choices etc.
    - Cons: lack of interactive product demo etc.
- Introducing webRTC into online store
  - natural accessibility through store web pages
  - On-demand real-time product demo/service
  - Simultaneous multi-party accessibility (shopping with friends, exchange opinions on real-time etc.)
  - Any-time, any-where accessibility (via interworking with wire-line/wireless services)
- webRTC for online stores as a service
  - Integrated with wire-line / wireless services (advantage over online stores‘ own implementations)
  - Call based operation model: real-time, on-demand, interactive, any-time, any-where, any-device, multi-party access etc.

DESCRIPTIONS

Web real time communication (webRTC) is a new technology defined by the World Wide Web Consortium (W3C) to enable browser to browser applications for voice calling, video chat and P2P file sharing without plugins. Integrating webRTC with existing web applications and traditional wireless and/or wire line network infrastructure and services yields new valuable solutions and applications to all parties in the networking world including customers, network providers, web content providers and so on.

The system and method described here is a solution that combines webRTC with web applications and wireless and/or wire line network infrastructures for real time online interactive product demonstration applications. A very typical usage of this system and method is introducing webRTC based real time interactive audio and/or video product demonstration into online shopping stores. The usage of such a system and method can also be extended into other similar application cases.

A brief description of this online shopping real time interactive audio/video product demonstration example is as follows. In the current typical online shopping applications, online stores normally post their product information such as text descriptions, pictures/drawings, or video clips in web pages allowing potential customers to view. Although such pages can provide a lot of information that customers need, it is still not enough to some customers comparing to their real store shopping experiences in which customers can always have the in-depth personal touching of the real products in person. Adding on-demand interactive audio/video product demonstration capability to online shopping web pages can definitely be a great supplement even though it is still not as good as having the real product in hands. Even though such capabilities can also be achieved by using other different technologies or solutions, webRTC is the only way that is native to general web browsers and has standard APIs available to general public users for developing their own customer space web applications on existing networking infrastructures. And furthermore, if integrated with existing IP, PSTN and PLMN infrastructures, webRTC based solutions will bring in much more capabilities and values.

As shown in the following online shopping example picture, the system and method described in this petition can be summarized in the following points.

DESCRIPTIONS

(1). When a customer surfs an online shopping webpage (e.g. verizon.com), finds the desired product and wants to know more details about it interactively after viewing the description texts and/or pictures and/or video clips. He/she clicks the “contact sales representatives” button on the web page to initiate a webRTC call. This call can be a text chat and/or an audio call and/or a video call.

(2). The web server receives the request and connects the customer to one of the sales representatives in showroom or store through his/her smartphone or tablet or a computer that runs a webRTC capable browser.

(3). If connection is made through a computer that runs a webRTC capable browser, the computer can further dispatch video/audio connection to the targeted sales representative through a webcam hub/switch which switches the video/audio connection amongst multiple webcams that each of them is assigned to one sales representative. This means that one webRTC capable browser runs in one computer can have its audio/video source switched from one to another on request amongst multiple sales representatives/webcams. In a typical example implementation, the webcam can be embedded into the sales representative’s name plate.

(4). If the webRTC connection is made to a sales representative’s smartphone via public land mobile network (PLMN) audio/video phone service, a webRTC gateway is required to handle the webRTC signaling to/from PLMN signaling (e.g. IMS) translation and the media interworking between the PLMN and internet if needed.

(5). If the webRTC connection is made to a sales representative’s smartphone or tablet through PLMN data service and the webRTC capable mobile browser or a dedicated mobile application, then direct end-to-end webRTC signaling can be used to establish the required media path, both using the data service data pipe. In this case, no signaling and media interworking functions are needed. Or alternatively, signaling and/or media interworking with PLMN (e.g. IMS) as described in (4) can be invoked to introduce PLMN call features etc. into the call. The signaling and/or media interworking with PLMN (e.g. IMS) as described in (4) can also be invoked if smartphone or tablet uses PLMN signaling (e.g. IMS).

DESCRIPTIONS

(6). If the webRTC connection is made to a sales representative's smartphone or tablet through WiFi and broadband internet service and the webRTC capable mobile browser or a dedicated mobile application, direct end-to-end webRTC signaling can be used to establish the required media path. In this case, no signaling and media interworking functions are needed. Or alternatively, signaling and/or media interworking with PLMN (e.g. IMS) as described in (4) can be invoked to introduce PLMN call features etc. into the call. The signaling and/or media interworking with PLMN (e.g. IMS) as described in (4) can also be invoked if smartphone or tablet uses PLMN signaling (e.g. IMS).

(7). The connection between webcam and webcam hub/switch can be any types of wireless (e.g. WiFi, Infrared, Bluetooth etc.).

(8). The connection between webcam and webcam hub/switch can also be any types of wired connections (e.g. Ethernet, optical fiber, USB, RS323 etc.) .

(9). The assigned sales representative, when connected through webRTC to a customer, then describes and/or shows the real product to the customer using audio and/or video capability of the webRTC connection in real time via smartphone or tablet or webcam.

(10). When the customer is satisfied, he/she can then put the online order, and

(11). the product order received by the web server can then be forwarded to the inventory management server for arranging the shipment.

(12). The product is shipped through the existing online shopping channels to customer.

(13). The equipment used by a customer to do online shopping through webRTC enabled online store web pages can be a computer, a smartphone, a tablet or any other types of devices that is capable of doing similar jobs.

WEBRTC FOR ONLINE STORES/SHOPPING ARCHITECTURE