HCI

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This is

A Voice enabled Digital assistent

01

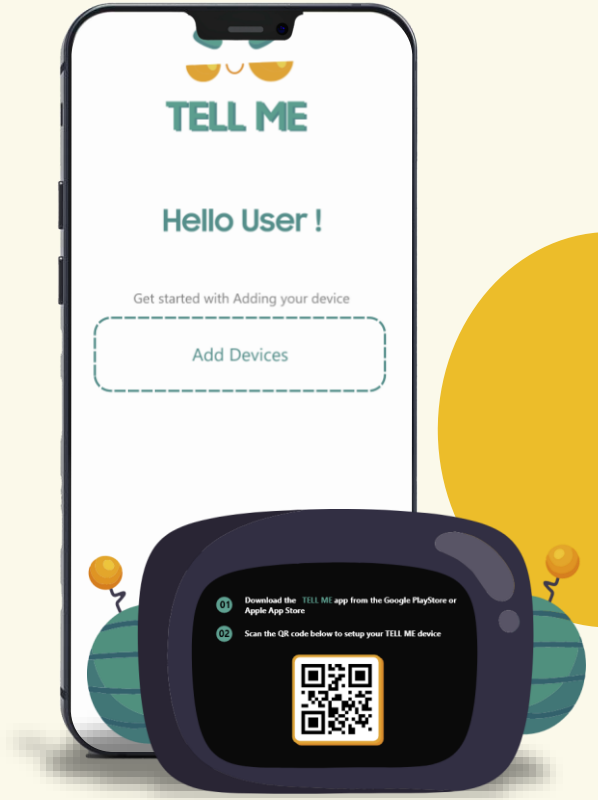
Introduction

Of “ TELL ME ”

What is the “ TELL ME ” ?

This is a **Voice enabled digital assistant** that answer random questions of a **Kids** from **age 05 – 13** , and provide age personalized answers audibly and visually.

And **TELL ME** is inter connected with mobile application



What are the Requirements of “ TELL ME ”

08 Functional Requirements

07 Non-Functional Requirements

Functional Requirements

1. Voice Interaction

- The device must understand and respond to voice commands and questions from kids ages 5-13
- It should provide accurate and age-appropriate responses.
- It should support natural language understanding to interpret a wide range of queries.

Functional Requirements

2. Content and education

- The device should offer educational content and activities suitable for different age groups.
- It must encourage learning, creativity, problem-solving through lessons and activities.

Functional Requirements

3. Customization

- Users should be able to personalize the app with different voices, avatars, and preferences.
- Customization options should be age appropriate and user-friendly

Functional Requirements

4. Real-time location tracking

- The device should provide real-time GPS-based location tracking for child safety
- Parents should have ability to monitor their child’s location through a secure interface

Functional Requirements

5. Parental control

- Implement parental control features that allow parents to restrict content, set time limits, and monitor usage
- Ensure the security of these controls to prevent unauthorized access

Functional Requirements

6. Multi-language support

- The device should support multiple language to cater to a diverse user base

Functional Requirements

7. Safety features

- Include SOS or emergency calling function that connects the child with trusted contact in case of an emergency.
- Ensure that the device can provide information to handle in unsafe and danger situations.

Functional Requirements

8. Compatibility

- Ensure compatibility with various devices, including smart phones, tablets and IoT devices.

Non-Functional Requirements

1. Performance

- The device should respond quickly to voice commands and provide timely and real time information
- It must have minimum latency in processing requests.

Non-Functional Requirements

2. Scalability

- The device should be able to handle a growing number of users and a content without significant decrease of performance

Non-Functional Requirements

3. Security

- Ensure robust security measures to protect user data, especially children’s personal information
- Implement encryption, secure authentication and data access controls

Non-Functional Requirements

4. Privacy

- Adhere to strict privacy standards for handling children’s data
- Clearly communicate data and privacy policy to parents

Non-Functional Requirements

5. Reliability

- Minimize downtime and ensure high availability to provide a consistent user experience
- Implement backups and recovery mechanisms to safeguard against data loss.

Non-Functional Requirements

6. Usability

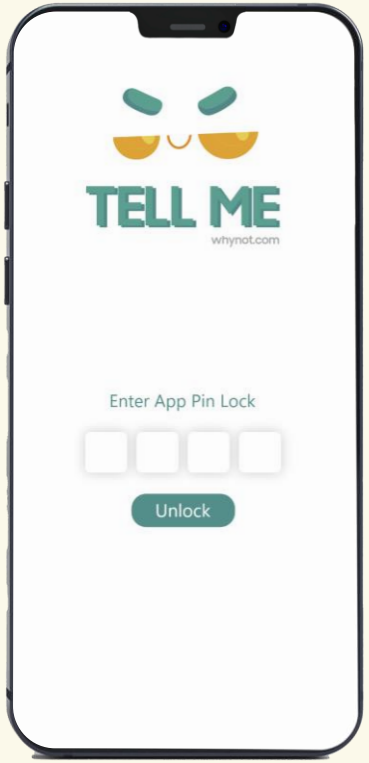
- The device’s user interface must be intuitive, visually appealing, and easy for children to navigate
- It should provide clear instructions and feedbacks

Non-Functional Requirements

7. Accessibility

- Ensure the device is assessable to children with disabilities, including those with visual and auditory impairments.

Technical feasibility studies



Introduction

This technical feasibility assesses the practicality of developing a voice-enabled digital assistant for children age 05 - 13. This aim to provide a portable, user-friendly, and educational tool that caters to the need of users.

Key features include a small display, GSM module for communication, Bluetooth/Wi-Fi setup, GPS location tracking, calling, texting, and SOS emerging calling function.

Technical Requirements

Hardware requirements

Software Requirements

Hardware requirements

- ✓ Microphone and speakers for voice interaction
- ✓ Small displays for visual feedback
- ✓ GSM module for calling and texting capabilities
- ✓ GPS units for location tracking
- ✓ Power source and battery management solutions.

Software requirements

- ✓ Operating system for device management
- ✓ Speech recognition software for understanding spoken language
- ✓ Natural language processing software for interpreting questions
- ✓ Communication protocols for data exchange
- ✓ Internet and network infrastructure for connectivity

Features and Functionalities

> **Display Integration**

A small display is integrated into the device, providing in addition to audible responses.

> **Bluetooth/Wi-Fi Setup**

Devices can be set up and configured using Bluetooth or Wi-Fi connectivity for user convenience.

> **GPA Location Tracking**

The system employs GPS technology to track the real-time location of the device, ensuring the safety of children.

Features and Functionalities

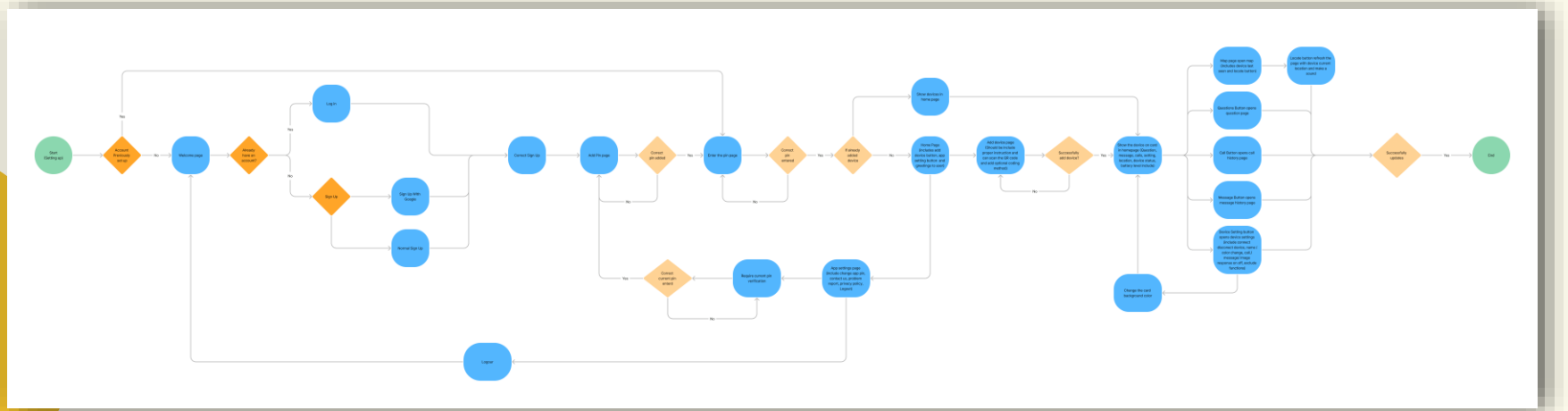
> **Calling and Texting**

The system allows children to make calls and send messages to pre-approved contacts, enhancing communication and safety.

> **SOS Emergency calling**

In case of emergencies, an SOS feature is incorporated to quickly connect children with designated contacts..

User Flow Diagram



SWOT analysis

Strengths

Weaknesses

Threats

Opportunities

Strengths

Cost-Effective

The app is either free to use or significantly less expensive compared to other products in the market, making it assessable to a wider range of users.

Portability

Its small form factor and inclusion of GSM module make it highly portable, allowing kids to use it on the go

Privacy-focused

The app does not track or profile users, ensuring the privacy and security of kids.

Strengths

Kid-friendly

The interface and content are designed specially for children, creating safe and engaging environment for them

Feature-Rich

The app offers a wide range of features, including voice assistance, DIY projects, and location tracking.

Educational

It provides age-personalized answers and encourage learning, helping children gain knowledge and develop new skills

Strengths

Real-time location tracking

The inclusion of GPS allows parents to monitor their child's location, providing extra layer of security

DIY for older kids

Older children have the opportunity to engage in DIY projects and problem-solving activities, promoting independent learning and problem-solving skills

Customizable and Personalize

Users can personalize the app with different voices and avatars, making it more engaging and readable for individual children

Opportunities

Parent relief

The app can reduce the annoyance, that parents may feel when constantly bombarded with their child's questions.

Educational development

The app can empower children to building things themselves, fostering a sense of independence and problem-solving skills.

Weaknesses

Internet Dependency

The app requires a stable internet connection to function properly, limiting its usability in poor connection areas

Battery dependence

Users need to charge the device regularly, which can be inconvenient, especially during long trips or outings.

Weaknesses

language limitations

The app may be limited in terms of supported languages.

Lack of context awareness

The app may not fully understand the content of a conversion, potentially leading to incorrect or irrelevant responses.

Threats

Competition

Existing products with larger user base like Amazon Echo Dot Kids, Chatterbox and HomePod Mini for Kids pose a threat, as they already have established market presence.

Safety concerns

The use of lithium-ion batteries in portable devices can pose fire hazards if not handled or designed properly, which may affect reputation and safety of product.

Technological advancement

Rapid technological advancements in the field of voice recognition and AI could make it challenging to keep the app up-to-date with the latest feature and capabilities.

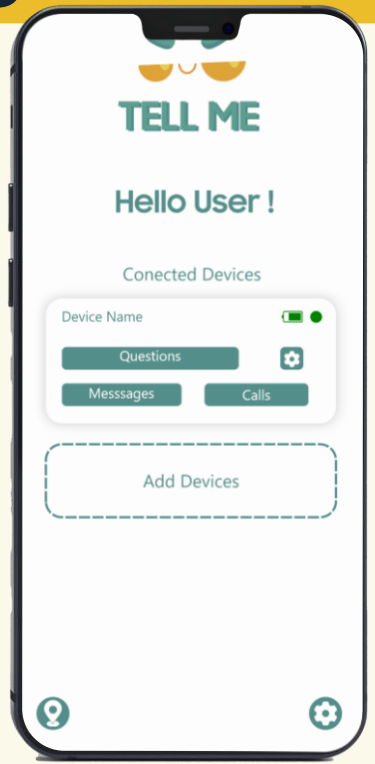
Target Audience Profiling

Primary users

Kids (age 5 - 13)

Secondary users

Parents / Caregivers



Kids (age 05 – 13)

Demographics :

Age	:	Children aged 5 – 13
Gender	:	Any
Social Backgrounds	:	Diverse social backgrounds, including various family structures and cultural backgrounds
Region	:	Residents in Urban areas in Sri Lanka
Education	:	Preschool to secondary school (Grade 1 to 8)
Job	:	Student / No occupation

Parents / Caregivers

Demographics :

Age	:	Aged between 25 - 45
Gender	:	Any
Social Backgrounds	:	Diverse social backgrounds, including various family structures and cultural backgrounds
Region	:	Residents in Urban areas in Sri Lanka
Income	:	Minimum Rs. 50,000 per month

Kids (age 05 – 13)

Psychographics :

Values :

Values fun and engaging interactions
Values learning and curiosity
Values content that aligns with their age and interests

Beliefs :

Believe in the importance of enjoyable learning experiences
Believe in the value of personalized and interactive content
Believe in content that adapts to their age and learning level

Kids (age 05 – 13)

Psychographics :

Lifestyle Choices :

Embrace a tech-savvy lifestyle
Exhibit a diverse range of hobbies and interests
Lead active, playful and exploratory lives

Goals :

Aim to learn, explore, and have fun
Seek age-appropriate educational experience
Have a secure and entertaining digital environment

Parents / Caregivers

Psychographics :

Values :

Values their child’s safety and privacy
Value educational and age-appropriate content
Value product that support their parenting efforts

Beliefs :

Believe in the significance of providing a safe and enriching digital experience for their child
Believe in the value of products with safety features and parental control

Parents / Caregivers

Psychographics :

Lifestyle choices :

Lead busy lives and seek products that make parenting easier
Value family timing and bonding

Goals :

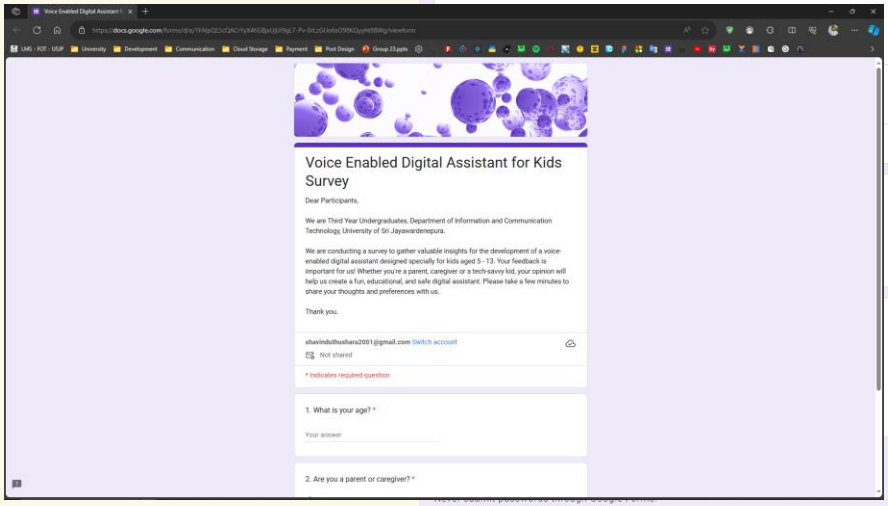
Strive to provide their child with a safe and enriching digital experience.
Seek tools that support their child’s educational goals
Aim for balanced life

Questionnaire and the responses off google form or any other type of medium used

Google form :

Link :

https://forms.gle/nPBc3TdURnXG5gG2A



Wireframes of the Design

Device Wireframes

Mobile Application Wireframes

Device Wireframe

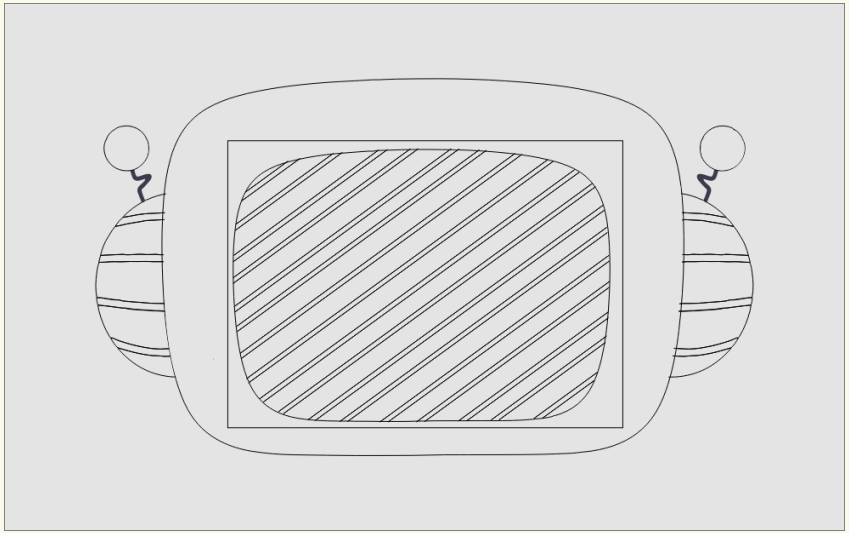
UI Designs

Device UI

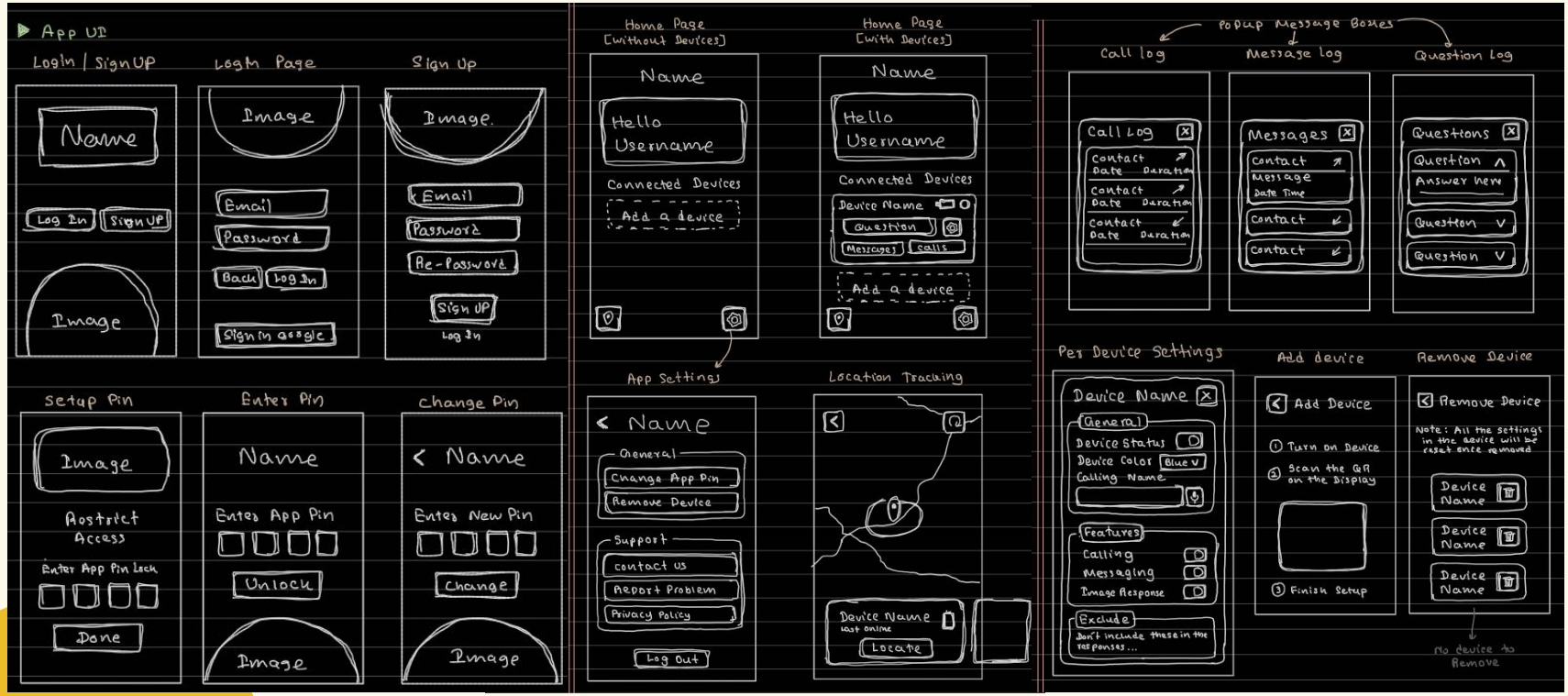
- Sleep State
- Active state
- Listening state
- Answering [Audibally]
  - ↳ Display Image
- Call interface – Call time
  [Fav 5 contacts] + SOS
- Text Messaging – Preview of the message

First time setup

- Device Setup [QR]
- Setup Done



Mobile Application Wireframes



UI Designs

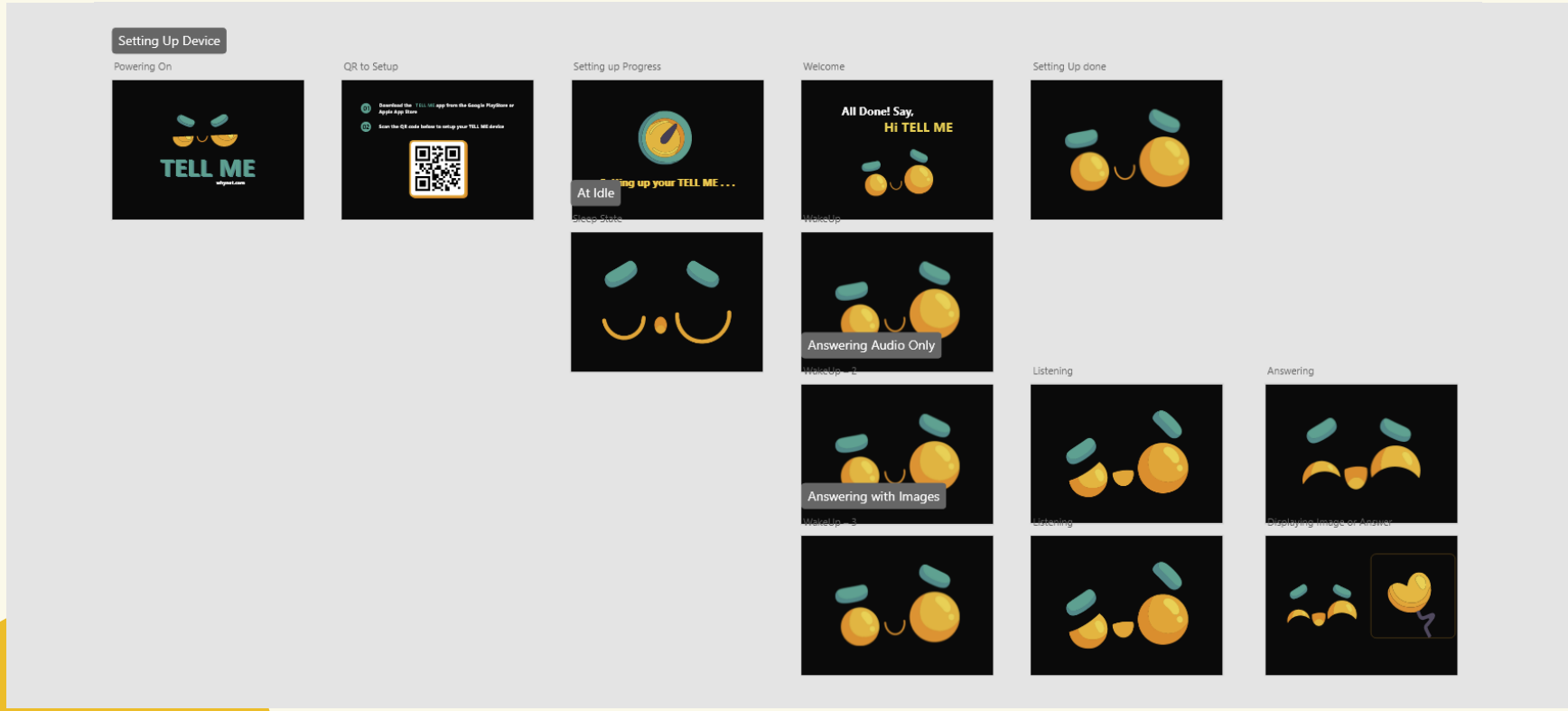
Device

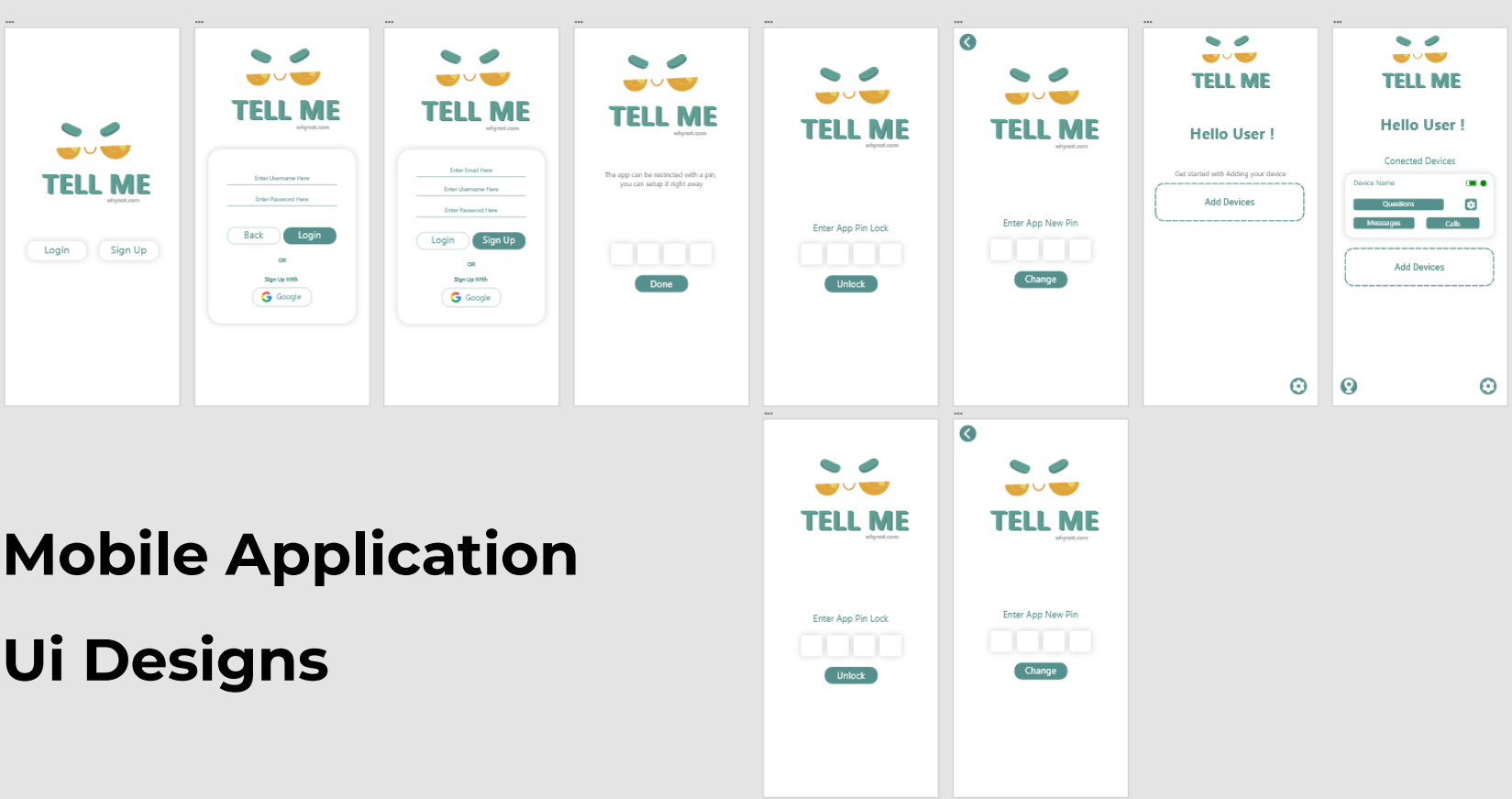
Ui Designs

Mobile Application

Ui Designs

Device Ui Designs





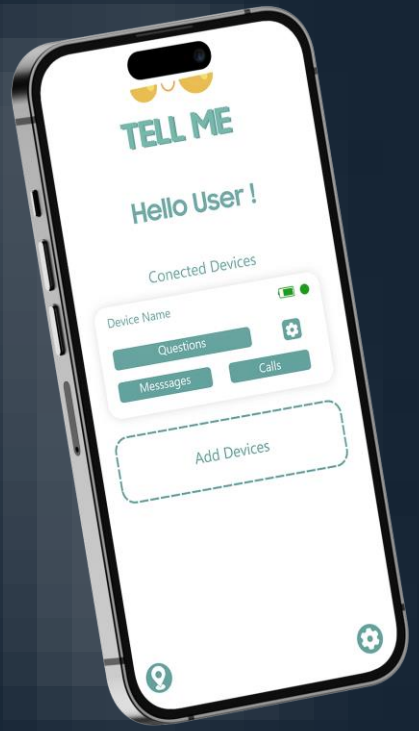
Mobile Application

Ui Designs

Mobile Application

Ui Designs

Prototypes Example



TELL ME

whynot.com

Thank You.