Interface Design for the Smart Washer & Dryer

Preliminary Draft

Interface Layout



Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Issue** | **Description** | **Author** |
| 15/12/2021 | 1.0 | Initial Draft | Vivek Jadhav &  Sreekar Tadaka |
| 16/12/2021 | 2.0 | User Module | Rupali Jagtap |
| 16/12/2021 | 3.0 | Payment Module | Abhishek Hadke |
| 17/12/2021 | 4.0 | Washer Module | Aniket Bhuse |
| 17/12/2021 | 5.0 | Dryer Module | Siddhesh Ghosalkar |
| 17/12/2021 | 6.0 | Notification Module | Bhavika Mehta |
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# Introduction

A washing machine is a machine which is also one of the home appliances used to wash laundry. The benefits are like;

* It eliminates the effort needed to wash cloths.
* It saves time and makes the work easy.

 Similarly, A smart washer or dryer is also a one of the laundry appliances with added features which are not possible with a simple washing machine. These are innovative appliances that can connect to a network via Wi-Fi, in the same way that tablets or phone do. These Smart washers and dryers send notifications to the user phone/email when a cycle finishes, start new wash and dry cycles, diagnose problems.

When these are used in a public laundry, we have another feature which is payment with the smart washer or dryer we will get the payment ID, payment status, payment time etc.

# TBD Service Overview

## High Level Description

A smart washing machine gives you more control over your laundry than a standard washing machine while offering a few convenient extra features. Here are some of the benefits of a smart washing machine:

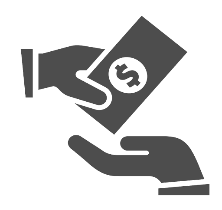
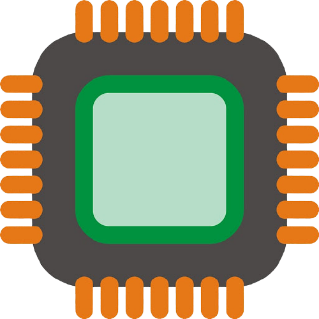
* Control machine settings via mobile device and receive notifications when cycles finish.
* Use built-in diagnostic sensors to alert you when a repair is needed or when it’s time for regular maintenance, such as a self-cleaning cycle.
* Search for and download new wash cycles for specific types of fabrics or loads.
* Integrate with an existing smart home system. When synced with a connected smart home, many models can monitor local energy consumption and automatically run cycles during off-peak hours to save money.

# Assumptions

## Application Architecture Assumptions

The system will try to save more time of users and it will be user friendly, so it is easily can be use by any user. It will be available publicly. The system will also give notification of every process i.e. successful payment, washing process starts, washing process completed, drying process starts and whole washing process completed.

## Proposed Architecture Diagram



User

Payment

Washer

Dryer

User Notification

Request to Wash

Request to Make Payment

Reply with Payment

Successful/Failed

Request to Washing

Replied with Washing Status

Request for Drying

Replied with drying

Status

Send Notification

to User

Controller

## 

# Supported Operation

## ExecuteData

ExecuteData() is predefined method in c#, which is use to write run DQL commands in C#. In this application we are use this method to show the user details to user. Which is used in Get\_User() Method.

## ExecuteCommand

ExecuteCommand() is predefined method in C#, which is use to write run DML commands in C#. In this application we are used this method to insert user. Which is used in AddUser() and DoPayment() Methods.

## GetUser

GetUser method is used to take users information like first name, last name and email address as input from user and stored that information in User model and passed it to AddUser() method.

## AddUser

AddUser() Method is used to execute insert query of SQL in in C# by using ExecuteCommand() method. It stores information in UserInfo table of SMART\_WASHER\_DRYER database, which is given by user.

## Get\_User

Get\_User() method is used to execute select query of SQL in C# by using ExecuteData() method. It displays all the information stored in UserInfo table.

## GetPaymentInfo

GetPaymentInfo() method is used to take payment information like UserID, email address, first name, payment amount. After that it stores that information in Payment model.

## DoPayment

DoPayment() Method is used to execute insert query of SQL in in C# by using ExecuteCommand() method. It stores successful payment information in Payment table of SMART\_WASHER\_DRYER database, which is given by user.

## Start\_Washing

Start\_Washing() method is used to starts the washing process of user. After washing get started it sends notification to user by using SendEmail\_StartWash(emailAdd, firstname).

## Starts\_Drying

Start\_Drying() method is used to starts the drying process of user. After Drying get started it sends notification to user by using SendEmail\_StartDrying(emailAdd, firstname).

## SendEmail

SendEmail() method is used to send email notification to user after successfully creation of user.

## SendEmailPayment

SendEmailPayment() method is used to send email notification to user after payment has successful to the SWD system.

## SendEmail\_StartWash

SendEmail\_StartWash() method is used to send email notification to user after washing process get started.

**SendEmail\_CompleteWash**

SendEmail\_CompleteWash() method is used to send email notification to user after washing process get Completed.

**SendEmail\_StartDrying**

SendEmail\_StartDrying() method is used to send email notification to user after washing process get Started.

**SendEmail\_CompleteDrying**

SendEmail\_CompleteDrying() method is used to send email notification to user after whole washing process get completed.

# Sequence Diagrams

Controller

Payment

Washer

Dryer

Notification

Send Payment Request

Replied with Payment Status

Send Notification of Payment Status

Send Washing Request

Send Washing Request

Send Notification of Washing Status

Send Drying Request

Send Drying Request

Send Notification of Drying Status

# Future Scope:

# User Login

In this system we will ad login window for users, so users can have data privacy of his data stored in database.

# User Privacy

In current system users can see data of other user’s data also we will work on how users can see only their details.

# Keep change of money

Current system takes $5 per washing cycle as payment, but what if any user pay more than $5 so we will develop feature that remaining change can be return to user.

# End user web application

We will developer a web application for users that they can use our web application and see status of their washing process.

# Mobile Notification

We will come up with feature that our system cam send notification on user’s mobile number.