



Fitgenyx

Cristopher Cruz, Keith Wilson, Rachel Layman, Vasilisa Solod



Fitgenyx is here!

Fitgenyx is an app meant to make tracking one's workout and progress of specific activities easier and less tedious. Users can:

- Add/Edit/Delete workouts
- Voice dictate those workouts
- Track progress via a graph of activities
- Add/Edit/Delete exercise types (e.g. bench press, pull-ups, ...)
- Receive notifications when they haven't interacted with the app in some time
- And more...

Meet the team...



Cristopher Cruz

Responsibilities included:

- Design and mockups
- Launch page
- Settings page
- Update Email/Password and Delete account
- Hamburger menu



Keith Wilson

Responsibilities included:

- Database
- Register
- Sign in
- Forgot password
- Add/Edit Workout
- Voice interaction in Add/Edit workout
- Helper dialogs



Rachel Layman

Responsibilities included:

- Design and functionality
- DB schema tuning
- Workouts list
- Delete workout
- Exercise types list
- Add/Edit/Delete Exercise types
- Progress page
- About page



Vasilisa Solod

Responsibilities included:

- Bottom navigation
- Notifications



Issues we faced

Sort of exercise types was not sorting in a way that looked “sorted”, as Firestore does a case-sensitive sort

- To solve this issue: Rachel added a SortableName column to the UserExerciseTypes collection that is stored lower-case, and then sorted all Exercise Types lists by SortableName.

Deleting a workout was only deleting the top level collection and not its exercises. Rachel had a misconception that deleting a document in a collection would also delete its sub-collections.

- To solve this issue: Rachel created a recursive delete method that would delete a given workout's exercises and then the workout document itself.

Editing an exercise type created an issue in workouts where the exercise type was used, because the exercise type drop-down for Add/Edit Workout page only held the names of the exercise types

- To solve this issue: Rachel modified the drop-down to hold the name and the document ID of the exercise type.

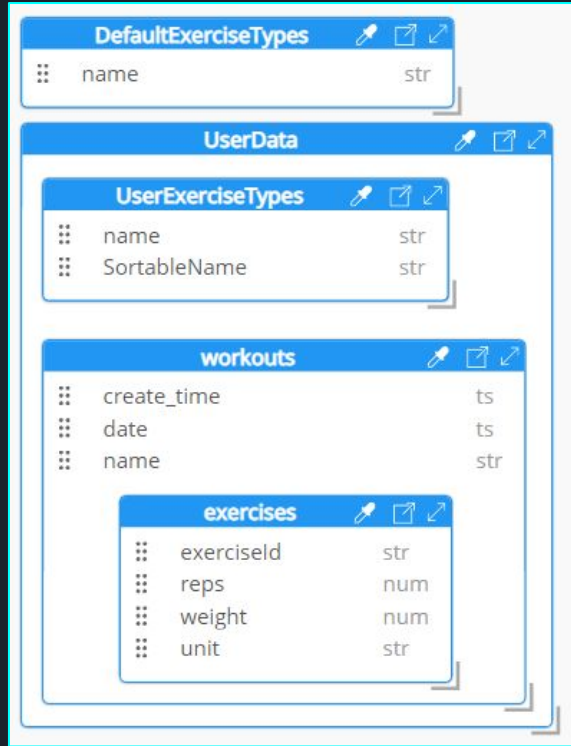


Issues we faced cont'd...

Delete Account: Deleting user authentication ensured the user could no longer login (account was erased). However, all the other data associated to the user lingered in the database after deleting the user's authentication credentials.

- To solve this issue: Cristopher had to spend some time to get more familiar with how Firebase stores information. He created a delete method that would delete all of the user's information (user exercise types, workouts, userData) before deleting the authentication information.

Fitgenyx's DB - Firestore



All application data is stored in Cloud Firestore

- Powered by Google's storage infrastructure
- Accessible globally at any time
- NoSQL database organized as collections and Documents

At the root level, the Fitgenyx DB contains two Collections:

- **DefaultExerciseTypes** - a collection of exercise types that each user has access to when they create their account
- **UserData** - consists of two collections
 - **UserExerciseTypes** - Current list of exercise types for the user (initially populated from **DefaultExerciseTypes**). Note: **SortableName** is just the name in lower-case, for sorting purposes
 - **Workouts** - A collection of logged workouts. A workout itself consists of a collection of exercises, as well as information pertaining to when the workout was performed

Register for an account

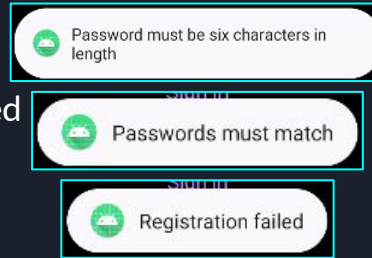
Account creation is handled on the backend by Firebase Authentication

Users register an account using an email address and a password

Form validation ensures that

- The email address is correctly formatted
- The password is of sufficient length
- The two password fields match
- All fields are populated
- An account doesn't already exist for the given email address

The "Sign in" hyperlink takes the user back to the Sign in page

A screenshot of the FitgenyX registration form. The form has a dark background with white text and input fields. It includes fields for Email, Password, and Re-enter password, each with a label above it. A purple REGISTER button is at the bottom. A Sign in link is at the very bottom. The FitgenyX logo is at the top right.

Sign in

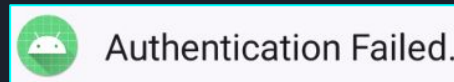
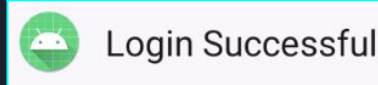
User authentication is handled on the backend by Firebase Authentication.

Fitgenyx processes the credentials supplied by the user and passes them to the Firebase Authentication SDK.

Firebase returns a response code that the app uses to determine whether or not the sign-in attempt was successful

The “Forgot password?” hyperlink takes the user to the Forgot password page

The “Register” hyperlink takes the user to the Register page



Fitgenyx

Sign in

Email

Password

[SIGN IN](#)

[Forgot password?](#) [Register](#)



Forgot password?

In the event that a user forgets their password, they have the capability to request a password reset

Provided that the email address matches a registered account's email address, an email with password reset instructions will be sent

The email will contain a link that the user can click which will allow them to reset their password

The "Back to Sign in" hyperlink will take the user back to the Sign in page

Hello,

Follow this link to reset your Fitgenyx password for your moose4747+4@gmail.com account.

https://f0tc-361715.firebaseio.com/_/auth/action?mode=resetPassword&oobCode=pRjOHnnnvSsLVf5EjWBj1-yTwXqVqIH72_G6m-KM04AAAGErSEHqg&apiKey=AlzaSyBaNwVHVDhqsA16jQ8ste5MjxUbRZDg3Ow&lang=en

If you didn't ask to reset your password, you can ignore this email.

Thanks,

Your Fitgenyx team

Fitgenyx

Forgot password

Email

SEND PASSWORD RESET EMAIL

[Back to Sign in](#)

Launch page

When a user first opens the application, a motivational/fitness related image is displayed as the starting page loads.

- Different images each time: (7 different images in total), providing more motivational content and a great visual/interface for the user.
- The title/logo is fixed in the center position on every image.

A random number generator is used to randomly select a background resource image for the launch page.



Bottom navigation



List menu icon



Exercise Type List page



Calendar menu icon



Workout List page



Workout menu icon



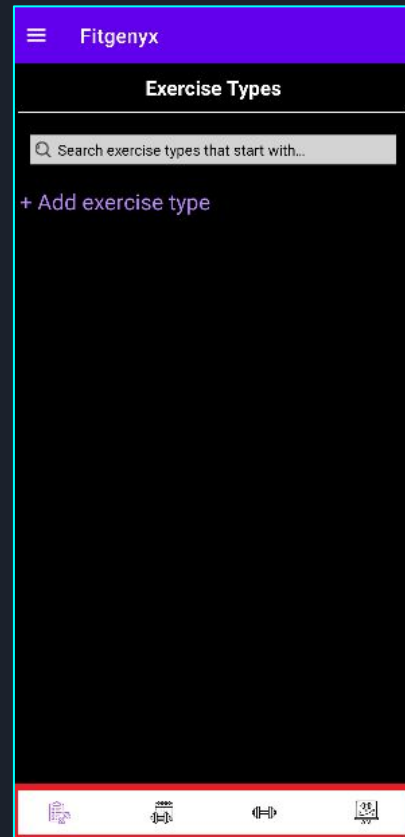
Add Workout page



Graph menu icon



Progress page



Workouts list

The Workouts list page shows users all their currently logged workouts.

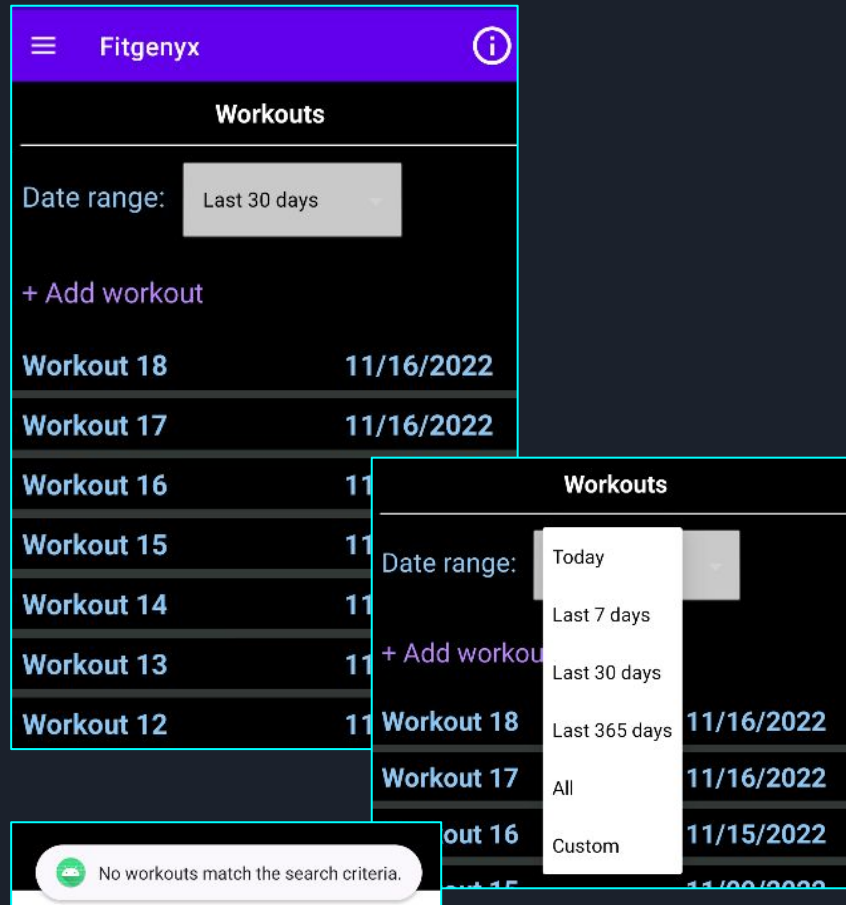
Default date range is Last 30 days, but options for the date range are: Today, Last 7 days, Last 30 days, Last 365 days, All, and Custom.

Selecting a new option in the Date range drop-down (excluding Custom) will refresh the list below.

Selecting the “+ Add workout” hyperlink takes the user to the Add Workout page.

Selecting an item (workout) in the list takes the user to the Edit Workout page.

If at any point the Date range used does not bring back any workouts, a Toast will display informing the user.



Custom date range

Selecting the "Custom" date range option does not refresh the list/graph, it unhides a row in the UI that allows the user to select a non-predefined date range.

Selecting a different option from the Date range drop-down should re-hide the Custom date range row.

Selecting the From date should not trigger any app actions unless the validation passes and the To date has also been chosen. And vice versa.

If at any point the page needs to update its data and an invalid date range is currently selected, the Date range drop-down will be set to the default (Last 30 days) and the Custom row will be reset and rehidden. Cases for this to happen are:

- A workout is deleted (Workouts list page)
- The Exercise type drop-down is changed (Progress page)

Validation on date range:

- From date must be before To date (Workouts list page & Progress page)
- From date must be within 30 days of To date (Progress page)

Workouts

Date range: Custom

From mm/dd/yyyy to mm/dd/yyyy

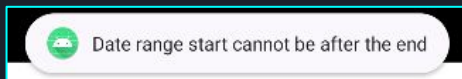
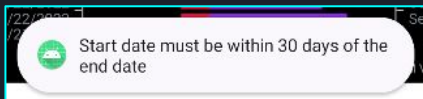
Progress

Exercise type: Bench Press

Date range: Custom

From mm/dd/yyyy to mm/dd/yyyy

From 11/09/2022 to 11/20/2022



Add workout

A workout consists of

- The date the workout was completed
- The name of the workout
- One or more exercises

An exercise consists of the

- Number of repetitions
- Exercise Type
- Weight (optional)
- Unit of Weight (optional)

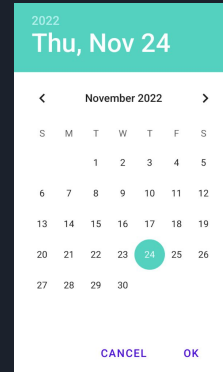
Robust validation ensures the integrity of the saved workout data

- Date is required and must not be in the future
- Workout Name is required
- Repetitions is required and must be a positive integer
- Weight is optional but must not be negative
- A Workout must consist of at least one exercise

Selecting the exercise type box brings up a drop down list containing all exercise types for that particular user

Trash bin and plus sign icons provide an intuitive mechanism for adding and deleting exercises

Calendar popup provides a convenient way to select the workout date

The "Add Workout" form has a teal header. It contains fields for "Date:" (with value "11/25/2022"), "Name:" (with value "Workout 3"), and a microphone icon. Below is a table with headers "Reps", "Exercise type", "Weight", and "Unit". The first row has an empty "Reps" box, "Bench Press" in the "Exercise type" box, an empty "Weight" box, and "lbs" in the "Unit" box. There is a trash icon to the right of the "Unit" column. A "+" icon is below the "Reps" column. At the bottom is a large purple "SAVE" button.

- Bench Press
- Bicep Curls
- Jumping Jacks
- Pull-Ups
- Push-Ups
- Side Planks
- Sit-Ups
- + Add exercise type



Reps must be greater than zero



Reps are required



Date can not be after today

Voice command

Users can choose to add exercises to their workout via voice commands.

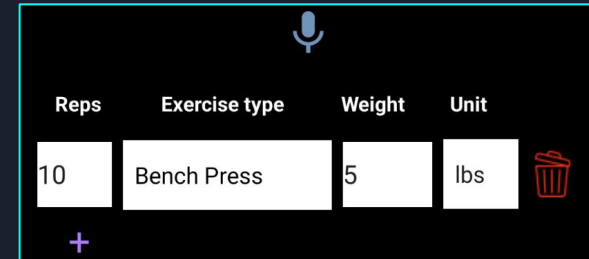
Provided that a user has granted Fitgenyx access to their device's microphone, a user can select the microphone icon and dictate one or more exercises at a time.

Example: "Add 10 bench press with 5 pounds."

Multiple exercises can be added at once by separating them with the word "and".

The app uses the Levenshtein Distance algorithm to match the spoken exercise type to an exercise type belonging to that user. In this way, users don't have to be precise when giving their exercise type.

For example, "push up", and "push ups" will both match an exercise type of "Push-Ups"



Edit workout

Users have the ability to modify the contents of a workout they have previously saved.

After selecting the desired workout from the Workouts List page, the user is taken to the Edit Workout page where changes can be made.

The page is pre-populated with the information pertaining to the original workout.


The frontend behaves identically to the Add Workout page except for the pre-filled data and the “Edit Workout” title.




On the backend, when the user submits the form, upon successful validation the original workout is deleted from the database and is replaced by the edited workout.

Edit Workout

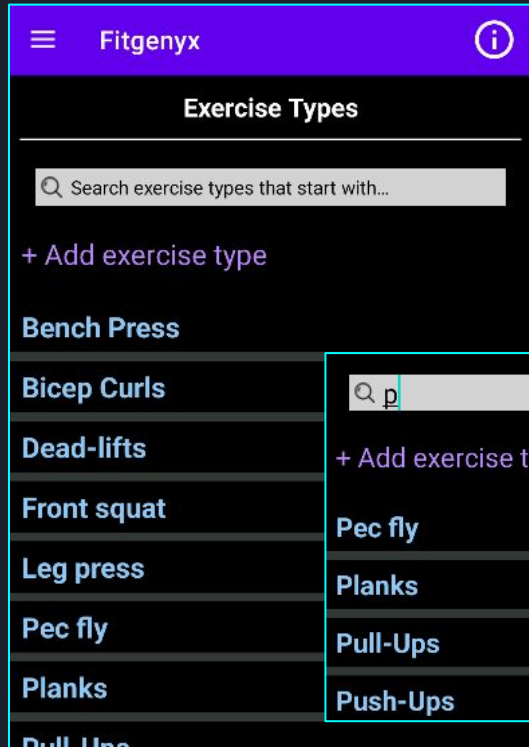
Date:

Name:



Reps	Exercise type	Weight	Unit	
<input type="text" value="12"/>	<input type="text" value="Bench Press"/>	<input type="text" value="4"/>	<input type="text" value="lbs"/>	
<input type="text" value="11"/>	<input type="text" value="Sit-Ups"/>	<input type="text" value=""/>	<input type="text" value="lbs"/>	
				

Exercise types list



The Exercise types list page shows users all of their available exercise types.

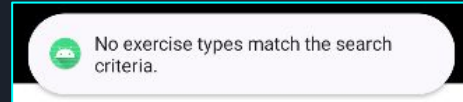
Selecting the “+ Add exercise type” hyperlink opens up the Add exercise type dialog.

Selecting an item (exercise type) in the list opens up the Edit exercise type dialog.

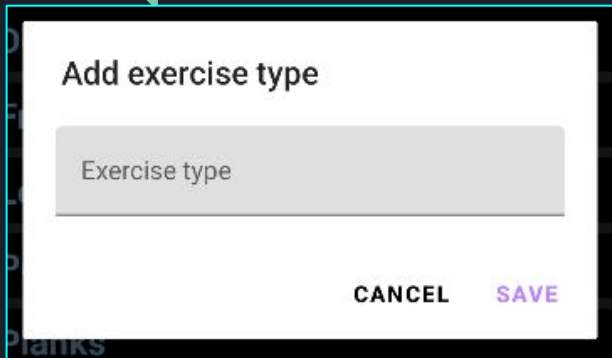
The Search is a “starts with” search (noted by the hint text).

Typing in the Search will refresh the list below with the searched string’s results.

If the search/list returns empty, a Toast will display informing the user.



Add/Edit exercise types



A dialog box titled "Add exercise type" with a light gray input field labeled "Exercise type". At the bottom right, there are two buttons: "CANCEL" in black and "SAVE" in purple.

If a user wants to use an exercise type not currently in their list, they can add it. Adding an exercise type will immediately make it available for use in workouts/progress tracking. Note: This functionality is also available from the Add/Edit Workout page.

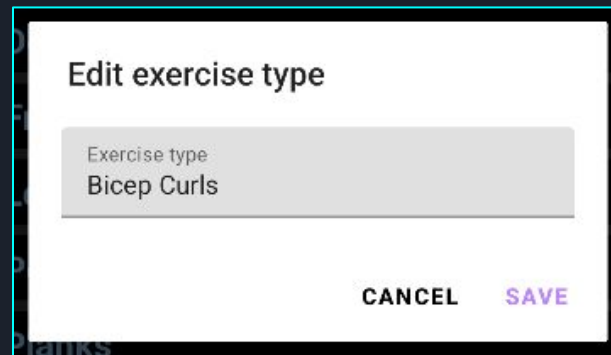
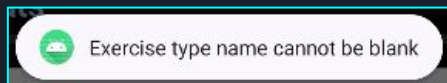
If they would like to edit an exercise type, that is available as well.

Save will refresh the exercise types list (with any search still intact).

Cancel will close the dialog box without performing any other actions.

Validation on save:

- If there are no characters or only white space entered when saving, the dialog box will persist and a Toast message will show informing the user of the error.



A dialog box titled "Edit exercise type" with a light gray input field labeled "Exercise type" containing the text "Bicep Curls". At the bottom right, there are two buttons: "CANCEL" in black and "SAVE" in purple.

Delete workout/exercise type

To delete a workout or exercise type, simply slide left on the row of the workout/exercise type (within their respective list pages) and then select the delete (trash can) icon.

Deleting will refresh the workout or exercise types list with the date range (Workouts list page)/search (Exercise Types list page) still intact.

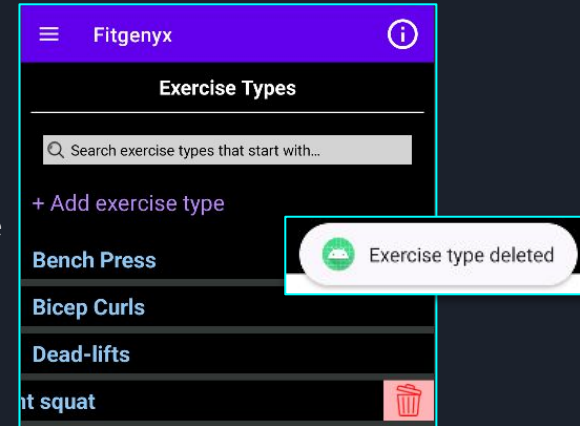
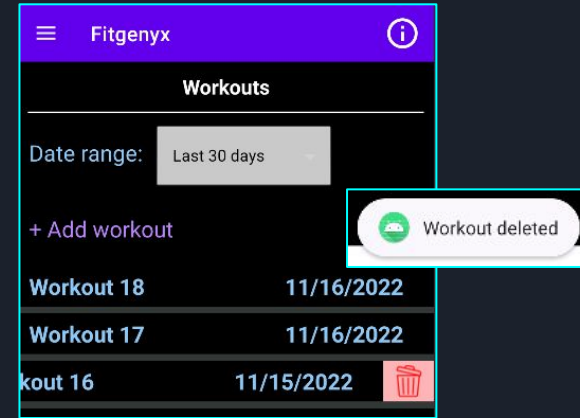
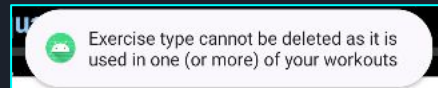
A Toast message will confirm the delete.

Notes on workout deletion:

- Deleting a workout also deletes all exercises (sub-collection) associated.

Validation on exercise type deletion:

- If the exercise type is used in a workout, it cannot be deleted. If the user tries, a Toast message will show informing the user.



Progress

The Progress graph will show the user's progress of the selected Exercise type over the selected Date range.

Default date range is Last 30 days, but options for the date range are: Today, Last 7 days, Last 30 days, and Custom.

Selecting a new option in the Exercise type drop-down will refresh the graph below.

Selecting a new option in the Date range drop-down (excluding Custom) will refresh the graph below.

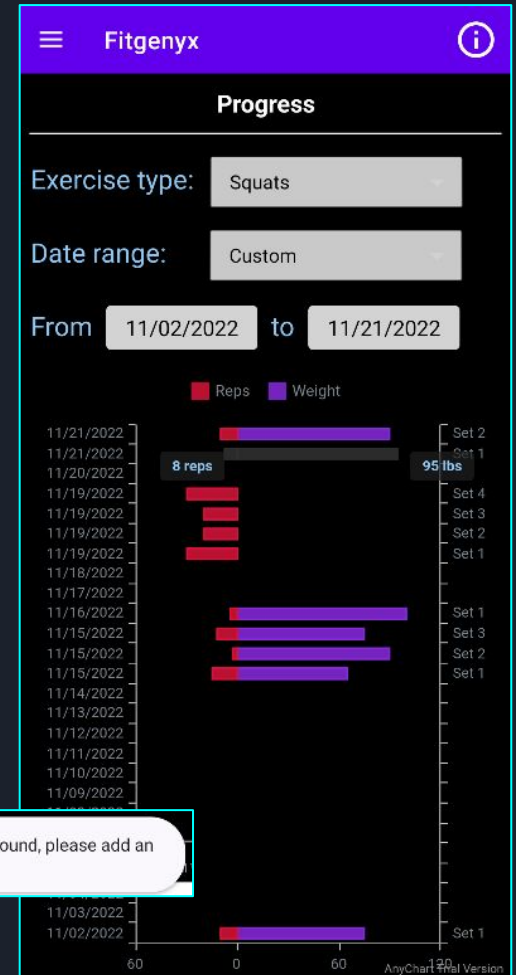
If the user doesn't have any exercise types (i.e. they deleted all they were given), a Toast message will display letting them know they need to add exercise types.

X-axis counts up both to the left and the right of the 0 point.

Left y-axis displays the dates in the date range.

Right y-axis displays the sets for that day (1 or more).

Selecting one of the bars in the graph will show a tooltip of the details of that set of the exercise (ex: shown on Set 1 of 11/21).

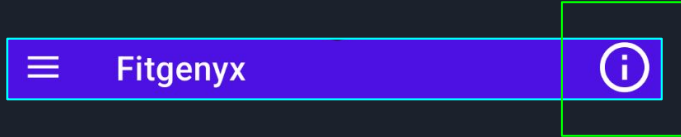


Helper dialogs

An icon appears on the title row of several pages to provide users with helpful information relevant to that particular page. Selecting the icon will bring up a dialog box with the helper text.

Helper dialogs text:

- Workouts list page: "Here are your workouts within the selected date range. Select one to view/edit. Slide left to delete the workout."
- Add/Edit Workout page: (shown as example)
- Exercise list page: "These are your exercise types available! Select one to view/edit. Slide left to delete the exercise type."
- Progress page: "Here is your progress of the selected exercise type, within the selected date range. If you had more than one set of the exercise type on a given day, you'll see that noted on the right side. Clicking on the chart's bars will show the full details."



Enter your workout! If your exercise is without weight, leave that field blank. Select "+" to add additional exercises.

Tap the mic icon to add exercises verbally. For example, say "12 reps of bicep curls with 15 pounds". Separate multiple exercises with the word "and".

CLOSE

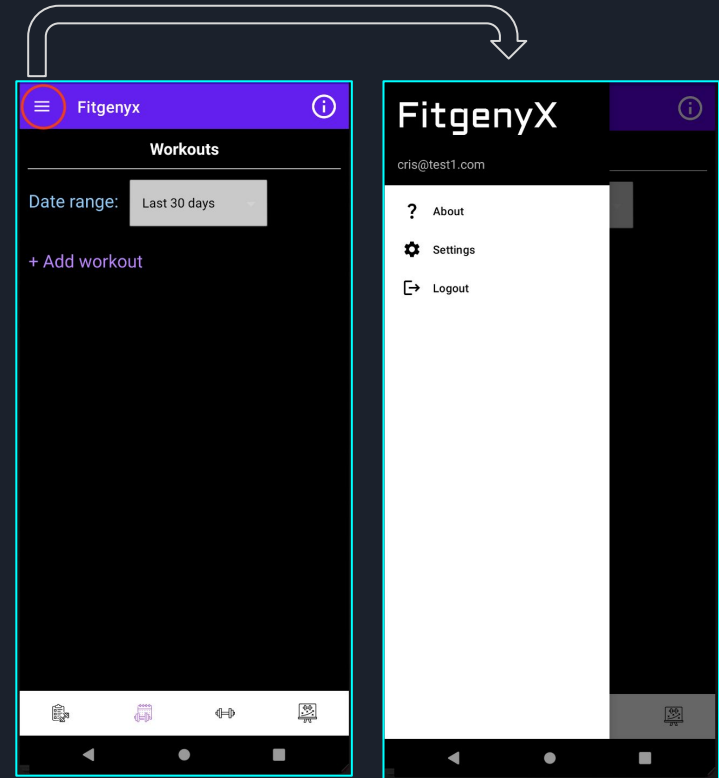
Hamburger menu

On the top left corner of the toolbar, a hamburger menu icon toggles a drawer menu panel when tapped.

Features:

- Header showing the app's logo and the user's email underneath.
- Button-links to the About page, the Settings page, and Logout.
- Accessible from any page.

To close the menu, the user can tap anywhere outside of the panel frame, or they can slide the frame to the left (back to its original position).



About page



Fitgenyx

About Fitgenyx

Welcome to Fitgenyx!

Fitgenyx is here for all your fitness needs in tracking your progress. You can enter your workouts with ease by voice command; track your progress by exercise type to make sure you hit your goals. So, let's get going on those goals!

Keith Wilson



Keith is a 40 year old software developer from Orlando, FL. In his spare time, he enjoys golfing and spending time with his wife and two kids, not necessarily in that order. A lifelong student, his ultimate goal is to earn a college degree before his kids do.

The About page is just a little bit about Fitgenyx and its authors.

About the authors

Cristopher Cruz



Originally from Honduras, Cristopher is a 23 year old computer science major at Florida State University. He enjoys software engineering and learning about new technologies. From an early age, Cristopher has been a long distance runner and weightlifter. He now resides in South Florida, although he hopes to retire in his home-country one day.

Rachel Layman



Rachel is a 35 year old software enthusiast. She got her start in software development in a sort of round-about way. She first started as a software intern, testing car-alignment software. Not long after, intern turned full-time Software Tester. After a few years as a tester, her interest in development grew, and it's all history from there. Rachel also enjoys working out and going hiking with her dog, Calla.

Vasilisa Solod



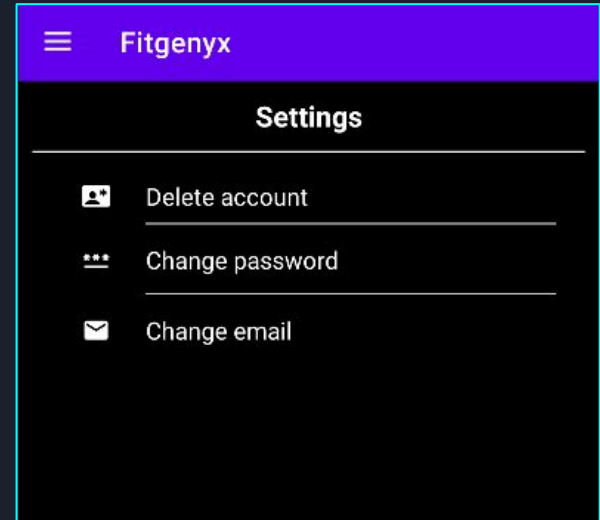
Vasilisa is from Fort Lauderdale, Florida where she works as a SQL programmer at Geosyntec, an environmental engineering firm. She started her career as an IT intern at the United Nations and worked as a Google Ads analyst. She has experience in systems analysis, application backend development, and process automation. She is also a mom of 2 and a student at Florida State. In her spare time, she enjoys gardening.

Settings

In the settings page users have access to the following functionality:

- Delete account
- Change password
- Change email

Once clicked, the buttons open their respective dialog boxes.



Change email

The dialog box prompts the user for:

- Old Email (the user's current email)
- New Email
- Password

Form validation ensures that:

- The email belongs to an account
- The user enters a password matching the Old Email
- The user does not leave any fields empty

Additional Features:

- Visibility toggle (shows/hides password when tapped)

Email Updated...

Enter New Email, Enter Password

The screenshot shows the Fitgenyx app interface. At the top is a purple header with a hamburger menu icon and the text 'Fitgenyx'. Below this is a 'Settings' section with three options: 'Delete account' (with a person icon), 'Change password' (with a three-dot icon), and 'Change email' (with an envelope icon). The 'Change email' option is selected, and a white dialog box is displayed over the settings list. The dialog box has the title 'Change email' and contains three input fields: 'Old Email' with the value 'fakeEmail@test.com', 'New Email' with the value 'jk.com', and a password field labeled 'Enter your Password' with a visibility toggle icon (an eye) to its right. At the bottom of the dialog box are two buttons: 'CANCEL' and 'SAVE'. Below the dialog box, a red error message 'Password or Email is incorrect' is visible in a rounded rectangle. At the very bottom of the app, there is a navigation bar with icons for 'List', 'Home', 'Profile', and 'Settings'.

Change password

The dialog box prompts the user for:

- Old Password
- New Password
- Re-enter New Password

Form validation ensures the user:

- Enters properly formatted password fields
- Enters a valid current password for the account
- Enters a new password in both fields, and they match
- Does not leave any fields empty

Password Updated...

Old Password is incorrect

Fitgenyx

Settings

- Delete account
- Change password
- Change email

Change password

Old Password
•

New Password
..

Re-enter New Password
123

CANCEL SAVE

Password must be six characters in length,
New Passwords do not match

Delete Account

The dialog box prompts the user for their:

- Email
- Password

Form validation ensures the user:

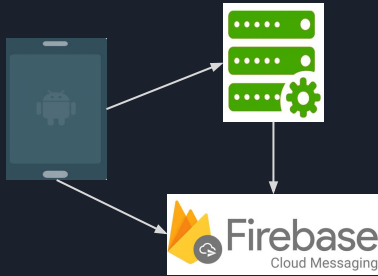
- Enters a valid password and email for the account
- Does not leave any fields empty

Once the user clicks on the “Delete Account” button, they will be logged out of the application and all of their information will be deleted from the database (exercise types, workouts, etc.).

The screenshot shows the Fitgenyx app interface. At the top, there is a purple header with a hamburger menu icon and the text "Fitgenyx". Below this is a "Settings" section with three options: "Delete account" (with a person icon), "Change password" (with a key icon), and "Change email" (with an envelope icon). The "Delete account" option is selected. A modal dialog titled "Delete account" is displayed in the center. It contains two input fields: "Enter Email" with the text "cris@test1.com" and "Enter your Password" with masked characters "****". There is a toggle icon for the password field. At the bottom of the dialog are two buttons: "CANCEL" and "DELETE ACCOUNT". At the very bottom of the screen, there is a grey bar with a "List" button and a message "Password or Email is incorrect" in a white rounded rectangle.

Notifications

Using registered tokens:



1. Request to register
2. Respond with a unique token
3. Send the received token to the database
4. Request Firebase to send notifications to registered users.
5. After Firebase accepts the request, the message is sent to devices using these tokens.

Using Firebase GUI:

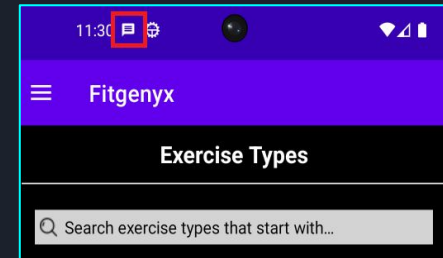


1. A new notification campaign is created in the Firebase console.
2. Content, target, and schedule are specified, and the campaign is published.
3. Notification is sent.

App State: Background



App State: Foreground



Thank you!

