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(54) Title: SYSTEM AND METHODS FOR DATA SECURITY USING DISTANCE MEASUREMENT

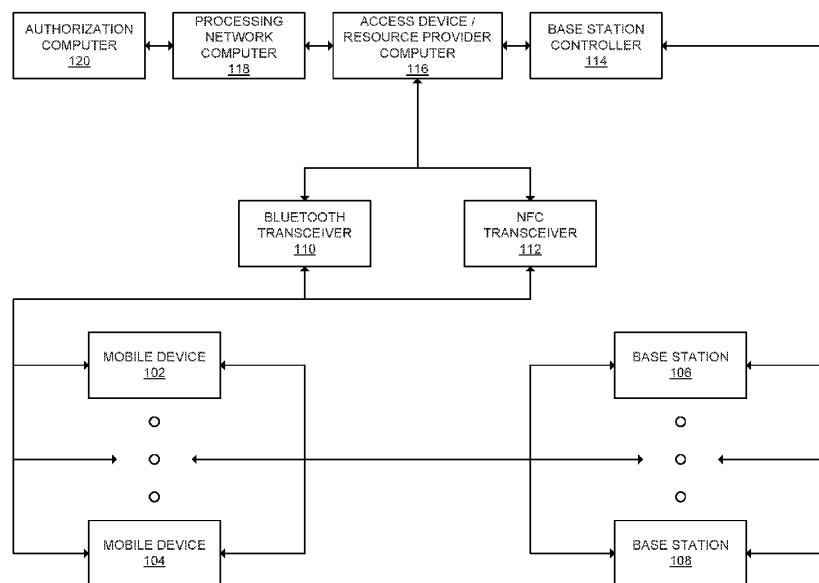


FIG. 1

(57) Abstract: Systems and methods for securing data transmissions using distance measurements are disclosed. A mobile device (such as a smart phone) and a base station can use ultra-wideband technology to determine the distance between the two devices. The distance measurements produced by the mobile device and the base station can be compared, directly or indirectly by the mobile device, the base station, and/or an access device to determine whether the mobile device is present at an access device or if the mobile device is not present at the access device (as expected during a relay attack). If the mobile device is not present at the access device, the access device can prevent or cancel an interaction based on the data transfer (e.g., opening a locked door of a secure building in response to receiving an access credential from the mobile device).

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