

Phone as a Sensor:NetsBlo

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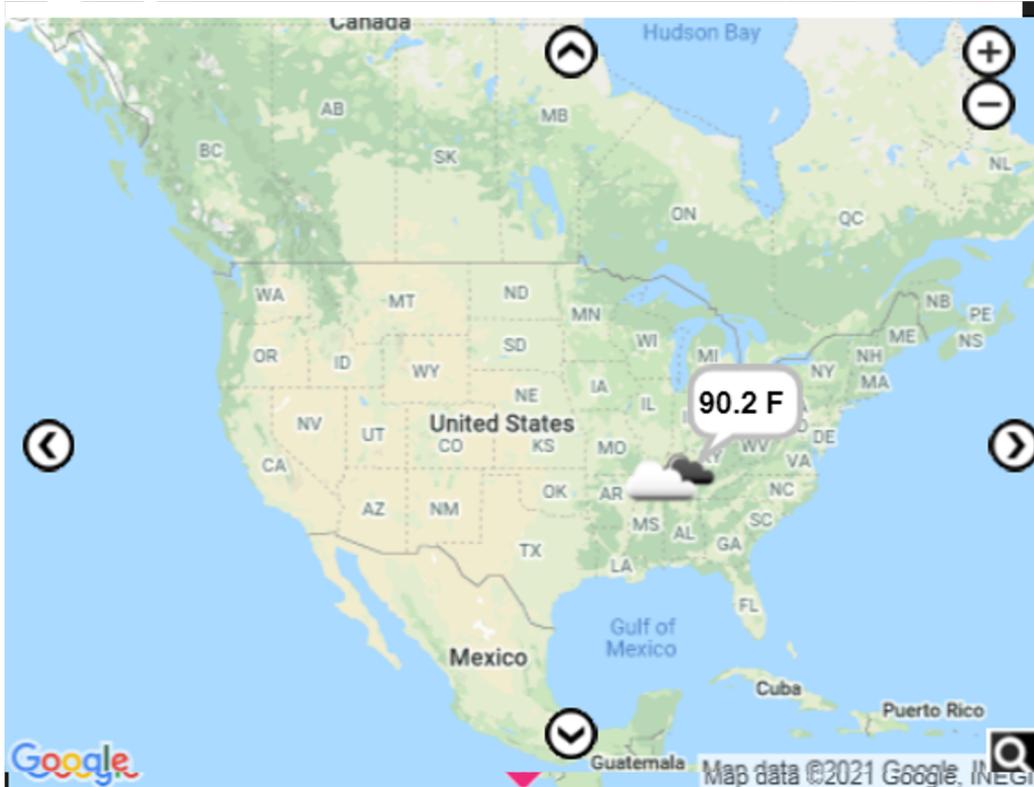
What is NetsBlox?

- Visual programming environment that allows users to communicate with each other as well as the NetsBlox server
- Utilizes the internet for scientific and other data sources to create projects

```
when I receive location latitude longitude bearing altitude
go to x: call GoogleMaps / getXFromLongitude longitude y:
call GoogleMaps / getYFromLatitude latitude
point in direction bearing
if pen down?
  add point list latitude longitude
  run PhonoIoT / setText device text join StepsTaken: steps Steps
run PhonoIoT / setImage device display image of Stage
```



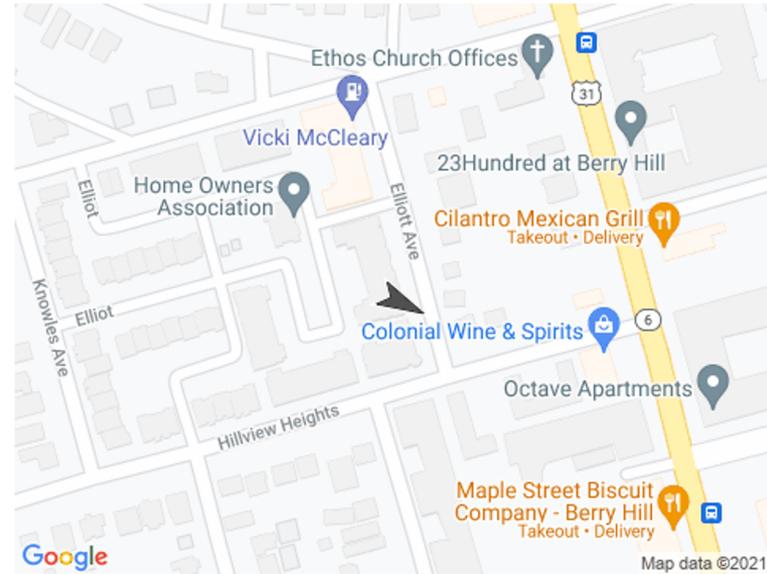
Student Applications



- Examples of student projects that can be created

My Role

- Utilizing the phone sensors to
 - Count steps
 - Calculate the distance between two locations
 - Getting the number of stories in a building
- Combining all above to create a fitness app

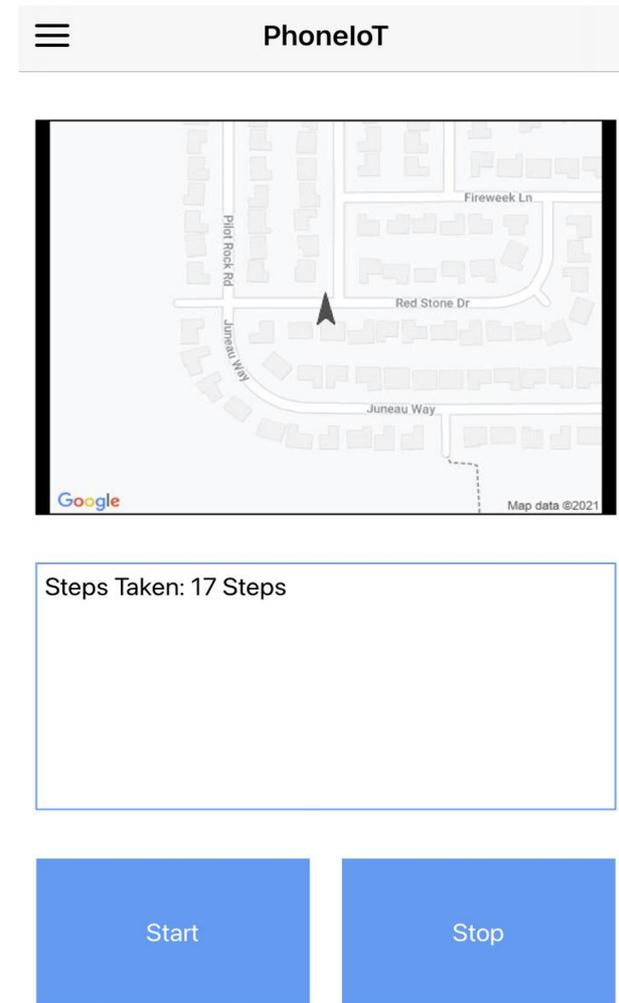


Fitness Application

- Application can return the number of steps taken
- The user can start and stop your walk from a given

location.

- Very user-friendly



Project 2: FBI Crime Data

- FBI Crime database contains a variety of “real-life” data that can be used by students.

The screenshot shows the top portion of the FBI Crime Data Explorer website. At the top left, the text reads "Federal Bureau of Investigation Crime Data Explorer". To the right, a navigation menu includes "Home", "Explorer", "Documents & Downloads", and "About". The main content area features a large heading: "Federal Bureau of Investigation Crime Data Explorer". Below this heading is a paragraph of text: "The FBI's Crime Data Explorer (CDE) aims to provide transparency, create easier access, and expand awareness of criminal, and noncriminal, law enforcement data sharing; improve accountability for law enforcement; and provide a foundation to help shape public policy with the result of a safer nation. Use the CDE to discover available data through visualizations, download data in .csv format, and other large data files." Below the text are three distinct sections, each with an icon, a title, and a "GO" button. The first section has a magnifying glass icon and is titled "Crime Data Explorer". The second section has a padlock icon and is titled "Law Enforcement Explorer". The third section has a download icon and is titled "Documents and Downloads".

Federal Bureau of Investigation
Crime Data Explorer

Home Explorer Documents & Downloads About

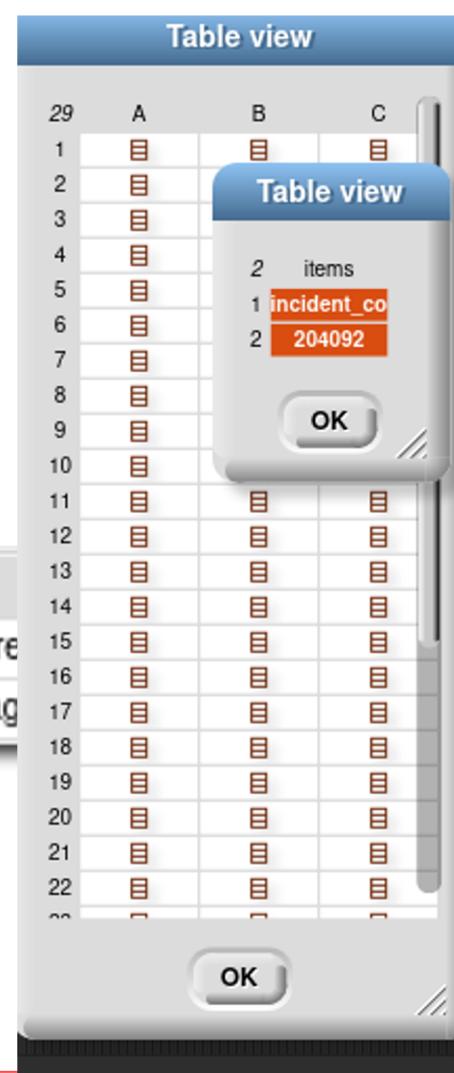
Federal Bureau of Investigation Crime Data Explorer

The FBI's Crime Data Explorer (CDE) aims to provide transparency, create easier access, and expand awareness of criminal, and noncriminal, law enforcement data sharing; improve accountability for law enforcement; and provide a foundation to help shape public policy with the result of a safer nation. Use the CDE to discover available data through visualizations, download data in .csv format, and other large data files.

		
Crime Data Explorer	Law Enforcement Explorer	Documents and Downloads
GO	GO	GO

FBI Crime Data Display

- Call block can display the results into a table of data
- User-friendly:
 - Dropdown arrows are given to show options



Error Messages

- User-Friendly:
 - Students may at times write incorrect information, so personalized error messages have been programmed.



Possible Student Projects?

- Create charts to show relationships between data
- Graph creation for each state to display information



Outdated data?

- The RPC utilizes the FBI database API to get updated data



Future Possible Applications to FBI Crime Database

- FBI Crime Database
 - Access to other collection databases: police employment data, offender data, and more statistics

The screenshot displays the FBI Crime Data Explorer interface. At the top, the header includes the FBI logo and the text "Federal Bureau of Investigation Crime Data Explorer". Navigation links for "Home", "Explorer", "Documents & Downloads", and "About" are visible. A left sidebar contains a menu with "Home", "Crime Data", "Law Enforcement Collections", "Documents and Downloads", "Crime Data API", and "About". The main content area lists several API controllers, each with a description and a right-pointing arrow:

- summarized-data-controller** Endpoints pertaining to Agency SRS Level Crime Data
- error-controller** Error Controller
- supplemental-data-controller** Endpoints pertaining to Supplemental data
- lookups-controller** Endpoints pertaining to CDE Related Lookup Value data
- offense-tkm-controller** Endpoints pertaining to NIBRS Offense Demographic data
- preliminary-tkm-controller** Endpoints pertaining to Quarterly Reportdata

Special Thanks!

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- **Devin Jean**
 - For responding to me for the countless amount of times I have asked for help.
 - Directing me in completing these projects.