# CIS17A Small Business Application Documentation



Section: 23060

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## Introduction

### 1.1 Purpose

This document details the functionality offered by the new Miyagi Car Wash Control program.

### 1.2 Intended Audience and Reading Suggestions

The primary audience is automation hardware and controls integrators, automated car wash owner/operators, and automated car wash supply vendors.

### 1.3 Product Scope

This application adds functionality to existing and new payment terminals creating a more user friendly interface for both customers and employees, reducing downtime and increasing profits. Miyagi gives you the functionality of a tunnel wash controller by allowing customers to upgrade the wash package they have selected with any additional wash functions they may like to purchase. The system then places all purchased upgrades in the proper position in the wash cycle. This allows your customers to have complete customization of their wash and where applicable, the freedom to choose which of your employees takes care of their car. Added to our proven platform, new features include a password protected maintenance menu, and a customer loyalty search function that allows tracking and targeting of repeat business; your most valued customers.

### 1.4 Reference

#### Source Documents for the Application Requirements Specification

 1) Business program application and scope

https://rccd.instructure.com/courses/4092/assignments/29981

 2) Business program application and implementation

    https://rccd.instructure.com/courses/4092/assignments/29982

3) Enhanced business program application and scope

https://rccd.instructure.com/courses/4092/assignments/33368

4) Integrated Control Systems Inc. documentation

https://www.icscarwashsystems.com/DocumentationCenter/Downloads/ICS-Brochure-2018.pdf

#### Companion Application Requirements Documents

Other documents that should be reviewed with this document include:

1)     CIS17A Project Part 1A C++ Program for Small Business.docx

2)     CIS17A Project Part 1B-1.docx

3)     Project 1D.docx

4)     CIS17A Project Part2A Small Business Application Documentation.docx

5) Innovative Control Systems Inc.Smartstart Pro User Manual

https://www.icscarwashsystems.com/DocumentationCenter/Downloads/PaymentTerminals/SmartstartPro/SmartstartproUserManual1.pdf

**2. Overall Description**

### 2.1 Product Perspective

The Miyagi control program provides:

        A user friendly interface

        Easily navigable menus

* Car wash type
* Employee choice
* Payment type
* Maintenance functions

        Individual transaction recording for receipt printing

* Daily transaction recording and printing
* Customer data recording for repeat business tracking and loyalty rewards

2.2 Product Functions

#### The overall description of functionality:

**Program functionality**

1. The user friendly interface emphasizes simplicity over glitz, using simple instructions to direct user input through a ten key numeric pad.
2. Navigable menus including:
   1. Car wash type
   2. Employee choice
   3. Payment type
3. Individual transaction recording for receipt printing
4. Daily transaction recording and printing
5. Password protected maintenance menu offer the following features:
   1. System fault reset
   2. Receipt reprint
   3. Daily bookkeeping document printing
   4. Consumable supplies inventory
6. Our newest software upgrade allows you to track your repeat customers by phone number, giving you the ability to understand the geographic region for your primary customer base and offer user configurable loyalty discounts.

**Technical functionality**

We introduce a platform independent software package that is configurable to function flawlessly on contemporary and legacy devices alike, adding functionality to modern equipment and giving new life to older equipment without costly hardware upgrades.

All record keeping data is saved internally to text files providing uncomplicated printing for bookkeeping and data migration purposes.

2.3 User Classes and Characteristics

* User Class 1 (customer)
  + Automated and self-serve car wash owner operators
* User Class 3 (technician)
  + Automated and self-serve car wash systems integrators
* User class 2 (end user)
  + Automated and self-serve car wash customers

### 2.4 Operating Environment

Miyagi is developed for use on Unix based systems

### 2.5 Design and Implementation Constraints

There are no appreciable constraints or limitation to the application.

### 2.6 Assumptions and Dependencies

### The Miyagi control system has been designed to be platform independent, running on most modern payment terminals. It is important to note that automation hardware interfaces such as programmable logic controllers, motion logic controllers, and/or variable frequency drives are required for use in automated or self-serve tunnel wash systems to utilize the full functionality of this application. For incompatible legacy devices, our hardware integration team is available to evaluate your current system and upgrade existing payment terminals.

3. External Interface Requirements

3.1 User Interfaces

### The Miyagi system is specifically designed for self-serve terminals utilizing ten key input pads. User input is guided through restrictive yet intuitive numeric based menus with integrated error detection and instructive error recovery messages.

3.2 Hardware Interfaces

### While our control application is compatible with almost all kiosk systems on the market, we have partnered with Innovative Control Systems Inc. in the development and launch of their cost effective Smartstart Pro payment kiosk, blending Skating Monkey’s enhanced car wash control program with ICS’s unrivaled global technical support.

3.3 Software Interfaces

### Miyagi will operate seamlessly on kiosk terminal systems and is intended to integrate easily with major automation controls software to include: Rockwell RSLogix platforms, Rexroth’s Indraworks and Indracontrols platforms, Beckhoff Automation’s Twincat systems, and most Siemens control software.

**3.4** **Communications Interface**

### While Miyagi can run as a standalone application, it serves primarily as a Human Machine Interface control eliminating the need for costly license based systems such as Rockwell’s RSView and FactoryTalk SE software, or Wonderware’s Indrasoft application. Naturally, without automation hardware, the HMI will not produce any valuable work. Our integration team is prepared to interface our application with your controls via Ethernet IP or the, highly recommended, Ethercat IO native to Berckhoff controls.

## 4. **Detailed Description of Functional requirements**

### 4.1     Type of Requirement (summarize from Section 2.2)

### The following functionality is available with the Miyagi control software:

### A readily customizable application that is adapted to your specific business needs.

### Easily navigable menus using prompt and response through numeric keypad input.

### A customized welcome message can be displayed both on screen and on the printed receipt.

### The car wash type menu allows for multiple car wash types based on your hardware capabilities and product line.

### Where applicable, an employee menu is available for your customers to choose which of your employees provides the car wash service.

### Our payment choice menu is customizable to your business type and credit contracts. Our system can be programmed to accept cash, coupons, complimentary vouchers, and all major credit cards.

### The password protected maintenance function menu allows managers and authorized employees to reset customer created system errors, reprint receipts, print daily bookkeeping records, and report estimated levels of consumable materials.

### For business that like to offer loyalty programs, we provide a phone number database that allows you as a business owner the freedom to offer complimentary car washes to your repeat customers at the revisit interval of your choosing.

### At your choice, we can offer a random number generation based lottery system that can give away to “winning” customers the complimentary wash of your choosing. This option has been found to be a huge generator of new and repeat business.

### 4.2 Performance requirements

#### 4.2.1 The application has been found to be portable across multiple manufacturers’ payment terminals and kiosks.

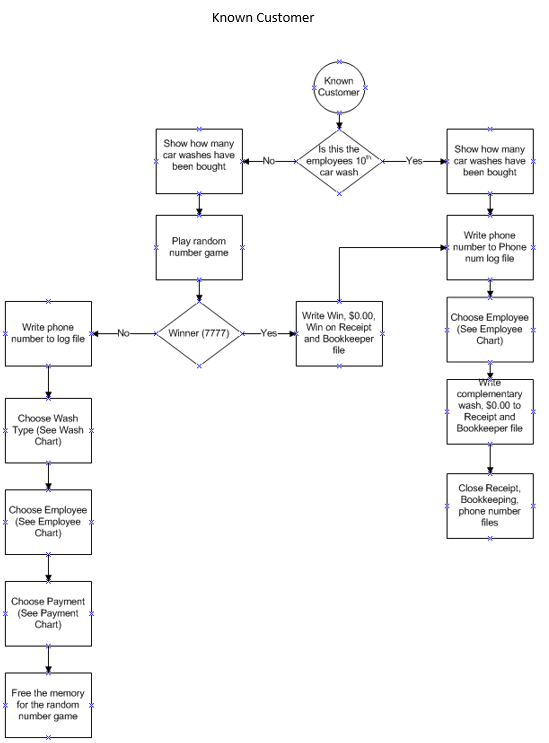
#### 4.2.2 For the “fully loaded” version of the application, minimum memory storage of 64 Megabytes is recommended.

#### **4.2.3** While system integration can be performed on most legacy terminals, use of Innovative Control System Inc’s Smartstart Pro kiosk (or equivalent) is highly recommended.

#### **4.2.4** Automation hardware varies widely, particularly with legacy platforms, however Miyagi is designed to work flawlessly on all popular systems. That being said, best performance can be achieved through the use of Beckhoff Automation controls due to the extensive use of C++ and other C based programming languages.

### 4.3 Work Flow or Flow Chart

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