

Express²

Project Express² Design Document

Table of Contents

1. Guidelines	3
1.1. Technical Guidelines	3
1.2. Ethical Guidelines	3
1.3. Legal Guidelines	3
2. System Diagrams	4
3. Data Requirements	6
4. Feature Priority	7

1. Guidelines

1.1. Technical Guidelines

The technical application development of Express² will be done in the Xcode IDE using the Objective-C programming language while following the iOS Human Interface Guidelines and iOS multitasking guidelines. Testing will be done on the iPhone simulator provided by Xcode and version control will be done using GitHub. Final version submissions will be handled by Gary Yau via WebCT and TurnItIn.

1.2. Ethical Guidelines

Guardians and Users of Express² should be aware that they have the option to keep their information private. Express² developers will not have access to any information they provide to the application itself. Their information is not stored securely on their phone, but in plaintext. Should they decide to submit an Error Report, Express² will not share their email address with any third parties.

1.3. Legal Guidelines

Team X.I.S. would like to emphasize that this application does not offer any access to emergency services, or help in any real emergency situations. It is merely an aid for Users with Down syndrome who need to converse with strangers in times of emergency. Application development will be consistent with Apples Application Development Guidelines:

<https://developer.apple.com/appstore/guidelines.html>.

2. System Diagrams

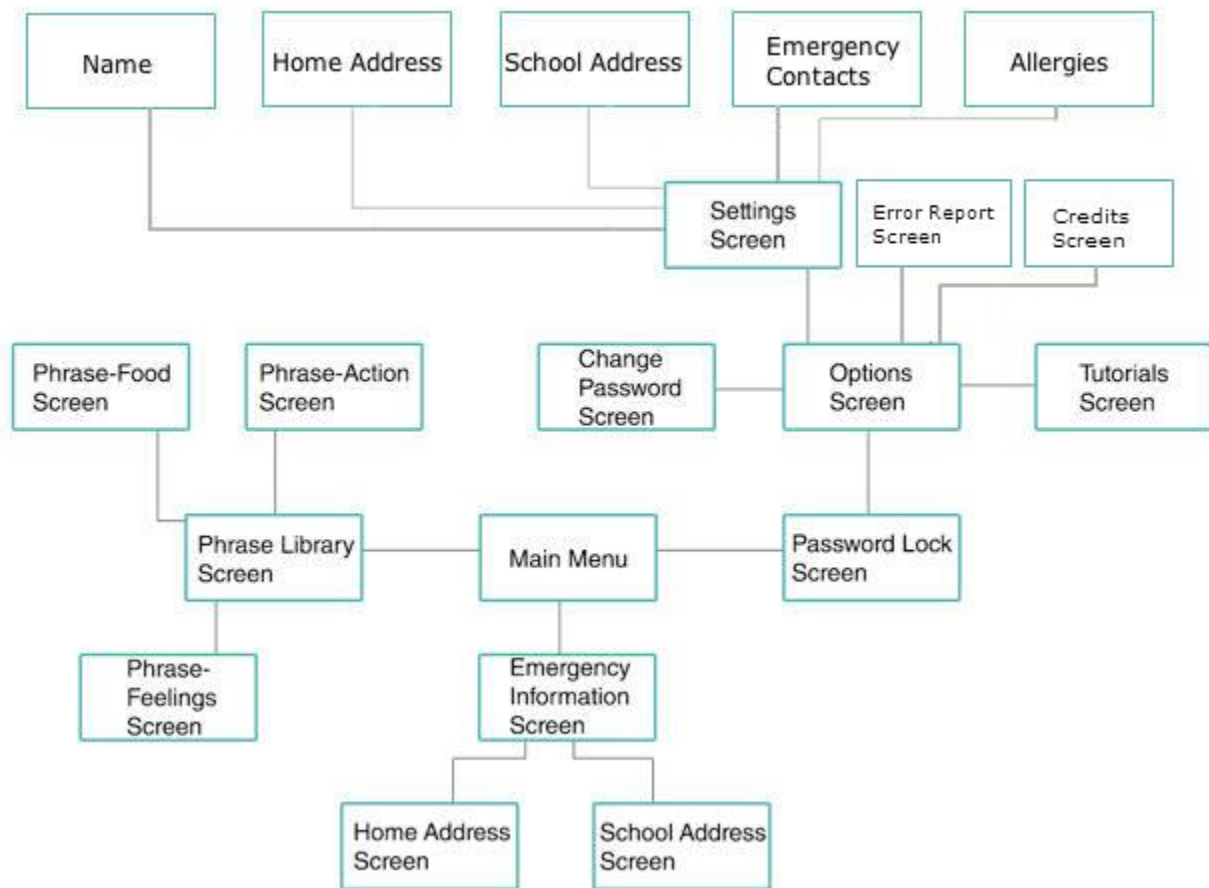


Diagram 2-A: A context diagram depicts the general functionality of the application by mapping out how the screens link to one another.

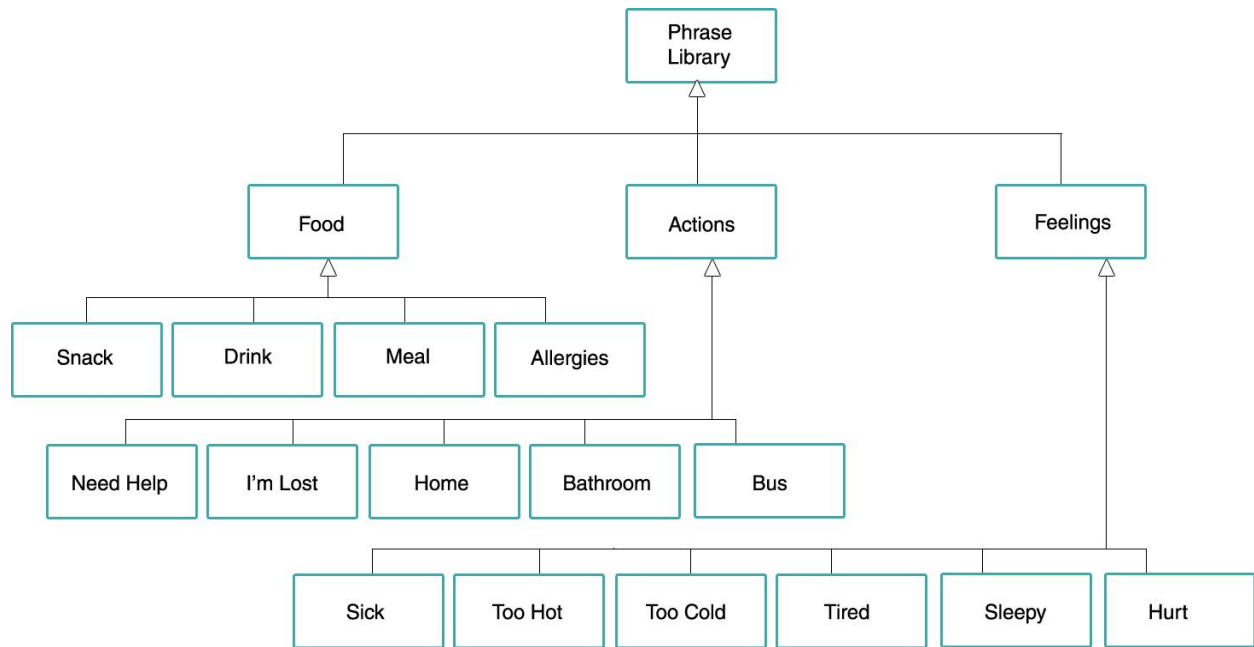


Diagram 2-B: A hierarchy diagram depicts the general flow of how the phrase library maps out towards the emergency phrases.

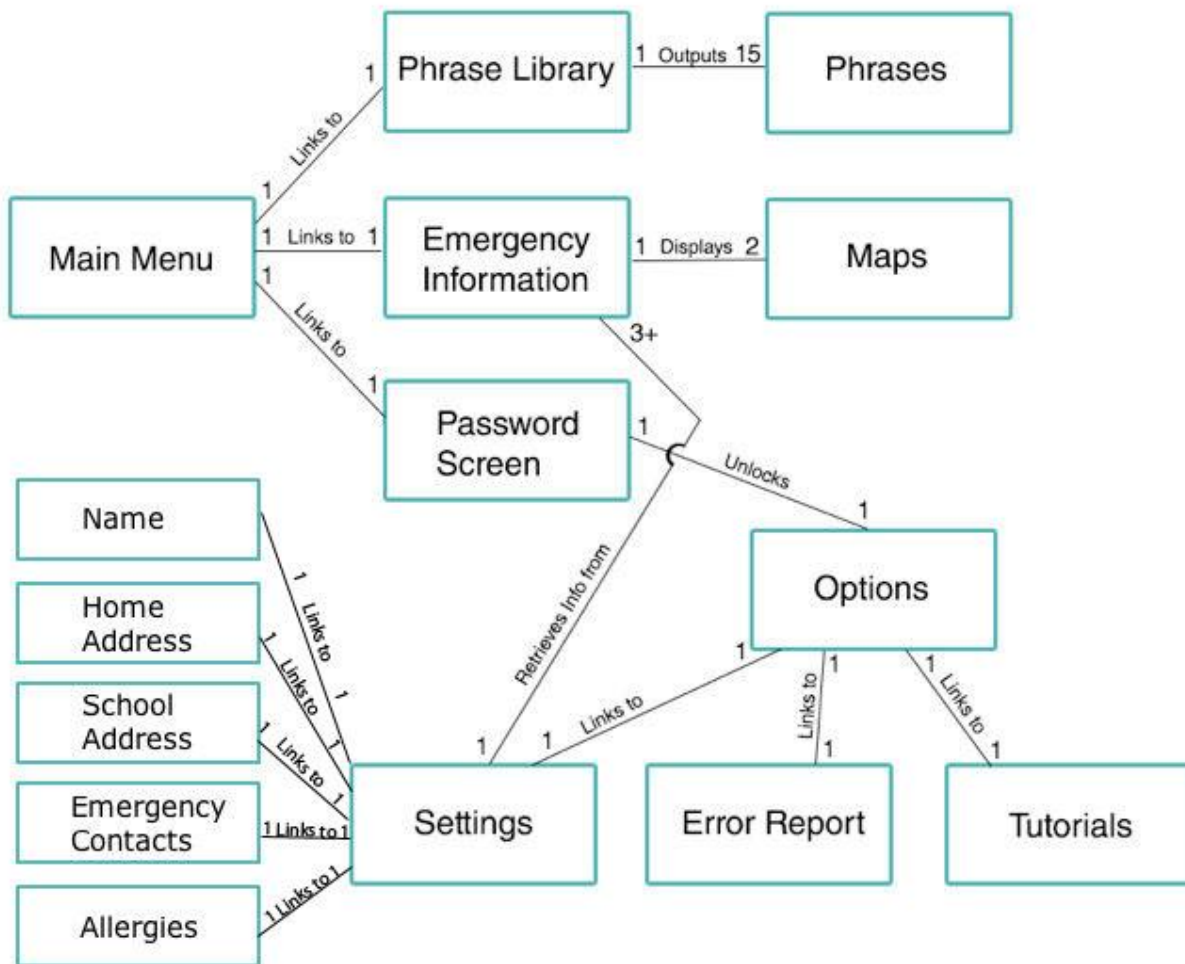


Diagram 2-C: A class diagram depicts functionality of how the classes in Express² interact with one another.

3. Data Requirements

The input requirements for Express² will be through the touch screen with either the User's finger or a touch screen stylus. Users will primarily be using buttons to navigate through the application, while Guardians will be inputting text into the provided text or numerical fields along with using buttons and toggles for user settings. Application functionality will be affected by the volume buttons on the side of the iPhone which, when pressed, can increase or decrease the volume of the pre-recorded audio phrases during playback.

The output of Express² includes Error Messaging from the application to notify the User regarding incorrect usage of the application due to invalid inputs, the playback of pre-recorded audio phrases upon button selection from the Phrase Library and visual feedback upon button press whereby the button color will darken slightly whenever pressed to indicate interaction.

There will be no databases within the context of this application as each application is only intended for two individuals, the User and the Guardian. Data will be stored as local plaintext while the password will be stored using NSUserDefaults class.

Interactions between Express² and external applications include emails from the iOS default email client for Error Reports whereby the User will go through an Error Report Form that will send developers an email regarding the details of the error. The application will also run concurrently with an embedded Google Map for retrieving directions to the predefined addresses in the Settings.

4. Feature Priority

Projected dates for version release:

Version 1: October 22, 2012

Version 2: November 12, 2012

Version 3: November 26, 2012

Version	Feature	Description
1	Main Menu	<ul style="list-style-type: none">• Button functionality for the following: Phrase Library, Emergency, and Options
1	Phrase Library	<ul style="list-style-type: none">• Button functionality for the following: Foods, Actions, and Feelings• Button functionality for phrase buttons to play the audio for the phrase (placeholder for male and female audio recordings)• Allergies Display screen linked to the Foods > Allergies button displaying a list of User's allergies
1	Emergency Information	<ul style="list-style-type: none">• Display placeholder Emergency Contact names and numbers• Display Home and School Address buttons (Non-

functional placeholders)

1	Options screen	<ul style="list-style-type: none">• Button functionality for the following: Settings, Change Password, Tutorials, Error Report
1	Settings Menu	<ul style="list-style-type: none">• Input fields for the following: Name, Home Address, School Address, Emergency Contacts, and Allergies• Toggle buttons for the following: Graphics Option, Contact Privacy, Address Privacy• Switch buttons for the following: Voice Gender Option, Color Preference Option
1	Tutorials screen	<ul style="list-style-type: none">• Button functionality for the tutorial buttons
2	Initial Setup	<ul style="list-style-type: none">• Step by step screen transition set up of User preferences including Password Lock, User Information and User Preferences.• Functionality of edited preferences saved in Settings• Functionality of Initial Setup only occurring if no User settings file exists; primarily for initial use of application
2	Phrase Library Audio	<ul style="list-style-type: none">• Audio phrases simulated and integrated (Male/Female)• Audio clips linked to respective phrase buttons
2	Emergency Information Home/School Address	<ul style="list-style-type: none">• Emergency Info linked with information provided in Settings Menu• Display of map with current location and destination. Non-functional.
2	Options: Password Lock	<ul style="list-style-type: none">• Functional screen with 4-character Password Lock using generic keypad• Reset Password button functionality that triggers a prompt
2	Options: Password Lock Error Messaging	<ul style="list-style-type: none">• Error messaging prompt if the entered Password does not match saved password• Reset Password prompt with warning message that the password will be reset to the password printed in the User Manual, with confirmation buttons

2	Options: Change Password	<ul style="list-style-type: none"> • Button functionality for Change Password screen • Contains text fields of Current Password, New Password and Confirm New Password • Working functionality of password change
2	Options: Change Password Error Messaging	<ul style="list-style-type: none"> • Error messaging prompt if the Current Password field does not match saved password • Error messaging prompt if New Password and Confirm New Password fields do not match • Error messaging prompt if New Password does not meet 4-character password requirements
2	Options: Error Reports	<ul style="list-style-type: none"> • Button functionality to Error Report Form screen • In-app Email setup for the user to fill out and send • Setup includes destination emails, email subject, and a template on the email content
2	Options: Error Reports Error Messaging	<ul style="list-style-type: none"> • If an error occurs where email cannot be sent, provide User with an error messaging prompt
2	Settings Menu	<ul style="list-style-type: none"> • User Information triggers to bring Guardian into a screen to modify specific User Information attributes • User Information modification screens will contain Submit button for individual save functionality • User Preferences toggles/switches all functional and set-up to be used • User Preferences toggles/switches save changes automatically
2	Settings: Saving Error Messaging	<ul style="list-style-type: none"> • When Guardian enters User Information, information is displayed. Confirmation pop-up for saving displayed information. • If Guardian presses YES on confirmation message, saved data will be overwritten with the information currently displayed in the Settings Menu, and returned to Settings Menu • If Guardian presses NO on confirmation message, they

will be returned to the previous screen with the changed information, but nothing saved

- When Guardian toggles User Preferences, changes will be saved automatically.

3	Emergency Information Home/School Addresses	<ul style="list-style-type: none">• Button hidden if Address Privacy is enabled• Button links to Home Location screen or School Location screen when iPhone has network connection• Button links to Home Address screen or School Address screen when iPhone has no network connection
3	Settings: Color Theme	<ul style="list-style-type: none">• Selecting a color will change application's interface to that color scheme• Selecting a color will immediately change the interface of the next screen navigated to
3	Button Graphics	<ul style="list-style-type: none">• Add on Button designs of pictures for Picture Library
3	Tutorial Videos	<ul style="list-style-type: none">• Simulator recording of tutorials with scripted speech for three specific scenarios• Uploaded to YouTube and linked within Tutorials screen
