universidade de aveiro

CAR ENTERTAINMENT SYSTEM

HCI - Assignment n.2

Deliverable n. 1: Requirement Analysis

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Engenharia de Computadores e Informática

INTRODUCTION

Contextualization and Motivation:

- In the modern era, technology has become an integral part of our daily lives, extending to our experiences while traveling in vehicles.
- The integration of entertainment systems into cars has revolutionized how people perceive and utilize their time on the road.
- Car entertainment systems have evolved from basic radios to sophisticated multimedia hubs, offering GPS, internet, video streaming, and smartphone integration.

INTRODUCTION

Why This Project?

- The project focusing on car entertainment systems is motivated by the increasing demand for in-car entertainment solutions.
- Understanding the needs and preferences of consumers in this domain is crucial as people spend more time commuting or traveling by car.
- There is a desire for enhanced entertainment options that provide convenience, connectivity, and a seamless user experience.
- The automotive industry's continuous innovation in integrating cutting-edge technologies into vehicles makes this field exciting and dynamic to explore.

PROJECT OBJECTIVES

High-Level Goals:

- **Navigation (GPS):** Implement a user-friendly navigation system for seamless travel experiences.
- **Music Access (Radio):** Provide diverse music options for entertainment on-the-go.
- **Real-Time Weather Updates:** Integrate weather information to ensure safe and informed driving.

Expected Outcomes:

- **Efficient Navigation:** Smooth and hassle-free travel.
- **Versatile Music Selection:** Access to a wide range of music content for personalized entertainment.
- **Timely Weather Alerts:** Stay informed about changing weather conditions for safer journeys.

Benefits:

- **Enhanced Driving Experience:** Enjoyable and convenient driving environment for increased satisfaction.
- **Improved Safety:** Informed decision-making to reduce accidents and ensure safety.
- **Increased Efficiency:** Optimize routes and save time and fuel for better efficiency.

PERSONAS

Eleanor

Background:

- Age: 72
- Occupation: Retired librarian
- Technological Proficiency: Basic; struggles with new technology but willing to learn
- Lifestyle: Enjoys leisurely drives and listening to music

Goals and Motivations:

- Values simplicity and ease of use in technology
- Seeks entertainment options that are not overwhelming or complicated

Challenges:

- Difficulty with small screens and complex interfaces
- Concerned about distraction while driving
- Prefers physical controls over touchscreens

PERSONAS

David

Background:

- Age: 45
- Occupation: Real Estate Agent
- Technological Proficiency: Moderate; comfortable with basic technology
- Lifestyle: Commutes daily to work; enjoys staying informed

Goals and Motivations:

- Seeks entertainment and productivity features during commutes
- Values convenience and efficiency in technology
- Wants seamless navigation

Challenges:

- Limited time for exploring complex features
- Difficulty keeping up with rapidly changing technology trends

PERSONAS

Maya

Background:

- Age: 26
- Occupation: Graphic Designer
- Technological Proficiency: Advanced; tech-savvy and constantly connected
- Lifestyle: Enjoys spontaneous road trips with friends

Goals and Motivations:

- Prioritizes staying well-informed about weather conditions to plan safe and enjoyable trips
- Values customization and personalization options in technology
- Seeks seamless integration of navigation and weather updates

Challenges:

- High expectations for performance and user experience
- Easily bored with repetitive content
- Prefers intuitive interfaces with modern design aesthetics

SCENARIOS

- **Eleanor's Road Trip**

Enjoying Music on the Road During the drive: Eleanor wants to listen to music to make the journey more enjoyable. She easily selects her **favorite radio station** using the **car's intuitive interface**, allowing her to relax and enjoy the ride.

- **David's Daily Commute**

David's Navigation Efficiency: David starts his daily commute to meet clients and attend appointments. He relies on the **car's navigation system** to find the **most efficient route** to his destination, minimizing travel time.

- **Maya's Road Trip Adventure**

Maya's Weather Check: Maya and her friends decide to go on a spontaneous road trip for the weekend. Maya **checks the weather forecast** using the **car's weather app** to ensure clear skies for their journey.

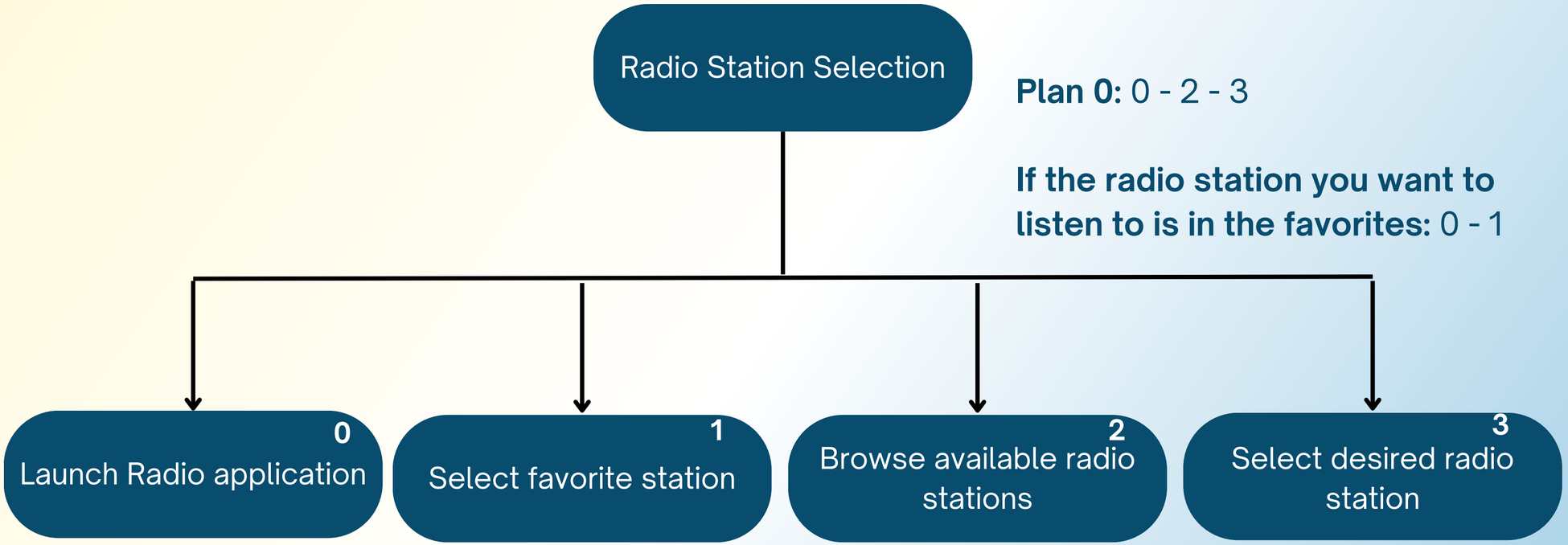
TASKS

Eleanor's Road Trip

- **Main Task:** Radio Station Selection
- **Context of Use:** Driving, possibly with some background noise from the road and traffic. Eleanor may experience occasional distractions but primarily focused on driving.
- **Relevant Issues:** Ease of use is crucial due to the need to maintain focus on driving. The interface should be intuitive to minimize distraction.
- **Task Easier with Application:** The application simplifies the process of selecting and playing music, reducing the cognitive load on Eleanor while driving.

TASKS

Eleanor's Road Trip



Plan 0: 0 - 2 - 3

If the radio station you want to listen to is in the favorites: 0 - 1

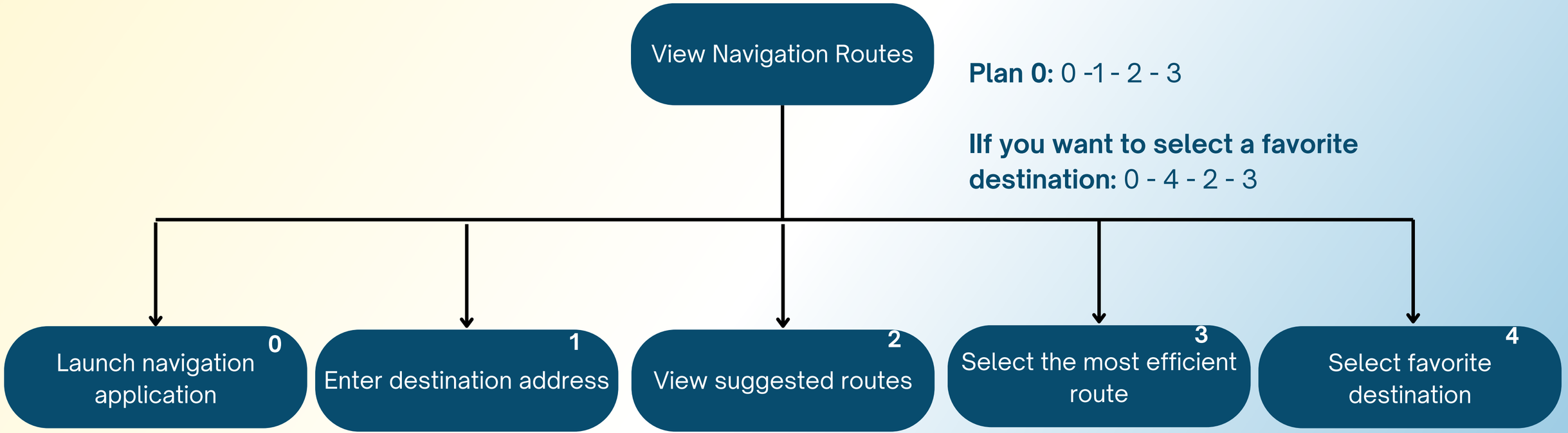
TASKS

David's Daily Commute

- **Main Task:** View Navigation Routes
- **Context of Use:** Driving during rush hours with traffic, potential roadblocks, and distractions. David is focused on reaching his destination promptly.
- **Relevant Issues:** The navigation system should provide clear and concise instructions to minimize distraction and help David navigate through traffic efficiently.
- **Task Easier with Application:** The application streamlines the route planning process, helping David minimize travel time and avoid traffic jams.

TASKS

David's Daily Commute



Plan 0: 0 -1 - 2 - 3

IIf you want to select a favorite destination: 0 - 4 - 2 - 3

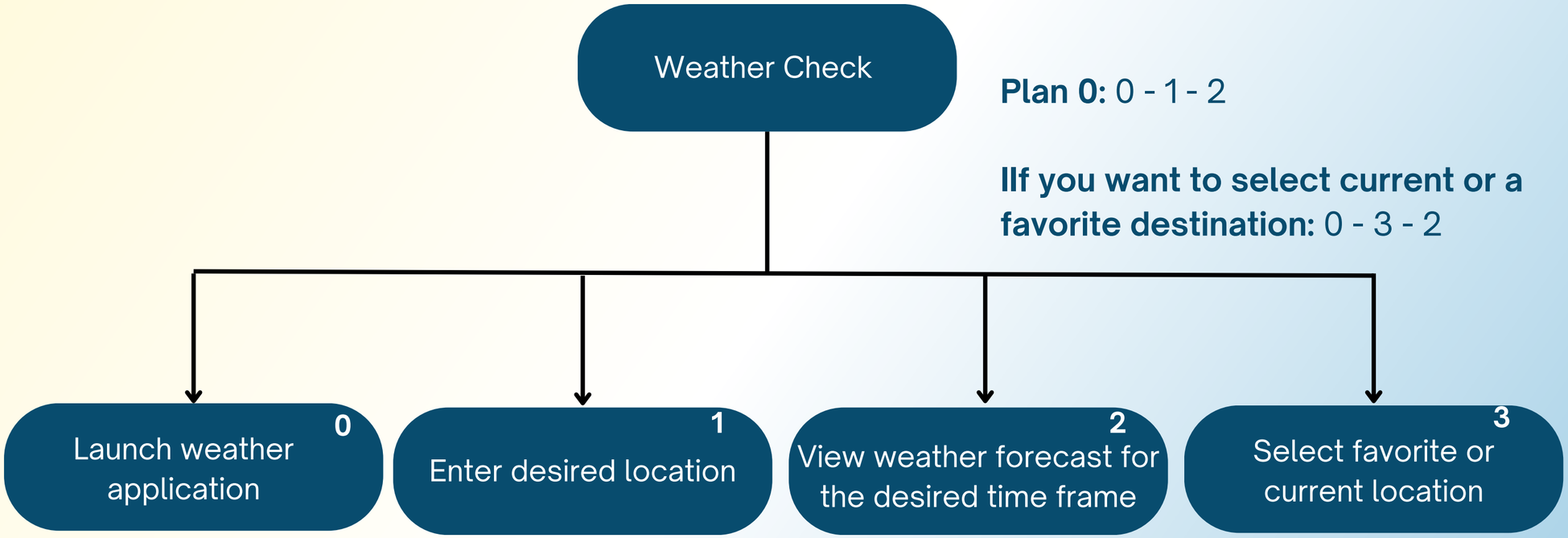
TASKS

Maya's Road Trip Adventure

- **Main Task:** Weather Check
- **Context of Use:** Planning a spontaneous road trip with friends, possibly in a hurry. Maya needs quick and accurate weather information to ensure a safe and enjoyable journey.
- **Relevant Issues:** Maya's primary concern is obtaining reliable weather forecasts promptly to make informed decisions about the road trip. The application should provide easy access to up-to-date weather information.
- **Task Easier with Application:** The application allows Maya to check the weather forecast conveniently from her car, eliminating the need to rely on separate weather websites or apps.

TASKS

Maya's Road Trip Adventure



Plan 0: 0 - 1 - 2

IIf you want to select current or a favorite destination: 0 - 3 - 2

REQUIREMENTS

Non-functional Requirements:

- **Usability:** Ensure the application is **intuitive and easy to learn** for users like David, Eleanor, and Maya.
- **Efficiency:** Provide **fast and accurate route** suggestions for David's commute, **quick access to favorite stations** for Eleanor, and **timely weather forecasts** for Maya.
- **Reliability:** Consistently **deliver accurate information.**
- **Accessibility:** Support **accessibility features** to accommodate users with disabilities, ensuring **inclusivity**.

Functional Requirements:

1. Navigation System
2. Music Selection Interface
3. Weather Forecast Feature