

Pocket Ca\$h Tutorial

BY: Dylan Thomas

Pocket Ca\$h is an Android app made with MIT App Inventor and Google Fusion Tables.

Pocket Ca\$h is a great example of how to use Fusion Tables as a database to store user information and send money between users. The idea was inspired by popular Crypto-Currencies like Bitcoin and Litecoin.

Starting a Fusiontables Project

To start querying a fusion table you need to get an api key from google console.

Remember to make your Fusiontable public so that anyone can connect to your app.

When querying a fusion table use the SendQuery block to send queries.

SQL is needed to query fusion tables so if you need to learn or brush up on your SQL go to

<http://www.w3schools.com/sql/> .

SQL Syntax Tips

When trying to update a row you need a rows ROWID. Update Where User='Steve' is invalid instead you need to get the row id then user Update Where User='(ROWID VARIABLE)'.

This is the wrong way to insert a new row.

```
INSERT INTO table_name VALUES (value1,value2,value3,...)
```

List the column names that correpond to the values to correctly insert a new row.

```
INSERT INTO table_name (column1,column2,column3,...) VALUES  
(value1,value2,value3,...)
```

Processing Queries

When Selecting data from a query such as Select Stuff... WHERE This='That' . To get the data from

the query use two replace blocks to remove \n (Next Line) & Stuff. (This only works if you are looking for one result)

If you want to process multiple columns use list from cvs row block to process an entire row. (If you pulled multiple rows use list from cvs table block)

CODE & COMMENTS

Global Variables

The screenshot displays the App Inventor for Android Blocks Editor interface for a project named "PocketCash - Screen1". The top toolbar includes "Saved", "Undo", "Redo", "New emulator", "Connect to Device...", and "Zoom". On the left, a "Built-In" sidebar lists categories: "My Blocks", "Advanced", "Definition", "Text", "Lists", "Math", "Logic", "Control", and "Colors". The main workspace contains several global variable blocks:

- `def username` as text
- `def myResult` as text
- `def myResult1` as number 0
- `def register` as text
- `def myID` as number 0
- `def myResult3` as number 0
- `def otherID` as number 0
- `def MineResult` as text
- `def sendingMoney` as number 0
- `def MineID` as text
- `def memory` as number 123

A trash icon is visible in the bottom right corner of the workspace. The footer text reads "Built: May 6 2013 Version: v134".

btnConnect.Click

Button used for login

The screenshot displays the App Inventor for Android Blocks Editor interface. The main workspace shows a logic block for the `btnConnect.Click` event. The logic is structured as follows:

- when** `btnConnect.Click`
- do**
 - set** `FusiontablesLogin.Query` to `SELECT Pass FROM 1wa04ID9uqF2A4k6QnANDjIOAgvkwPGPqHJkpJHU WHERE User=` `join` `txtUser.Text` `join` `txtUser.Text` `join` `txtUser.Text`
 - call** `FusiontablesLogin.SendQuery`

The `SELECT` query is concatenated with the text from the `txtUser.Text` control. The interface includes a left sidebar with categories like Definition, Text, Lists, Math, Logic, Control, and Colors. The top bar shows "PocketCash - Screen1" and buttons for "Saved", "Undo", "Redo", "New emulator", "Connect to Device...", and "Zoom".

Built: May 6 2013 Version: v134

FusionTablesLogin.GotResult

Queries login information

The screenshot displays the App Inventor for Android Blocks Editor interface. The main workspace shows a logic block for the event `FusionTablesLogin.GotResult`. The logic is as follows:

- When FusionTablesLogin.GotResult** (result: `result`)
 - do**
 - `set global myResult` to `call` `replace all` (segment: `Pass`, replacement: `result`)
 - `replace all` (segment: `\n`, replacement: `result`)
 - ifelse** (test: `text = text2`)
 - `txtPass.Text` is equal to `global myResult`
 - then-do**
 - `Notifier1.ShowAlert` (notice: `LOGIN SUCCESSFUL`)
 - `set global username` to `txtUser.Text`
 - `lblName.Text` to `global username`
 - `FusionTablesLoad.Query` (text: `SELECT Cash FROM 1va04iD9uqF2A4k6QnANDjI0AgvLwPGpQHJpJHU WHERE User=`)
 - `FusionTablesLoad.SendQuery`
 - `Login.Visible` to `false`
 - `lblName.Visible` to `true`
 - `Wallet.Visible` to `true`
 - `Send.Visible` to `true`
 - `btnRegister.Visible` to `true`
 - `btnLogout.Visible` to `true`
 - `Miner.Visible` to `true`
 - else-do**
 - `Notifier1.ShowAlert` (notice: `USER DOES NOT EXIST`)

The interface includes a sidebar with categories: Definition, Text, Lists, Math, Logic, Control, and Colors. The top bar shows 'PocketCash - Screen1' and buttons for 'Save', 'Undo', 'Redo', 'New emulator', and 'Connect to Device...'. The bottom status bar indicates 'Built: May 6 2013 Version: v134'.

FusionTablesLoad.GotResult

Loads money from fusion table

The screenshot displays the App Inventor IDE interface for the 'PocketCash - Screen1' project. The main workspace shows the logic for the 'FusionTablesLoad.GotResult' event, which is triggered when a result is received. The logic is organized as follows:

- when FusionTablesLoad.GotResult result name result1**
 - do**
 - set global myResult1** to **call** **replace all** (text segment replacement) with **value result1** and **text Cash**.
 - ifelse** **test** **is a number?** **thing** **global myResult1**
 - then-do**
 - set** **IbIWalletValue.Text** to **global myResult1**
 - else-do**
 - set** **btnLogout.Visible** to **false**
 - set** **IbIName.Visible** to **false**
 - set** **Wallet.Visible** to **false**
 - set** **Send.Visible** to **false**
 - set** **Login.Visible** to **true**
 - set** **IbIOut.Visible** to **false**
 - set** **Miner.Visible** to **false**

The interface includes a sidebar with categories like Definition, Text, Lists, Math, Logic, Control, and Colors. The top toolbar contains options for 'New emulator', 'Connect to Device...', and 'Zoom'. The bottom status bar indicates the version: 'Built: May 6 2013 Version: v134'.

FusionTablesSend.GotResult

Used to send money to another user

The screenshot displays the App Inventor for Android Blocks Editor interface for a screen named "PocketCash - Screen1". The main workspace shows a visual programming script for the "FusionTablesSend.GotResult" event, which is triggered when the "result" property of a "FusionTablesSend" object is "result5".

The script is structured as follows:

- do** block:
 - call `Notifier1.ShowAlert` with notice value `result5`.
 - ifelse** block:
 - test** block: `global sendingMoney` number 2 `=` number 1.
 - and** block:
 - test** block: `call` `text value result5`.
 - not** block: `contains` piece `text row`.
 - then-do** block:
 - set global** `myResult1` to `global myResult1 - global sendingMoney`.
 - set global** `myResult3` to `global myResult3 + global sendingMoney`.
 - set** `lblWalletValue.Text` to `global myResult1`.
 - else-do** block:
 - if** block:
 - test** block: `global sendingMoney` number 2 `=` number 1.
 - then-do** block: call `Notifier1.ShowAlert` with notice text `FAILURE TO SEND`.
 - set global** `sendFlag` to `global sendFlag + number 1`.

The interface includes a left sidebar with "Built-In" blocks (Definition, Text, Lists, Math, Logic, Control, Colors), a top toolbar with "Saved", "Undo", "Redo", "New emulator", "Connect to Device...", and "Zoom" (100%), and a bottom status bar with "Built: May 6 2013 Version: v134".

FusionTables Verify

Checks if the user your sending to is real and sends money to the user if the user is real

App Inventor for Android Blocks Editor: PocketCash - Screen1

PocketCash - Screen1 | Saved | Undo | Redo | New emulator | Connect to Device... | ? | Zoom 100%

Built-In | My Blocks | Advanced

Definition | Text | Lists | Math | Logic | Control | Colors

when

- FusiontablesVerify.GotResult result name result3
- do
 - global myResult3 to replace all text call replace all text value result3
 - segment Cash
 - replacement
 - replace all text in
- sql Fusiontables Control MyRowID.Query to SELECT ROWID FROM 1wa04lD9uqF2A4l6QnANDjIOAgvIwPGPqHJlpJHU WHERE User= join call sqlText name global username
- call Fusiontables Control MyRowID.Send Query
- sql Fusiontables Control OtherRowID.Query to SELECT ROWID FROM 1wa04lD9uqF2A4l6QnANDjIOAgvIwPGPqHJlpJHU WHERE User= join call sqlText name tstAddress.Text
- call Fusiontables Control OtherRowID.Send Query
- sql Fusiontables Send.Query to UPDATE 1wa04lD9uqF2A4l6QnANDjIOAgvIwPGPqHJlpJHU SET Cash= join global myResult1 - global sendingMoney join text WHERE ROWID= join call sqlText name global myID
- call Fusiontables Send.Send Query
- sql Fusiontables Send.Query to UPDATE 1wa04lD9uqF2A4l6QnANDjIOAgvIwPGPqHJlpJHU SET Cash= join global myResult3 + global sendingMoney join text WHERE ROWID= join call sqlText name global otherID
- call Fusiontables Send.Send Query

BtnRegister.Click

Button sends query to create new user

FusiontablesControlNew.GotResult.GotResult

Notifys that account has been created when query has been accepted

The screenshot displays the App Inventor for Android Blocks Editor interface for a project named "PocketCash - Screen1". The interface includes a top toolbar with "Saved", "Undo", and "Redo" buttons, and a right-side toolbar with "New emulator", "Connect to Device...", and "Zoom" controls. On the left, a "Built-In" sidebar lists categories: My Blocks, Advanced, Definition, Text, Lists, Math, Logic, Control, and Colors. The main workspace shows two event-driven logic blocks:

- when btnRegister.Click**: A "do" block containing:
 - set FusiontablesControlRegister.Query to** `SELECT User FROM 1wa04ID9uqF2A4k6QnANDjIOAgvkwPGPqHJkpJHU WHERE User=` (connected to a `txtUser.Text` block via a "join" block).
 - call FusiontablesControlRegister.SendQuery**
- when FusiontablesControlNew.GotResult result name result7**: A "do" block containing:
 - call Notifier1.ShowAlert notice text ACCOUNT CREATED**

The bottom status bar indicates the application was built on May 6, 2013, version v134.

FusiontablesControlMyRowID.GotResult

Gets the ROWID of the your user

FusiontablesControlOtherRowID.GotResult

Gets the ROWID of the user receiving the money

sqlText

Turns texts so it can be processed in a query

The screenshot displays the App Inventor for Android Blocks Editor interface. The top bar shows the application name "PocketCash - Screen1" and standard editing tools like "Saved", "Undo", and "Redo". The left sidebar contains a "Built-In" menu with categories: "My Blocks", "Advanced", "Definition", "Text", "Lists", "Math", "Logic", "Control", and "Colors".

The main workspace contains three event-driven code blocks:

- Event 1:** Triggered by "FusiontablesControlMyRowID.GotResult" (result name: result2). The "do" block contains:
 - "set global" block with "to" set to "myID".
 - "replace all" block with "text" set to "result2" and "replacement" set to "rowid".
 - "call" block for "Notifier1.ShowAlert" with "notice" set to "myID".
- Event 2:** Triggered by "FusiontablesControlOtherRowID.GotResult" (result name: result4). The "do" block contains:
 - "set global" block with "to" set to "otherID".
 - "replace all" block with "text" set to "result4" and "replacement" set to "rowid".
 - "call" block for "Notifier1.ShowAlert" with "notice" set to "otherID".
- Function:** "sqlText" block with "name" set to "name". The "do" block contains a "return" block with the expression: `text , join value name join text ,`.

The bottom status bar indicates the version "Built: May 6 2013 Version: v134" and the system clock shows "8:45 AM 6/3/2013".

FusiontableControlRegister.GotResult

Checks if the the username that is trying to be registered is already registered

Creates a new user if the username is not in use

The screenshot displays the App Inventor for Android Blocks Editor interface for a project named "PocketCash - Screen1". The interface includes a top toolbar with "Saved", "Undo", and "Redo" buttons, and a right-side toolbar with "New emulator", "Connect to Device...", and "Zoom" (set to 100%) options. On the left, a "Built-In" blocks palette is visible, with categories: Definition, Text, Lists, Math, Logic, Control, and Colors. The main workspace shows a logic block for the "FusiontableControlRegister.GotResult" event. The logic consists of several steps: 1. A "register" block with "replace all" and "replace" sub-blocks. 2. A "test" block with the condition "is not empty?". 3. A "register" block. 4. A "FunctionTableControlNew_Query" block with a "QUERY" sub-block containing the SQL query: "SELECT INFO FROM FusiontableControlNew WHERE (User, Pass, Cash) VALUES". 5. A "FunctionTableControlNew_Sort_Query" block. 6. A "NewSort_ShowAlert" block with an "Alert" sub-block containing the text "Already in use!". 7. A "register" block. The logic is connected to a "New emulator" button in the top right corner.

Built: May 6 2013 Version: v134

FusiontableControlMine.GotResult

Processes Mining requests

The screenshot displays the App Inventor interface for the 'PocketCash - Screen1' project. The main workspace shows the logic for the 'FusiontableControlMine.GotResult' event. The logic begins with a 'list from csv table' block connected to a 'result8' variable. This is followed by a 'split at spaces' block and a 'replace all' block. An 'if-else' block contains two 'select list item' blocks. A 'then-do' block contains four 'FusiontablesControlUpdateMine.Query' blocks with SQL update statements and 'SendQuery' blocks. An 'else-do' block contains two 'FusiontablesControlUpdateMine.Query' blocks with SQL update statements and 'SendQuery' blocks. The left sidebar shows the 'Logic' category selected.

```
UPDATE INYDEL9KAoVMu6SqYZKvYbPpZxw6d4thEZLg SET Receiver=
```

```
INSERT INTO INYDEL9KAoVMu6SqYZKvYbPpZxw6d4thEZLg (Receiver, Difficulty, Current) VALUES ('F,
```

```
UPDATE 1wO4D3uqF2A4dQnANDJOAgvxaPGpHJpJHU SET Cash=
```

```
UPDATE INYDEL9KAoVMu6SqYZKvYbPpZxw6d4thEZLg SET Current=
```

Mine.Timer

Sends mining requests

btnLogout.Click

Logouts the user and resets the program

The screenshot displays the App Inventor for Android Blocks Editor interface for a project named "PocketCash - Screen1". The interface includes a top menu bar with "Saved", "Undo", and "Redo" buttons, and a toolbar with "New emulator", "Connect to Device...", and "Zoom" options. On the left, a "Built-In" blocks palette is visible, with categories like Definition, Text, Lists, Math, Logic, Control, and Colors. The main workspace shows two event-driven logic blocks:

- when Mine.Timer**: A "do" block containing:
 - set FusiontablesControlUpdateMine.Query to text: `SELECT ROWID FROM 1NYDEL9XAoVMu6SgYZKvbYb6PpZkwxld4cHhEzLg WHERE Reciever='#'`
 - call FusiontablesControlUpdateMine.SendQuery
 - set FusiontablesControlMine.Query to text: `SELECT * FROM 1NYDEL9XAoVMu6SgYZKvbYb6PpZkwxld4cHhEzLg WHERE Reciever='#'`
 - call FusiontablesControlMine.SendQuery
- when btnLogout.Click**: A "do" block containing:
 - set Wallet.Visible to false
 - set Send.Visible to false
 - set Login.Visible to false
 - set btnLogout.Visible to false
 - set lblName.Visible to false
 - set Login.Visible to true
 - set Miner.Visible to false
 - set Mine.TimerEnabled to false
 - set global username to text

The bottom left corner of the editor shows the text "Built: May 6 2013 Version: v134".

btnStop.Click

Stops mining timer

btnStart.Click

Starts mining timer

The screenshot displays the App Inventor for Android Blocks Editor interface for a project named "PocketCash - Screen1". The interface includes a top toolbar with "Saved", "Undo", and "Redo" buttons, and a right-side toolbar with "New emulator", "Connect to Device...", and "Zoom" (set to 100%) options. On the left, a sidebar lists categories: "Built-in", "My Blocks", and "Advanced", with sub-categories: "Definition", "Text", "Lists", "Math", "Logic", "Control", and "Colors". The main workspace contains two logic blocks:

- The first block is a "when" block triggered by "btnStop.Click". Inside the "do" section, there is a "set" block that sets the property "Mine.TimerEnabled" to the value "false".
- The second block is a "when" block triggered by "btnStart.Click". Inside the "do" section, there is a "set" block that sets the property "Mine.TimerEnabled" to the value "true".

A trash can icon is visible in the bottom right corner of the workspace. The bottom status bar indicates "Built: May 6 2013 Version: v134".