Manual - FHIR Ball

Team FHIR Ball

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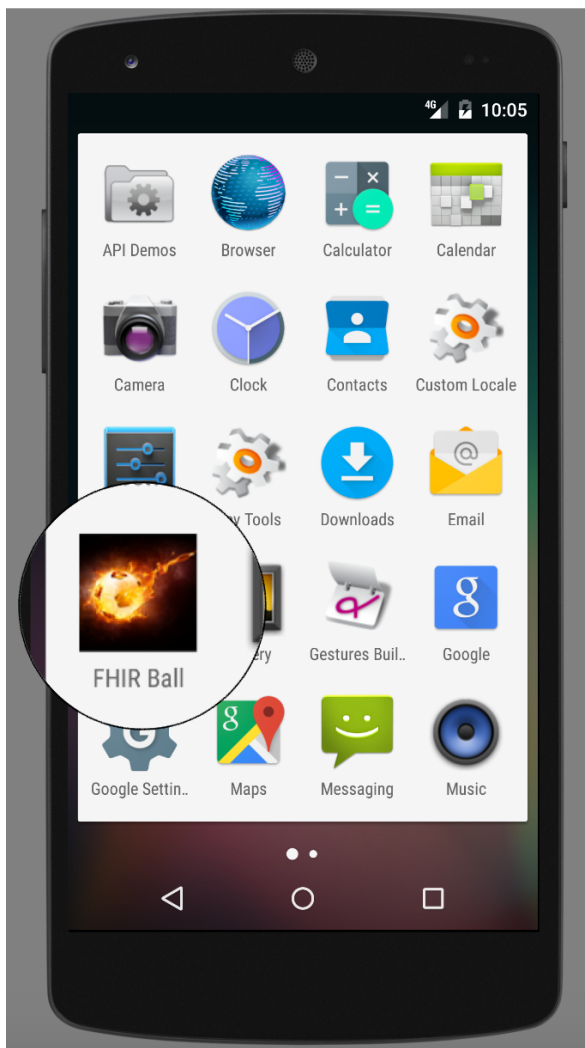
Topic: Improving Medication Adherence at the Community Level
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Obtaining the application

The application is available through the Google Play Store (https://play.google.com/store/apps/details?id=edu.gatech.health.fhirball) or as an .apk file which can be side-loaded to an Android device or emulator. For further information on the latter method of obtaining the app, see file "*Special Instructions - FHIR Ball.pdf*".
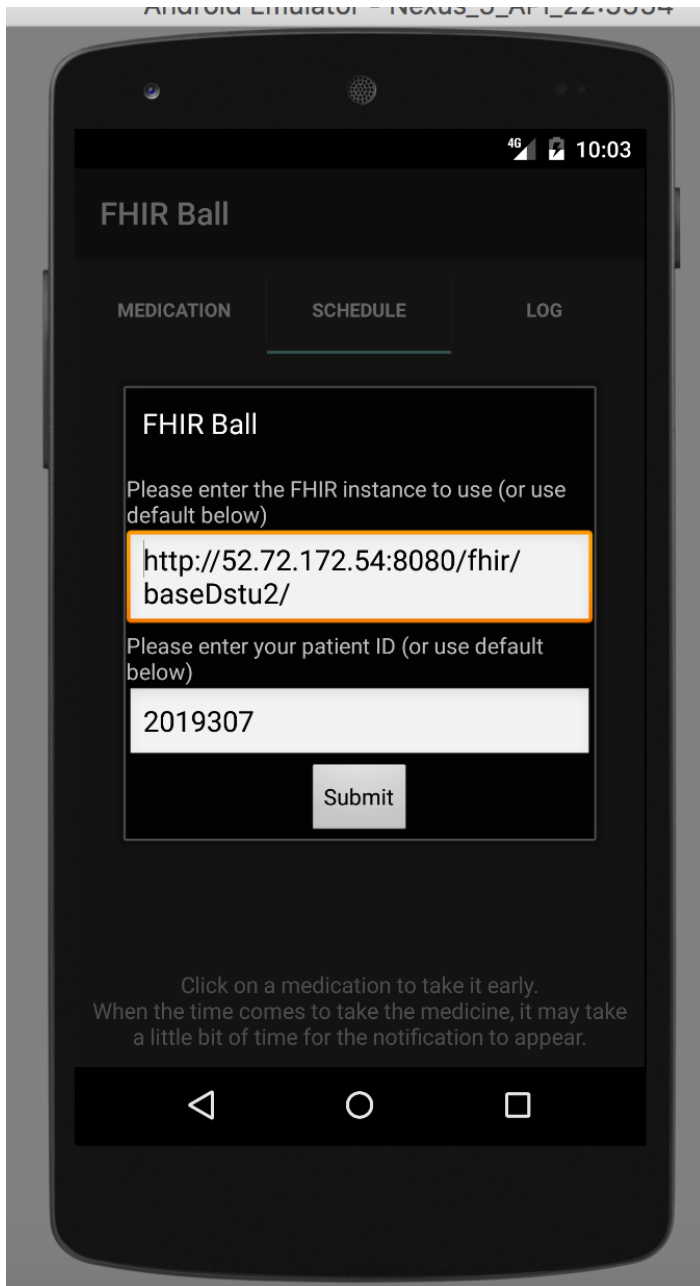
Starting the application

Once the application is installed, you need to run it by finding it in the App Launcher, like so:

Setup & welcome screen

Upon first launch, the FHIR Ball application will prompt you for the FHIR server to use and which patient ID to use to retrieve the necessary medication information from (it does this by querying for MedicationOrders).
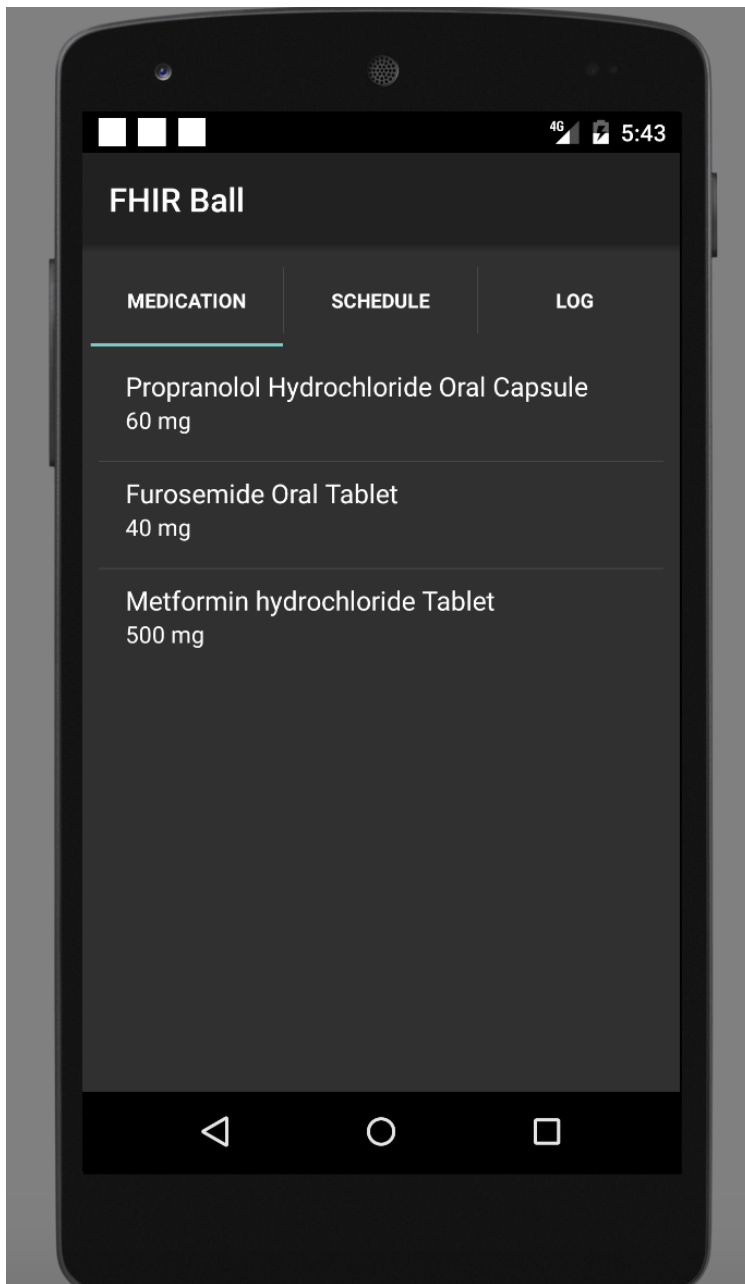

We have set a default public FHIR server which allows reads and writes and have generated a patient for testing named "FHIR A. Ball" (patient ID 2019307 at the public server), which has 3 prescriptions (MedicationOrders). The MedicationOrders have a fictionally high frequency adherence requirement (every few minutes) to facilitate easier testing and demonstration, so this should be taken into account. Normal use of these medications would be with a significantly decreased frequency. The patient and medication order data used to pre-fill the database is found in the 3 JSON based text files in the `Final Project/Server Prefilled Data Records` folder.

For testing purposes it is best to leave these values as they are entered and proceed to use the app.
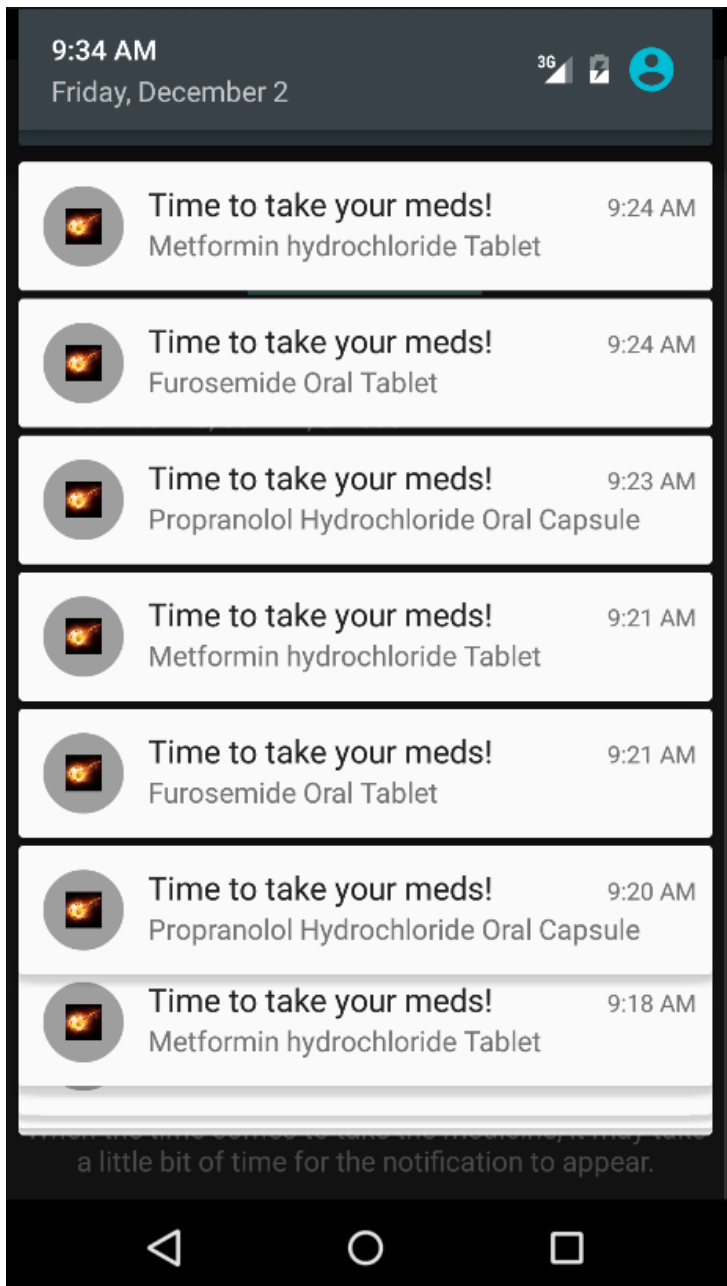
Medication screen

This screen lists all the medication that has been prescribed to the patient (through MedicationOrder records).

Schedule screen

This screen lists the upcoming medication schedule, i.e., where the patient can track what he or she needs to take next as well as the possibility to take 1 dose of the medication early by taping on the medication in the Schedule list.
When the time elapses to the point where the patient is required to take his or her medication as per the prescription frequency defined in the MedicationOrder data pulled from the server (or when the user taps to take the mediation early), a notification is presented. This notification is displayed even if the user is not running the app / has the app in the foreground so that no matter the situation, he or she is always notified.

9:34 AM
Friday, December 2

Time to take your meds!   9:24 AM
Metformin hydrochloride Tablet

Time to take your meds!   9:24 AM
Furosemide Oral Tablet

Time to take your meds!   9:23 AM
Propranolol Hydrochloride Oral Capsule

Time to take your meds!   9:21 AM
Metformin hydrochloride Tablet

Time to take your meds!   9:21 AM
Furosemide Oral Tablet

Time to take your meds!   9:20 AM
Propranolol Hydrochloride Oral Capsule

Time to take your meds!   9:18 AM
Metformin hydrochloride Tablet

a little bit of time for the notification to appear.

Tapping on the notification brings up the screen where you can select conformance / taking the medication or indicate non-adherence by selecting an option from a set of FHIR compatible reasons (being away from medication during that time, being asleep, vomiting the medication back or some other reason).

Selecting either choice of taking the medication or indicating that you've missed taking the medication will result in the app creating a MedicationStatement record for you as a patient, recorded for a particular time frame and referencing the medicine in question.

Medication Log

This screen allows you to keep track of the history of the meds you've taken or have not taken for a specific reason.

Special notes regarding demo data

The default public server we are using for demonstration purposes:
http://52.72.172.54:8080/fhir/

Patient id used: "2019307"

To view the record for the patient we've created for the purposes of testing the application see:
http://52.72.172.54:8080/fhir/search?serverId=home&resource=Patient&param.0.qualifier=&param.0.0=2019307&param.0.name=_id&param.0.type=string&sort_by=&sort_direction=&resource-search-limit=

To view the pre-filled MedicationOrders for this patient see:
http://52.72.172.54:8080/fhir/search?serverId=home&resource=MedicationOrder&param.0.0=2019307&param.0.name=patient&param.0.type=id&sort_by=&sort_direction=&resource-search-limit=

(these are also viewable as JSON text files in the directory `Final Project/Final Application/Server Prefilled Data Records`*")*

Finally, to view the MedicationStatements that the app records/writes to the server based on user action see:
http://52.72.172.54:8080/fhir/search?serverId=home&resource=MedicationStatement&param.0.0=2019307&param.0.name=patient&param.0.type=id&sort_by=&sort_direction=&resource-search-limit=