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## RESOLVING COOKING INSTRUCTIONS FROM FOOD PACKAGING

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## **RESOLVING COOKING INSTRUCTIONS FROM FOOD PACKAGING**

### **ABSTRACT**

The invention discloses a smart appliance cooking system. The smart appliance cooking system can be used to retrieve cooking instructions from a packaged food item and then cause a smart appliance to cook the food item according to the cooking instructions. The smart appliance cooking system detects that a food item has been placed into a cooking appliance. The system resolves cooking instructions for the food item from the packaging of the food item. Subsequently, the system causes the cooking appliance to cook the food item according to the resolved cooking instructions.

### **PROBLEM STATEMENT**

Packaged food and beverages have become increasingly popular. Packaged food and beverages refer to food items which are partially or fully cooked and are packaged in special packaging or containers which allow them to be directly put into a cooking appliances such as microwaves or ovens. The packaging of the food item also details cooking instructions for the food item. These cooking instructions can be very complicated such as “Microwave on 60% for 5 minutes, let it sit for 2 minutes, then microwave on high for 3 minutes.” Proper cooking based on the instructions also depend on the capabilities of the cooking appliance, e.g., the power and size of the microwave or oven. Moreover, the instructions can be printed in a language which is not native to the user. As a result, users may not properly follow the cooking instructions and end up improperly preparing the food. An advanced system for cooking packaged foods is described.

## SMART APPLIANCE COOKING SYSTEM

The systems and techniques described in this disclosure relate to a smart appliance cooking system. The system can be implemented for use in an Internet, an intranet, or another client and server environment. The system can be implemented as program instructions locally on a client device or implemented across a client device and server environment. The client device can be any electronic device including cooking appliances such as a microwaves, ovens, toasters, stoves, ranges, etc.

Fig. 1 illustrates an example method 100 for automatically cooking a food item placed in a cooking appliance. Method 100 can be performed by a cooking appliance implementing a smart appliance cooking system.

The smart appliance cooking system detects a food item placed into a cooking appliance (block 110). Examples of such cooking appliances includes microwaves, ovens, toasters, and any other electronic appliance which has the ability to cook food items. The cooking appliance can be fitted with different sensors, e.g., weight sensitive sensor plates, infrared sensors, motion sensors, or built-in cameras, that are capable of detecting when the food item has been placed into the cooking appliance. These sensors detect when a food item has been placed inside the cooking appliance and accordingly communicates the information to the smart appliance cooking system. Alternatively, the cooking appliance can simply have a dedicated button which can be used to instruct the system to resolve cooking instructions for the food item. The button can be a hard button or a soft button depending on the mechanism the cooking appliance uses for a user input.

After detecting that the food item has been placed into the cooking appliance or upon receiving the dedicated button input, the system resolves cooking instructions for the food item from a packaging of the food item (block 120). In some instances, the system may first detect whether the food item is packaged before attempting to resolve cooking instructions. If no packaging is detected, the system can terminate method 100. The system checks the packaging of the food item by scanning the packaged food item. The packaging can include embedded information that describes or points to a resource that describes the cooking instructions for the food item. The cooking instructions can be the power level of the cooking appliance required for cooking the food item, the time required, etc. The system can communicate with a scanner, e.g., that is embedded in the cooking appliance or separate from the cooking appliance, to resolve the embedded information. For example, the packaging can include a printed QR code or some other type of barcode. The system can communicate with a barcode scanner or camera, e.g., that is fitted in the cooking appliance, to scan the QR code or barcode and receive the information encoded by the QR code or barcode. In another example, the packaging can include an RFID tag. The system can communicate with a RFID scanner installed in the cooking appliance to read the RFID tag and receive the information electronically stored in the RFID tag. As a further example, the packaging can include a NFC tag. The system can communicate with a NFC reader associated with the cooking appliance to read the information on the NFC tag and receive the information.

After scanning the packaged food item, the system retrieves the cooking instructions for the food item. The embedded information can contain information that directly describes the cooking instructions. Alternatively, the embedded information may provide a path or pointer,

e.g., website uniform resource locator, to retrieve the cooking instructions. The system can then retrieve the cooking instructions by following this path or pointer. In one example, the system can establish a communication path with a server in order to retrieve the cooking instructions pertaining to the scanned packaged food item based on the path or pointer.

The retrieved cooking instructions can be specific for the cooking appliance and can include instructions to cook the packaged food item. The cooking instructions would include the mode of the cooking appliance which needs to be set such as defrost, grill, bake, convection, time required for the cooking the packaged food item, the power level to be set up, etc. One example of these instructions can be, “cook at 80% power for four minutes, then let it cool for one minute, and then cook it at 50% power for the next three minutes.” Alternatively, the retrieved cooking instructions can be generic and the system can modify them according to the cooking appliances’ capabilities to perform the cooking of the packaged food item optimally.

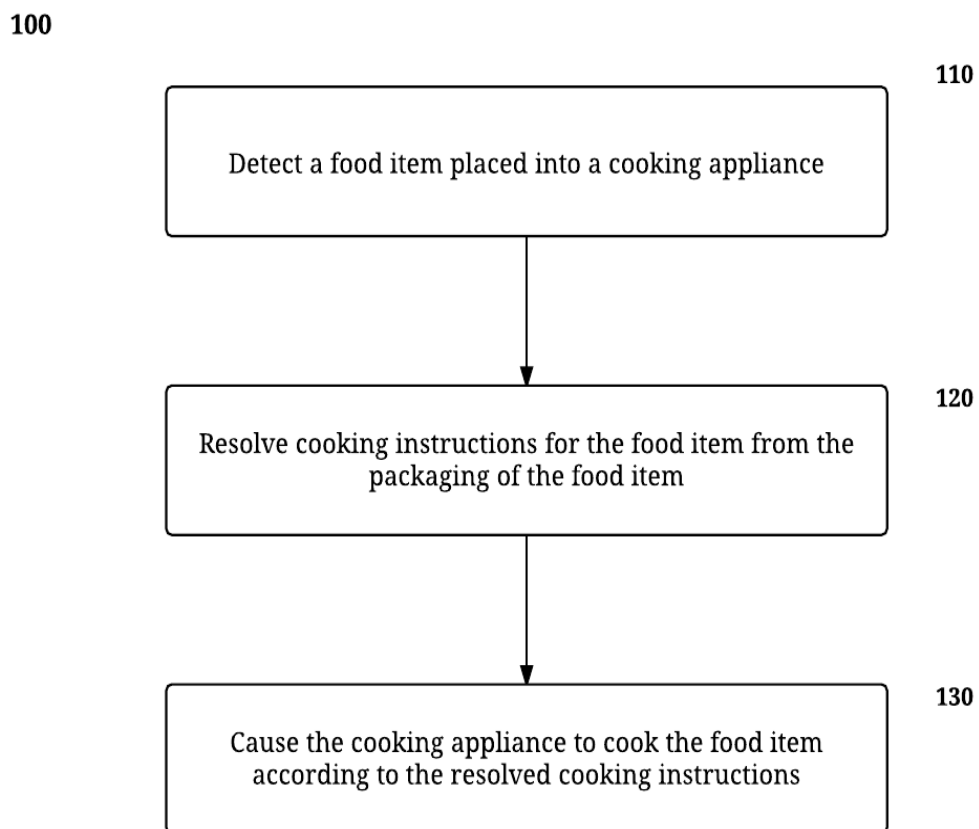
The system causes the cooking appliance to cook the food item according to the resolved cooking instructions (block 130). The system would cause the cooking appliance to cook the food item based on the parameters in the cooking instructions. For example, the cooking instructions will instruct the cooking appliance of the power level and amount of time to cook the packaged food item for.

FIG. 2 is a block diagram of an exemplary environment that shows components of a system for implementing the techniques described in this disclosure. The environment includes client devices 210, servers 230, and network 240. Network 240 connects client devices 210 to servers 230. Client device 210 is an electronic device. Client device 210 may be capable of requesting and receiving data/communications over network 240. Example client devices 210 are

microwaves, electric kettle's, stoves, embedded systems, and other devices 210' that can send and receive data/communications over network 240. Client device 210 may execute an application, such as a web browser 212 or 214 or a native application 216. Web applications 213 and 215 may be displayed via a web browser 212 or 214. Server 230 may be a web server capable of sending, receiving and storing web pages 232. Web page(s) 232 may be stored on or accessible via server 230. Web page(s) 232 may be associated with web application 213 or 215 and accessed using a web browser, e.g., 212. When accessed, webpage(s) 232 may be transmitted and displayed on a client device, e.g., 210 or 210'. Resources 218 and 218' are resources available to the client device 210 and/or applications thereon, or server(s) 230 and/or web page(s) accessible therefrom, respectively. Resources 218' may be, for example, memory or storage resources; a text, image, video, audio, JavaScript, CSS, or other file or object; or other relevant resources. Network 240 may be any network or combination of networks that can carry data communication.

The subject matter described in this disclosure can be implemented in software and/or hardware (for example, computers, circuits, or processors). The subject matter can be implemented on a single device or across multiple devices (for example, a client device and a server device). Devices implementing the subject matter can be connected through a wired and/or wireless network. Such devices can receive inputs from a user (for example, from a mouse, keyboard, or touchscreen) and produce an output to a user (for example, through a display). Specific examples disclosed are provided for illustrative purposes and do not limit the scope of the disclosure.

**DRAWINGS**



**FIG. 1**

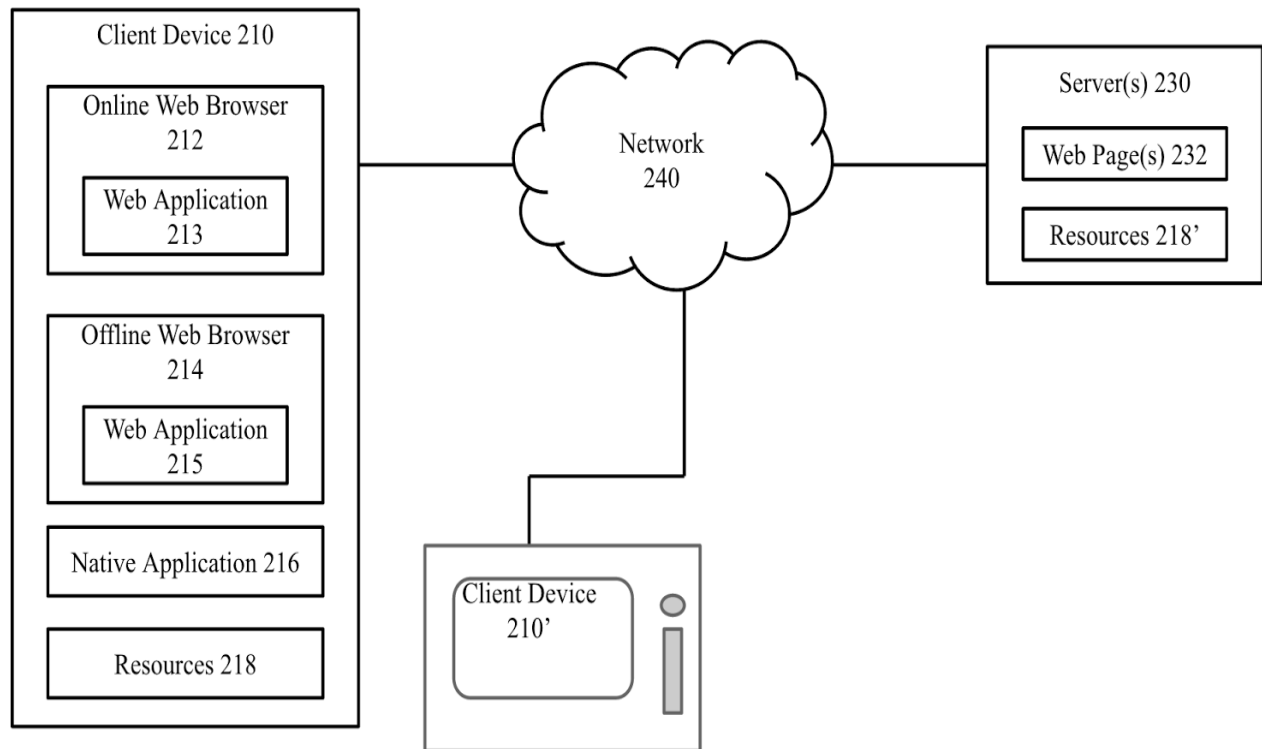


Fig. 2