



A intuitive washing machine interface
Group project
5 weeks | 2020

Designed By
Sumeet Singh



Introduction

OneTouch, designed as a classroom project, is an interface that reduces human cognitive load and choice overloading. The asymmetric display panel sits within a notched out

section of the washing machine body. OneTouch, with its simple, intuitive workflow, creates a better-orchestrated user experience.

How was OneTouch born?

Created from the idea of stripping a design down to its essentials and taking inspiration from a human finger, OneTouch was born.

The asymmetric Display Panel and ergonomically designed Control Knob make it an inclusive design; the knob requires smaller coordination of fine motor skills.

How is it different?

The interface has main touch tactile buttons, making it clear and simple for the user. The center Knob Display hosts various icons and text notifications that can act as an input cum feedback screen.

The colours are used to create high contrast with the machine, giving users an enhanced readability experience and visual satisfaction.



Discover



- User Research
- Market Study
- Task Flow Analysis
- User Journey Mapping
- Information Architecture
- Heuristic Analysis

Define



- Personas
- Problem Identification
- Design Requirement
- Design Brief

Design



- Ideation
- Concept Development
- Information Architecture
- Task Flow
- Low Fidelity
- Design System
- High Fidelity
- Context Renders
- Prototype

Context

Who are we designing for?

People who are intermittent users

Pool of audience

Family members

Fragmentation of target user

1. Expert user
2. Intermittent user

We made a conscious decision to design for the intermittent users.

As the expert users tend to have high adaptability and learnability, hence we choose to focus on the intermittent users.

User Persona



Supriya Joshi

Expert user
Housewife

32 years
Female
Pune, Maharashtra
Higher middle class
Post graduate in economics

Background

- Married to a software engineer.
- Has two kids.
- Loves to do household chores, look after family and the house.
- Is after keeping everyone disciplined.
- Loves to keep home clean and aesthetically good.

Pain points

- A lot of functions on the machine unnecessary .
- Does Not use the temperature control function.
- Asks kids if finds difficulty in technology.
- Gets irritated when clothes have washing Machine dirt stains on them after wash.



Rahul Shah

Intermittent user
Student

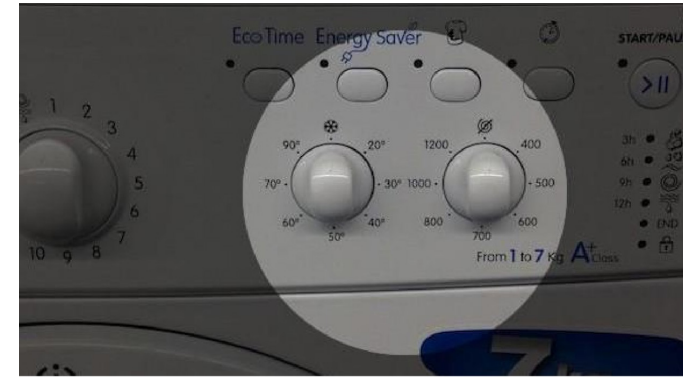
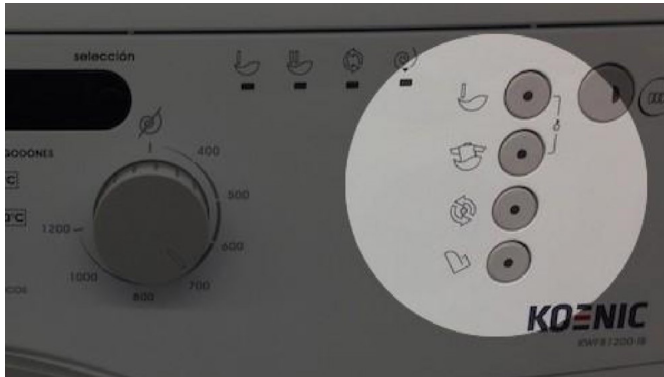
19 Years
Male
Ranchi Jharkhand
Higher Middle Class
Studying Engineering 2nd Yr

Background

- Loves electronic gadgets.
- Loves Gaming.
- Tech Savvy.
- Is well informed about the latest technology and gadgets.
- Keeps interest in building, repairing remaking various electronics.
- Plays Cricket, football.
- Is quite messy

Pain points

- Confusing.
- Too many options.
- Doesn't understand them.
- Some symbols are hard to understand.



Problems

Incomprehensible Interfaces

Strenuous User Task Flow and Layout

Lack of readability and intuitive usage

HMI solutions

The interface will not overload the user's cognitive, visual, auditory, tactile, or motor limits

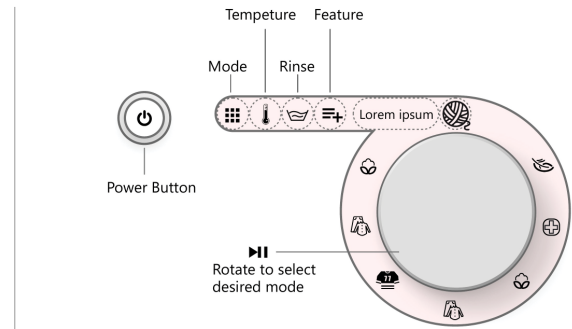
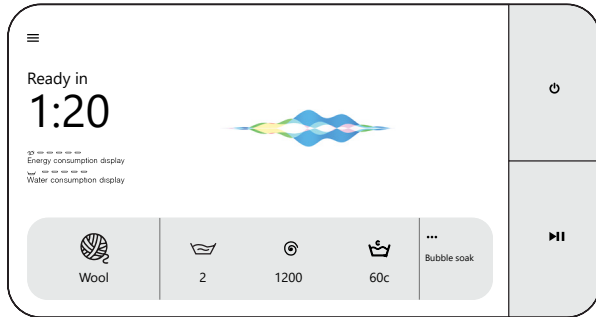
The interface will not show irrelevant or rarely needed information since it decreases efficiency.

The interface will communicate as efficiently as possible and behave in a manner such that users can accurately predict what will happen next.

Design Brief

To design the future of washing machine interaction which improves the visibility of the modes hence reducing human cognitive load and choice overloading.

Concept Interface



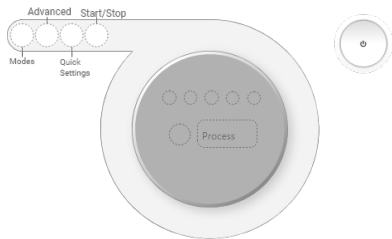
Selected Concept

Concept Detailing Low-fidelity

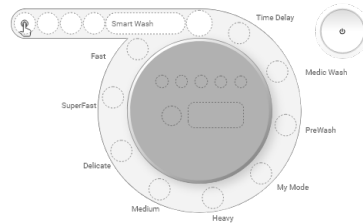
The prototype was made, with specific features and functionalities before the prototype was created. Each screen prototype was created with annotations and rationale behind with feature.

Particular areas of focus were

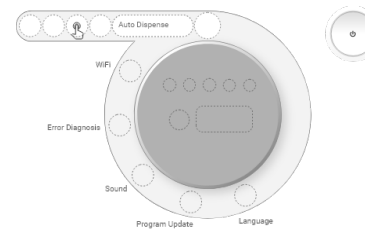
1. Level of functionality and options available
2. Sequential process
3. Clarity of instruction



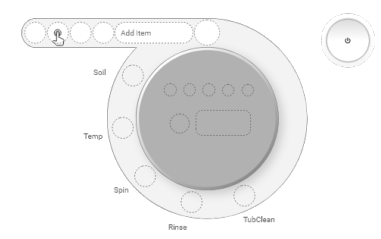
Home Screen



Mode



Quick Settings



Advanced

**Information architecture
of machine interface**

In the new information architectures, we tried to have a balance between making the architecture vertically and horizontally smaller while giving access to few important

tasks special independent buttons of their own. Hence making the task flow smaller and initiative.



* The My mode is an option which allows user to make his own mode .

A a 1

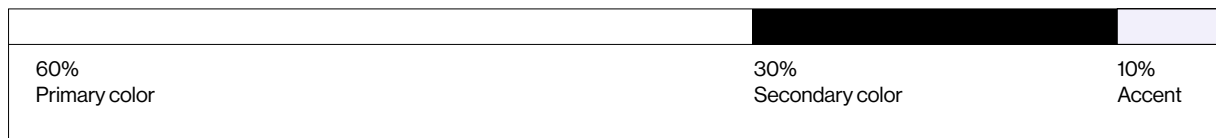
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Poppins Regular

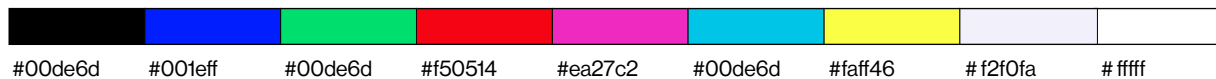
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Poppins SemiBold

Balance of colors

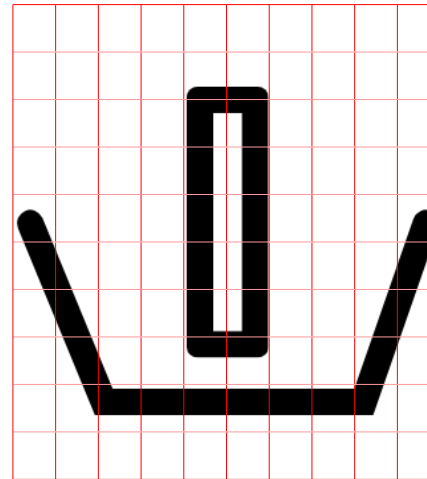
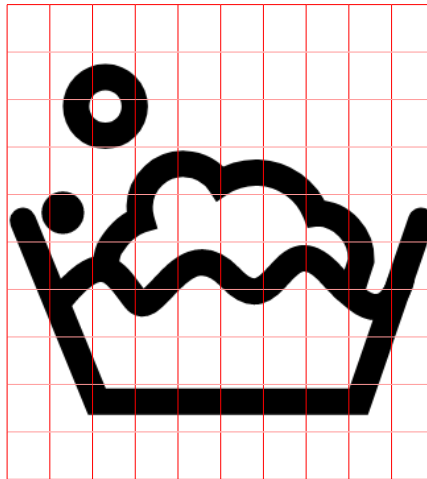
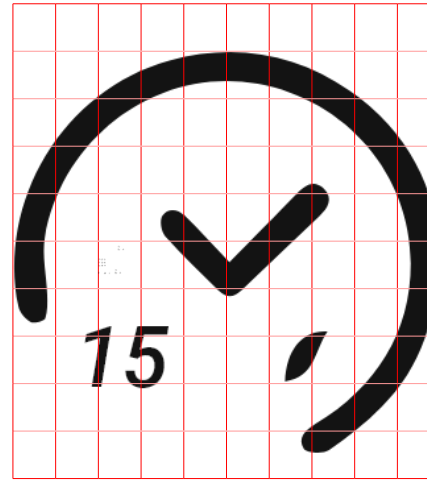
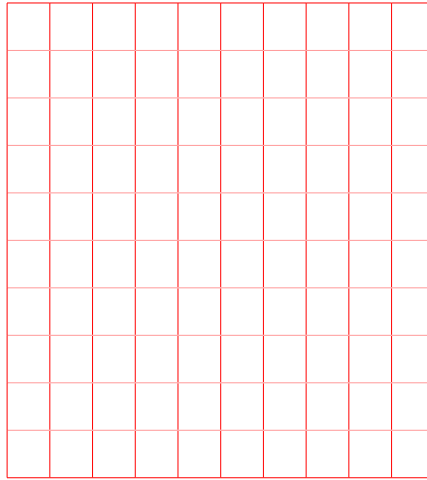


Accent color palette



- Main color for CTAs
- For text
- For background

Pictograph



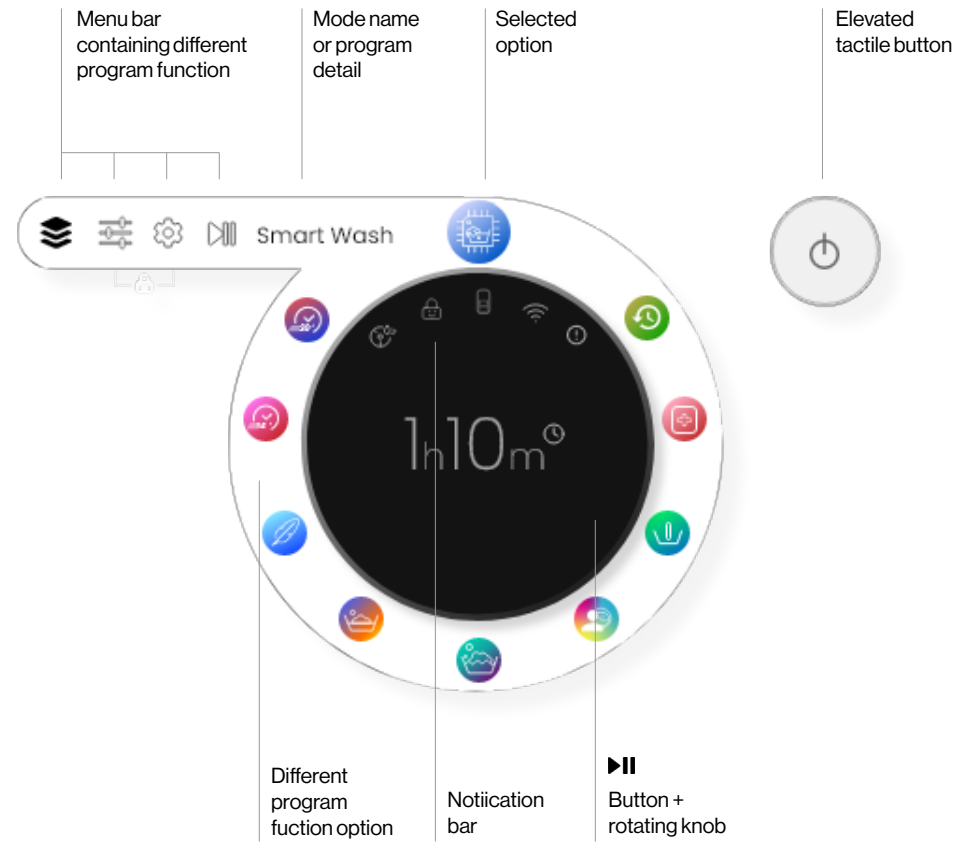


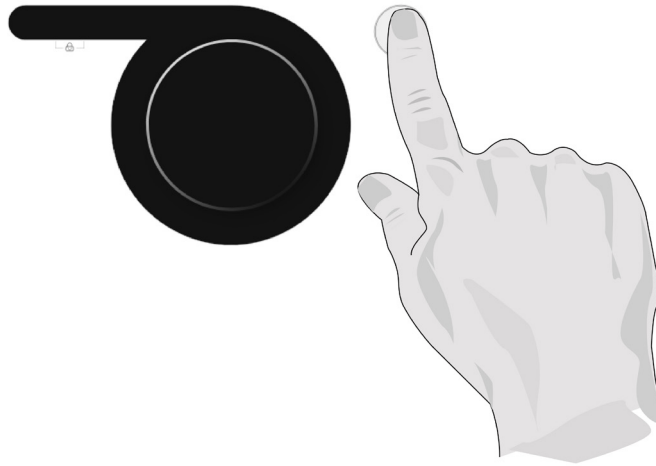
(1)

(2)

1. The outer Display ring has different Floating action buttons for the 4 main icons buttons which are on the horizontal display (Mode, Advanced, Quick Settings, and Play/Pause).
2. The centre Knob display hosts various icon and text notifications (Tub cleaning, Child Lock, Detergent, App Connection, and Servicing).

Anatomy of OneTouch



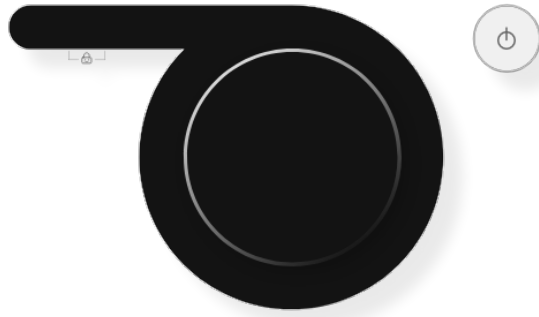


Press the power button to switch On.



Rotate the knob to shuffle and press to select options.

How to run a mode



OFF screen



1. User presses the power button to switch On.



Advanced



3. Which can be overridden as per choice.



Mode



2. By default, the machine is on Smart Wash Mode when switched On.



Quick Settings



4. In Advanced Mode, the user gets options to customize Add Item, Soil, Temp., Spin, Rinse, Tube Clean as per choice.

Specifications

Knob diameter	50mm
Knob elevation	30mm
Display type	OLED with a corning gorilla glass

Screen diameter	70mm
Display type	OLED with a corning gorilla glass

Paper Mock up



A paper mock-up was made to understand the proportion and ergonomics associated with the final concept.

Design Intervention



Knob > touchscreen



Reducing choice overload



An asymmetrical design which increases readability



Recall over recognition

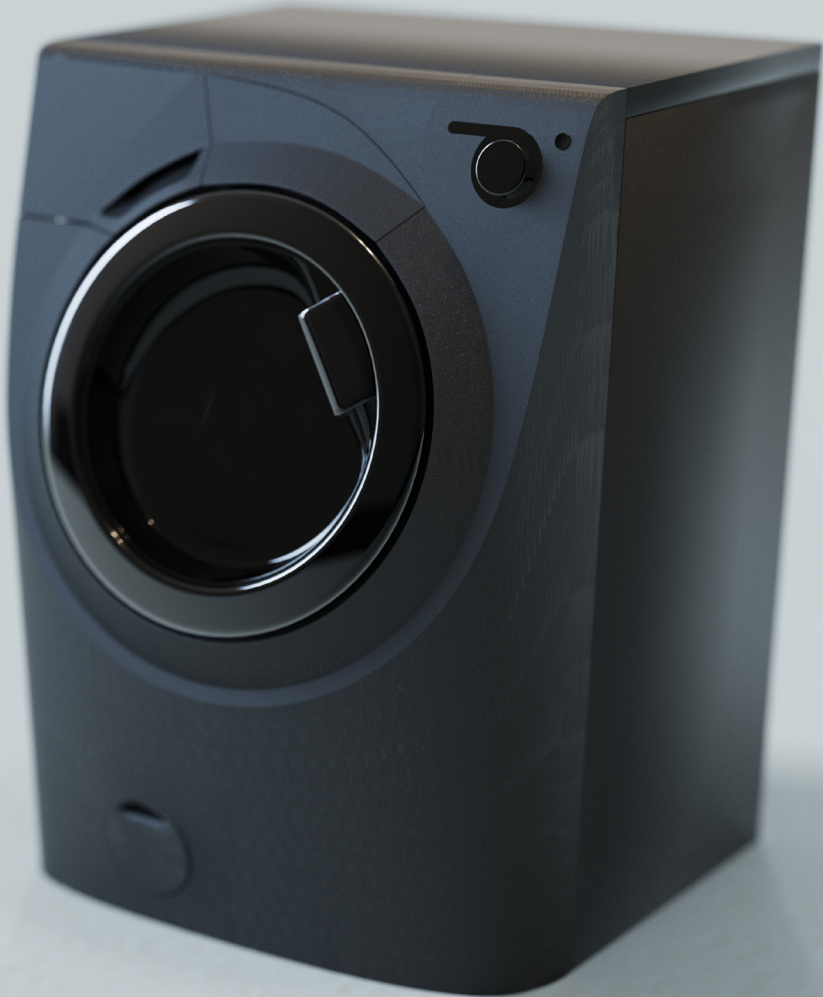


Categorisation of information



Multi-sensored feedback approach









Hello, I am **Sumeet Singh**
an industrial design learner.

+91 9304258767

sumeet.singh@mitid.edu.in

www.behance.net/singhsumeet

www.linkedin.com/in/sumeet-singh-design

Copyright © 2021 Sumeet Singh.
All Rights Reserved.