

An Example of The Appliance Interface Type

The Ariston Dishwasher shown in Figure 1 is an example of Appliance Interface. It is designed to automate the process of cleaning dishes and cookware. It offers a convenient, time-saving solution for individuals, families, and restaurant workers. The dishwasher typically comes equipped with various wash programs for different types of dishes and levels of soiling.



Figure 1: The Ariston Dishwasher Machine



Figure 2: The Ariston Dishwasher Interface

As shown in Figure 2, the dishwasher interface consists of buttons and a small screen. The "P" button's function is to select the wash program. The dishwasher supports nine wash programs. The user needs to press the button multiple times corresponding to the desired program number. For instance, press once for the first program, twice for the second, and so on. The bad aspect, is that the user needs to recall each program's number and function. Additionally, if the user overshoots the desired program number, he must continue until the list is repeated. This burdens the user, and leads to boredom and dissatisfaction, which impact user experience goals. From a design principles standpoint, it violates the visibility and affordances principles as nothing indicates the user must press multiple times to select a program. Moreover, on first use, the user can only determine the suitable program after consulting the user manual, contradicting learnability.

Here are some suggested solutions. Display the program's name during selection. That will alleviate the user's memory load. Implement two navigation buttons, "Next P" and "Previous P." to quickly correct any overshooting without needing to cycle through the entire list again. Also, this solution aligns with visibility and affordances principles because the presence of these buttons shows the user how he will use them. By implementing these solutions, we address usability, user experience, and design principles to ensure a satisfied user.

An Example of The Robot Interface Type

The DLC Smart Robotic Vacuum Cleaner is an example of a domestic robot. It is designed to automate the cleaning process, to efficiently clean the home without needing manual intervention. The vacuum cleaner serves homeowners and those seeking an advanced cleaning solution.

As shown in Figure 1, the interface of the vacuum cleaner consists of a power button with a small indicator light that illuminates when the robot is turned on. A drawback is that activating the vacuum cleaner requires more than pressing the top power button. The user must also activate the main button underneath the vacuum cleaner (Figure 2). That contradicts the visibility principle, impeding learnability and making the user feel stupid, which contradicts user experience goals. Another issue is that the user must manually empty the dirt bin and return the robot for charging. This signifies that the cleaning process is not entirely automated. Therefore, it violates the effectiveness and leads to user dissatisfaction, contradicting usability and user experience goals. Furthermore, the user is limited to controlling the robot only through a mobile application, which may be inconvenient if the user prefers voice commands. That affects usability and user experience goals, as it lacks good utility and needs to be more helpful.

The proposed solutions include repositioning the main power button to the sides for improved visibility to the user. Additionally, implementing an automatic docking and charging platform equipped with debris disposal capabilities will enable the robot to autonomously handle both recharging and debris removal without user intervention. Finally, integrating a microphone feature will facilitate user interaction through voice commands. These solutions collectively aim to significantly enhance usability and user experience, resulting in a more streamlined and user-friendly cleaning solution.



Figure 4: The Underside of the Vacuum Cleaner

References:

- 1- من برفو في جدة الدمام DLC-32100 تسوق اونلاين مكنسة كهربائية نكية بتصميم روبوت مراكز برفو (n.d.). والرياض أفضل الأسعار✓ تسوق آمن✓ شحن سريع✓ الدفع عند الاستلام الدولي. <https://tinyurl.com/mrx622ss>