**Home Appliance Control System**

Vision

Version <1.0>

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Vision

# Introduction

## Purpose

The purpose of this document is to collect, analyze, and define high-level needs and features of the Home Appliance Control System. It focuses on the capabilities needed by the stakeholders, and the target users, and why these needs exist. The details of how the Home Appliance Control System fulfils these needs are detailed in the use-case and supplementary specifications.

## Scope

This Vision Document applies to the Home Appliance Control System (HACS), which will be created by the UTD CARE Development group. The UTD CARE group will foster this customer worker framework to interface with existing alarm monitoring frameworks. The (HACS) screens, controls, and arranges a wide assortment of home machines like the forced air system, microwave, radios, TVs, CD players, indoor and open-air lighting, water sprinkler, and home security and wellbeing frameworks. The framework upholds neighborhood access through a keypad and remote access through land-line telephones, cells or handheld PCs (e.g., palm-top, individual advanced partner).

## Definitions, Acronyms and Abbreviations

HACS - Home Appliance Control System

## References

To be determined

# Positioning

## Business Opportunity

Recreating the presence of the mortgage holders is a significant part of home security. This can include changing indoor and outside lighting, and turning radio, CD players, and TVs on and off. Likewise, a home security and wellbeing framework can have a rich assortment of sensors to organize, screen and control just as crisis notice highlights. The essential client, a property holder, can characterize groupings of lighting, radios, CD players, TVs, security, and wellbeing occasions. This framework will give these capacities and more to fulfill property holders. This framework is intended to be introduced by alert organizations and authorized workers for hire and checked utilizing existing caution observing organizations.

## Problem Statement

| The problem of | increase in crime rates in large cities |
| --- | --- |
| affects | Less income citizens |
| the impact of which is | uncertainty in the safety and security of the home owners and their belongings |
| a successful solution would be | an adaptable, savvy home wellbeing and security framework that can be effortlessly designed by the property holder. The item would uphold reproducing the presence of the mortgage holders. This can include changing indoor and open-air lighting, and turning radio, CD players, and TVs on and off. Likewise, a home security and wellbeing framework TVs on and off. Also, a home security and wellbeing framework well as crisis notice highlights. The client would have the option to get to the framework either locally or distantly. It will actually want to use existing caution observing organizations. |

## Product Position Statement

| For | Middle income homeowner |
| --- | --- |
| Who | Feel the need for a home safety and security system that provides more than a monitoring service to deter and detect break-ins |
| The (product name) | is a [product category] |
| That | provides the ability to choreograph indoor lights, outdoor lights, and entertainment equipment such as CD players and TVs to deter potential burglars, provide monitoring for smoke and carbon monoxide detectors and for detecting break-ins. |
| Unlike | current available monitoring systems that do not support the choreography of lights and entertainment equipment to simulate the homeowners moving about their homes and do not support the capability to remotely control or check the status of the system. |
| Our product | monitors, controls, and facilitates a wide assortment of home machines like the forced air system, microwave, radios, TVs, CD players, indoor and outside lighting, water sprinkler, and home security and wellbeing frameworks. The framework upholds nearby access through a keypad and remote access through landline telephones, mobile phones or handheld PCs (e.g., palm-top, individual advanced aide) |

# Stakeholder and User Descriptions

## Market Demographics

The target market segment includes middle income homeowners living in medium and large cities. The users are anticipated to be consumers who already use cell phones on a regular basis for personal and/or business use. Most homes with alarms are above Rs.5,00,000 in market value. We are new in this area but we will align with one or more alarm hardware companies that will help us penetrate the market with this new technology

## Stakeholder Summary

| **Name** | **Description** | **Responsibilities** |
| --- | --- | --- |
| System Analyst  Requirements Specifier  Technical Reviewer  Software Architect | This is a stakeholder that works with the stakeholders to gather their needs.  This is a stakeholder that works with the Analysts to correctly translate requests/needs into requirements to be used for design.  This is a stakeholder that must be involved regularly to maintain the development cycle  This is a stakeholder that is primary for leading the system  development | Leads and organizes prerequisites elicitation and use-case displaying by illustrating the framework's usefulness and delimiting the framework; for instance, recognizing what entertainers exist and what use cases they will require while associating with the framework.    Determines the subtleties of at least one a piece of the framework's usefulness by depicting one or the parts of the prerequisites, this will incorporate useful and non-practical    Responsible for contributing criticism to the audit interaction. This job is engaged with the classification of audit that arrangements with the specialized survey of venture antiquities. This job is answerable for giving ideal, suitable criticism on the undertaking ancient rarities being looked into.    Responsible for the product engineering, which incorporates the key specialized choices that oblige the general plan and execution for the task.    Guarantees that the framework will be viable and the building arrangement upholds the useful and non-prerequisites. |

## User Summary

| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| --- | --- | --- | --- |
| Homeowner  Business Owner  Customer Care | Primary end user of the system  End user of the system  End user of the system | choreograph indoor lights, outdoor lights, CD player, TV, monitor status of the system, start a choreographed sequence, stop a choreographed sequence, receives notification when a 100 emergency call is made choreograph indoor lights, outdoor lights, CD player, TV, monitor status of the system, start a choreographed sequence, stop a choreographed sequence, receives notification when a 100 emergency call is made monitor the status of the system and can send a 100 emergency call, assist Homeowners with system operation | Self  Self  Self |

## User Environment

The users access the HACS remotely and locally. Remote access is wireless (cell phone, personal data assistant) or using a landline (dial-up modem). The following operating systems for the mobile devices are supported: Tynex (from Palm Palm Technologies Inc.), Smartphone 2003 (from Microsoft), Palm OS (from Palm Inc.) and the Pocket PC (from Microsoft).

## Stakeholder Profiles

**3.5.1 Business Owner**

| **Representative** |  |
| --- | --- |
| **Description** | A commercial individual that will use the system for protecting their business. |
| **Type** | This is a casual user, possibly with previous use of alarm monitoring systems. |
| **Responsibilities** | Ensure that the necessary comforts and security are provided to satisfy the typical Business Owner. |
| **Success Criteria** | The success is completely defined by the customers continuing business using our system. |
| **Involvement** | We will have sample customers to help evaluate our design and market research results will also guide our vision. |
| **Deliverables** |  |
| **Comments / Issues** |  |

**3.5.2 Customer Care**

| **Representative** |  |
| --- | --- |
| **Description** | An individual that will assist homeowners and business owners with using the system for protecting their home and businesses. |
| **Type** | This is an advanced user with experience in supporting similar alarm monitoring systems. |
| **Responsibilities** | Ensure that the system can provide the necessary comforts and security to satisfy the typical Homeowner and Business Owner and that they can  rapidly respond in assisting them in an emergency or normal business operation. |
| **Success Criteria** | The success is completely defined by the ability for the Customer Care  group to eliminate negative customer complaints about getting support while using our system. |
| **Involvement** | We will have internal Customer Care members on our project team to help evaluate our design and guide our vision. |
| **Deliverables** | End user support manuals, technical reference manuals. |
| **Comments / Issues** |  |

## User Profiles

**3.6.1 Homeowner**

| **Representative** |  |
| --- | --- |
| **Description** | A private individual that will use the system for protecting their home. |
| **Type** | This is a casual user, possibly with previous use of alarm monitoring systems. |
| **Responsibilities** | Ensure that the necessary comforts and security are provided to satisfy the |
| **Success Criteria** | The success is completely defined by the customers continuing business with using our system. |
| **Involvement** | We will have sample customers to help evaluate our design and market research results will also guide our vision. |
| **Deliverables** |  |
| **Comments / Issues** |  |

## Key Stakeholder or User Needs

## Alternatives and Competition

1. House Sitter

2. Home Security System and Monitoring Company.

# Product Overview

## Product Perspective

Diagram

Description automatically generated

## Summary of Capabilities

**Table 4-1 Customer Support System**

| **Customer Benefit** | **Supporting Features** |
| --- | --- |
| New support staff can quickly get up to speed. | Knowledge base assists support personnel in quickly identifying known fixes and workarounds. |
| Customer satisfaction is improved because nothing falls through the cracks. | Problems are uniquely itemized, classified and tracked throughout the resolution process. Automatic notification occurs for any aging issues. |
| Management can identify problem areas and gauge staff workload. | Trend and distribution reports allow high level review of problem status. |
| Distributed support teams can work together to solve problems. | Replication server allows current database information to be shared across the  enterprise. |
| Customers can help themselves, lowering support costs and improving response time. | Knowledge base can be made available over the Internet. Includes hypertext search capabilities and graphical query engine |

## Assumptions and Dependencies

The HACS is developed using a component-based software engineering approach. A preliminary collection of components.

## Cost and Pricing

According to the Market value.

## Licensing and Installations

The product requires professional installation. It must be installed by licensed personnel only.

# Product Features

## System features

View the status of whole system

View the status of indoor lights

View the status of outdoor lights

View the status of the safety system

## Admin features

The Homeowner and Business Owner need to be able to shut down the system gracefully either locally or remotely

The Homeowner and Business Owner need to be able to start up and initialize the system either locally or remotely.

# Constraints

**6.1 Security**

Security for the HACS includes authentication, access control, data integrity, and data privacy. Authentication of the user is by identifier and password.

Homeowners and Business Owners can monitor and change the state of the system.

Customer Care users can only monitor the system and manually place a medical alert 108 emergency request for an ambulance.

Transmissions should be encrypted for privacy.

**6.2 Usability**

Easy to use (especially safety related features)

Request for an ambulance, police or fire truck needs to be at the push of a button or voice activated

**6.3 Responsiveness**

System responds quickly to user requests or changes in the environment.

System responds within 2 seconds on average to local user requests and changes in the environment. System responds within 4 seconds on average to remote user requests and changes in the environment.

**6.4 Capacity**

Maximum number of sequences for indoor lights is twenty (20)

Maximum number of indoor lights that can be controlled is fifty (50)

Maximum number of sequences for outdoor lights is twenty (20)

Maximum number of outdoor lights that can be controlled is fifty (50)

Maximum number of sequences for radios, CD players, televisions is twenty (20)

Maximum number of radios, CD players, televisions that can be controlled is ten (10)

Maximum number of sequences for safety and security equipment is twenty (20)

Maximum number of sensors, security cameras, security VCRs, emergency notifications, that can be controlled is fifty (50)

# Quality Ranges

## Security

The app uses most secure firewall for controlling the appliances so it’s very hard to hack into one

## Availability

The system is online 24 hours a day and 365 days a year.

# Precedence and Priority

The features defined in the vision document will be provided in two releases. The first release will support all the Android-based features. The second release will support all the IOS-based features

# Other Product Requirements

## Applicable Standards

The user should have Wi-Fi present in the house.

## Systems Requirements

The mobile needs to have either Android or IOS.

"The mobile device should be able to connect to the Internet.

## Performance Requirements

The access time for a mobile device should be less than a minute. The information is refreshed every one minutes.

## Environmental Requirements

None

# Document Requirements

## User Manual

The User Manual describes the use of the system to the House owner(user). It describes the use of the system on mobile systems. The user manual should be available as a hard copy and also as online help.

## Online Help

Many applications provide an on-line help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (hyperlinks, etc) with aspects of technical writing (organization, presentation). Online help is provided for each and every feature provided by the system

## Installation Guides, Configuration and Read me files\

Configuring appliances refers to the actions to be done by

administrators when the system is installed like setting of default parameters, modes etc.

In order to configure appliances, administrators have to log on to HACS and a list of

appliances are provided. The appliance to be configured is to be selected and then the

configuration parameters are prompted to the user. Upon entering valid values, these

parameters of the appliances are configured by HACS. After configuring appliances, the

administrators log off.

## Labelling and Packaging

Manufacturers must diagnose and correct errors in the code marking process as they happen. This is essential for preventing machine assists and downtime and ensuring that codes can be read by other readers in the product distribution chain.