**Requirement Analysis for an Airport Customer Service - Intelligent Virtual Assistant System - Vision Document.**

Design a virtual assistant system for airport customer relationship management (CRM). The first virtual assistant is representing the Flights Crew such as Emirates Airline, Air Arabia or any other airlines which will help the passengers to answer their **Frequently Asked Questions (FAQ).**

The Second virtual assistant is representing the airport customer service such as Dubai International Airport (DXB) Customer service or Melbourne Tullamarine Airport. Each Virtual assistant should be designed to reflect two personalities (Male and Female). In total, we should have four virtual assistants named as (Sara, Mark) for the first case and (Ayesha, Salm) for the second case.

You are selected as an IT expert to work with your team in gathering the requirements need it in designing the virtual assistant system; you must follow the requirement analysis process to start eliciting the requirement. Below is an example of the requirements the system should have:

* The Assistant should welcome the passenger with greeting statement and smile
* The assistant can open the airline website and enable the user to browse it.
* Can check the ticket booking and print the ticket copy, can do online boarding
* The FAQ can always be up to date from the website interface, and the assistant knowledge base can

be updated easily

* The second VA can register your passport for the smart gate
* The second VA can give you a tourist brief about Dubai
* Can provide you with the leading organizations in Dubai (websites, telephone, Location)
* The VA should be accurate, secure, reliable ...etc.  
  **Notice that the above requirements are just an example; you must start to work on gathering more requirements using the requirements gathering techniques studied in the class. And make sure that you include artificial intelligence (AI) requirements in your analysis, such as the features related to natural language processing, expert systems, neural networks, robotics, fuzzy logic. For example, Neural networks can be used in the face recognition feature.**

**Please check the below videos which show an example from Dubai:**

https://www.pond5.com/stock-footage/61324851/dubai-november-22-2015-dubai-airport- interior-virtual-assist.html

https://www.youtube.com/watch?v=bdYa7llVdi0

The required topics are highlighted in yellow (the blue font is the template of how the document should look like, or where the information goes):

1. **Product Overview**

How does this product relate to other products? Is it independent and self-contained? Does it interface with a variety of related systems? Describe these relationships or use a diagram to show the major components of the larger system, interconnections, and external interfaces.

# Product Overview

[This section provides a high level view of the product capabilities, interfaces to other applications, and system configurations. This section usually consists of three subsections, as follows:

• Product perspective

• Product functions

• Assumptions and dependencies]

## Product Perspective

[This subsection of the **Vision** document puts the product in perspective to other related products and the user’s environment. If the product is independent and totally self-contained, state it here. If the product is a component of a larger system, then this subsection needs to relate how these systems interact and needs to identify the relevant interfaces between the systems. One easy way to display the major components of the larger system, interconnections, and external interfaces is with a block diagram.]

## Summary of Capabilities

[Summarize the major benefits and features the product will provide. For example, a **Vision** document for a customer support system may use this part to address problem documentation, routing, and status reporting without mentioning the amount of detail each of these functions requires.

Organize the functions so the list is understandable to the customer or to anyone else reading the document for the first time. A simple table listing the key benefits and their supporting features might suffice. For example:]

**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

[List each of the factors that affect the features stated in the **Vision** document. List assumptions that, if changed, will alter the **Vision** document. For example, an assumption may state that a specific operating system will be available for the hardware designated for the software product. If the operating system is not available, the **Vision** document will need to change.]

## Cost and Pricing

[For products sold to external customers and for many in-house applications, cost and pricing issues can directly impact the application’s definition and implementation. In this section, record any cost and pricing constraints that are relevant. For example, distribution costs, (# of diskettes, # of CD-ROMs, CD mastering) or other cost of goods sold constraints (manuals, packaging) may be material to the projects success, or irrelevant, depending on the nature of the application.]

## Licensing and Installation

[Licensing and installation issues can also directly impact the development effort. For example, the need to support serializing, password security or network licensing will create additional requirements of the system that must be considered in the development effort.

1. **Quality Ranges**
2. [Define the quality ranges for performance, robustness, fault tolerance, usability, and similar characteristics that are not captured in the Feature Set.]
3. Feature Attributes

[Features are given attributes that can be used to evaluate, track, prioritize, and manage the product items proposed for implementation. All requirement types and attributes need to be outlined in the Requirements Management Plan, however, you may wish to list and briefly describe the attributes for features that have been chosen. The following subsections represent a set of suggested feature attributes.]

## A.1 Status

[Set after negotiation and review by the project management team. Tracks progress during definition of the project baseline.]

|  |  |
| --- | --- |
| Proposed | [Used to describe features that are under discussion but have not yet been reviewed and accepted by the "official channel," such as a working group consisting of representatives from the project team, product management, and user or customer community.] |
| Approved | [Capabilities that are deemed useful and feasible, and have been approved for implementation by the official channel.] |
| Incorporated | [Features incorporated into the product baseline at a specific point in time.] |

## A.2 Benefit

[Set by Marketing, the product manager or the business analyst. All requirements are not created equal. Ranking requirements by their relative benefit to the end user opens a dialog with customers, analysts, and members of the development team. Used in managing scope and determining development priority.]

|  |  |
| --- | --- |
| Critical | [Essential features. Failure to implement means the system will not meet customer needs. All critical features must be implemented in the release or the schedule will slip.] |
| Important | [Features important to the effectiveness and efficiency of the system for most applications. The functionality cannot be easily provided in some other way. Lack of inclusion of an important feature may affect customer or user satisfaction, or even revenue, but release will not be delayed due to lack of any important feature.] |
| Useful | [Features that are useful in less typical applications will be used less frequently or for which reasonably efficient workarounds can be achieved. No significant revenue or customer satisfaction impact can be expected if such an item is not included in a release.] |

## A.3 Effort

[Set by the development team. Because some features require more time and resources than others, estimating the number of team or person-weeks, lines of code required or function points, for example, is the best way to gauge complexity and set expectations of what can and cannot be accomplished in a given time frame. Used in managing scope and determining development priority.]

## A.4 Risk

[Set by development team based on the probability the project will experience undesirable events, such as cost overruns, schedule delays or even cancellation. Most project managers find categorizing risks, as high, medium, and low, is sufficient, although finer gradations are possible. Risk can often be indirectly assessed by measuring the uncertainty (range) of the projects team’s schedule estimate.]

## A.5 Stability

[Set by the analyst and development team, this is based on the probability that features will change or the team’s understanding of the feature will change. Used to help establish development priorities and determine those items for which additional elicitation is the appropriate next action.]

## A.6 Target Release

[Records the intended product version in which the feature will first appear. This field can be used to allocate features from a **Vision** document into a particular baseline release. When combined with the status field, your team can propose, record, and discuss various features of the release without committing them to development. Only features whose Status is set to Incorporated and whose Target Release is defined will be implemented. When scope management occurs, the Target Release Version Number can be increased so the item will remain in the **Vision** document but will be scheduled for a later release.]

## A.7 Assigned To

[In many projects, features will be assigned to "feature teams" responsible for further elicitation, writing the software requirements, and implementation. This simple pull-down list will help everyone on the project team to understand responsibilities better.]

## A.8 Reason

[This text field is used to track the source of the requested feature. Requirements exist for specific reasons. This field records an explanation or a reference to an explanation. For example, the reference might be to a page and line number of a product requirement specification or to a minute marker on a video of an important customer review.]