CONTROLS

Thermostat Control
- **Breakdown:** Present in a one corner of the house.
- **Opportunity:** Make the thermostat as a Wi-Fi control which will help users use it from anywhere.

Shower System
- **Breakdown:** Lacks clear understanding of the knob system, making it difficult to use.
- **Opportunity:** Mark the labels to ensure hassle free use or recreate in a way that user can use intuitively without a manual.

Camera Controls
- **Breakdown:** User's finger covers the flash a lot of time.
- **Opportunity:** Reposition to allow the user to have a good grasp of the camera.

PS2 Cable
- **Breakdown:** The cable's end is round in shape, which makes it difficult to put it right in one go.
- **Opportunity:** Make the plug and jack round in shape with symmetrically distributed pins.

Universal Remote
- **Breakdown:** Use limited to electronic entertainment devices.
- **Opportunity:** Using wired thermostat adapters in the walls to control the thermostat via the remote.

Electricity Socket
- **Breakdown:** International two pin adaptors becomes difficult as they keep falling off.
- **Opportunity:** Make the adaptors a bit inclined in the direction of the wall to prevent the fall off.

Countertop Blender
- **Breakdown:** Difficult to clean, things get stuck in the bottom near the blade.
- **Opportunity:** Redesign the entire system to make easily cleanable and detachable jar.

ATM Machines
- **Breakdown:** Threat of password being stolen as there is nothing encasing the keyboard.
- **Opportunity:** Use Biometric identification for all transactions and other features to make it more secure.

Pump Bottle
- **Breakdown:** Difficult to get the last of liquid from the bottle.
- **Opportunity:** Modify the shape of the bottle to enable all the liquid to collect at the bottom.

Car Visors
- **Breakdown:** The dimensions of the visors do not provide complete protection from sun.
- **Opportunity:** Modify the dimension and design to allow maximum protection and take up minimum space.

Pedestrian Crossing System
- **Breakdown:** The information signals are confusing and difficult for a new user to understand.
- **Opportunity:** Use more simple signals, and make the directions for use clear.

Laptop CD Tray Opening System
- **Breakdown:** Difficult to locate the tiny button that opens the CD Tray
- **Opportunity:** Reposition the button and lay it out with the keyboard of the laptop.

ATM : IDEAS

1) Cover for Keyboard: The cover will prevent someone else from seeing the PIN entirely.

2) Fingerprint Scanner: Scans fingerprint and matches it with the information on the card to authorize transaction, no PIN required.

3) Wall On Left and Right Side: Putting up a temporary wall around the user will help ensure that nobody can see his PIN.

4) Platform for helping disabled people access ATM: Platform that elevates on the push of a button can be used to help people who use wheel chairs.

5) Prevent from being Hacked: A detection system that senses and sends an alert -- and/or takes the ATM offline -- when anything is attached to the card reader, keypad or fascia;

6) Support transaction when user uses NFC devices instead of a traditional Card: Users can use their smartphones to carry out transactions. But still have to enter the pin.

7) Removing Paper receipt Generation System: Removing the receipt system and using existing receipt email system.

8) Killing the user session is the user moves away and forgets to cancel: Sensors can be used to track movement, if nobody's there then automatically cancel the transaction.

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SOLUTION

Original Design

Keyboard

New Design

Keyboard Cover

NFC Receptor

Presence Sensor

Fingerprint Scanner

Detection system present with hardware.

Combining the Ideas	Breakdowns	How the problem has been solved...
• **Accepted:** i. NFC Receptor ii. Keyboard Cover iii. Fingerprint Scanner iv. Presence Sensor v. Hack Detection System	Everybody could see what the user was typing	Keyboard Cover prevents anybody from seeing the PIN.
• **Rejected:** i. Removing receipt generation system (many user still use receipts to maintain accounts) ii. Using walls to ensure privacy. (Keyboard Cover did the job) iii. Platform for Wheelchair (no need since ATM aren't positioned that high)	User forgets to cancel transactions and goes away.	Presence Sensor automatically cancels the transaction if user moves away.
	ATM took no action on being hacked	Detection System takes the ATM offline if hacking is detected
	Need to remember PIN.	ATM card and Fingerprint combination can be used to do transactions.

How The User Will Use The New ATM ?

Use phone or NFC tags along with the PIN.

Using finger instead of the PIN with cards and proceed as one normally does

Insert the card and then type-in the PIN to proceed.

If one forget to cancel the session and move away, the ATM will do it.

Detection System will shut ATM if hacking occurs.

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