FCBH Analytics Service for Scripture App Builder Apps

Faith Comes By Hearing (FCBH) has established an analytics service for use with Scripture App Builder. Faith Comes By Hearing receives small anonymous summary reports of Scripture engagement activities when a Global Bible App user connects to the Internet. Aggregate reports are used internally and shared with partner ministries. Personal information is *never* collected. By selecting "FCBH Analytics" in Scripture App Builder's Analytics pane, your app will **send a small daily digest** (about 300 bytes for each day the app is used) **of compressed, completely anonymous data** (no personal, phone, or GPS location information) **via an encrypted transport** (https) **to an Amazon data center in Asia** (not US)**, when the device is connected to the Internet** (via cell or WIFI)**.** FCBH uses the resulting data for two purposes:

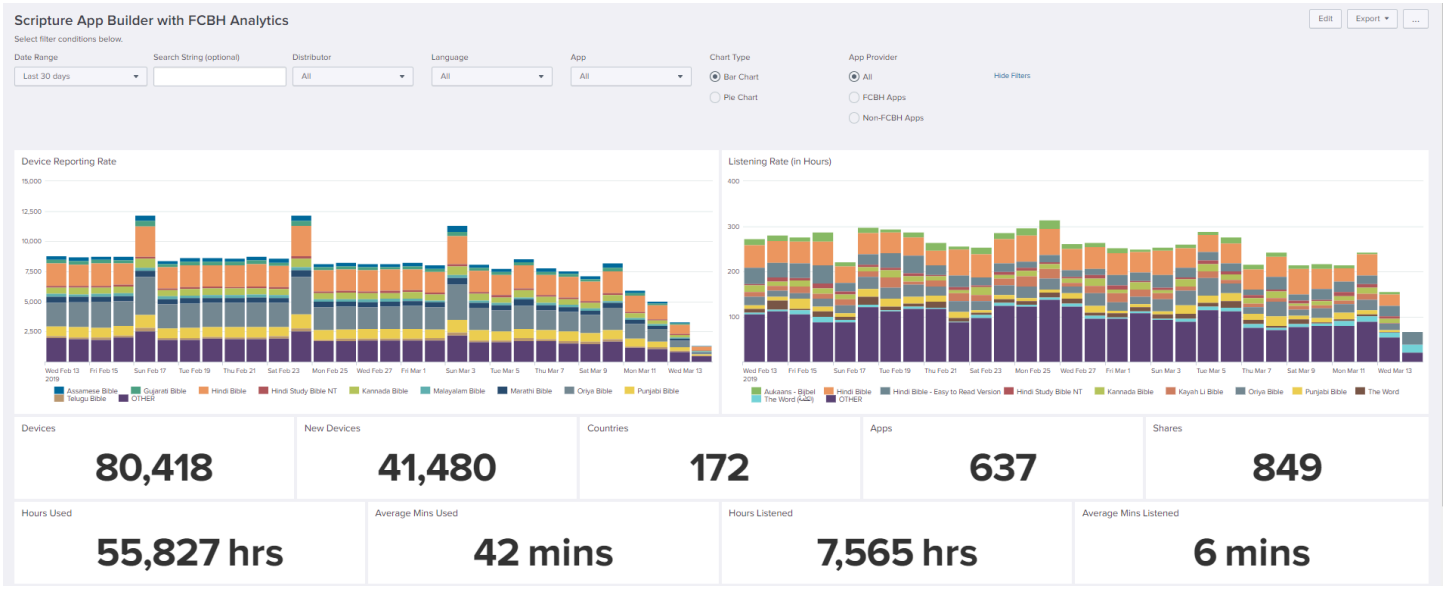
1. FCBH makes semi-annual contributions to text-holder organizations, proportional to the usage of corresponding audio recordings, and
2. FCBH shows usage data to FCBH visitors and donors to encourage and inspire involvement.

FCBH offers access to this service (data and dashboard) to interested ministry partners (e.g. app builders) so they can easily track usage - simply email analytics@fcbhmail.org to request access. This will give you an idea of the extent to which people are interacting with the app.

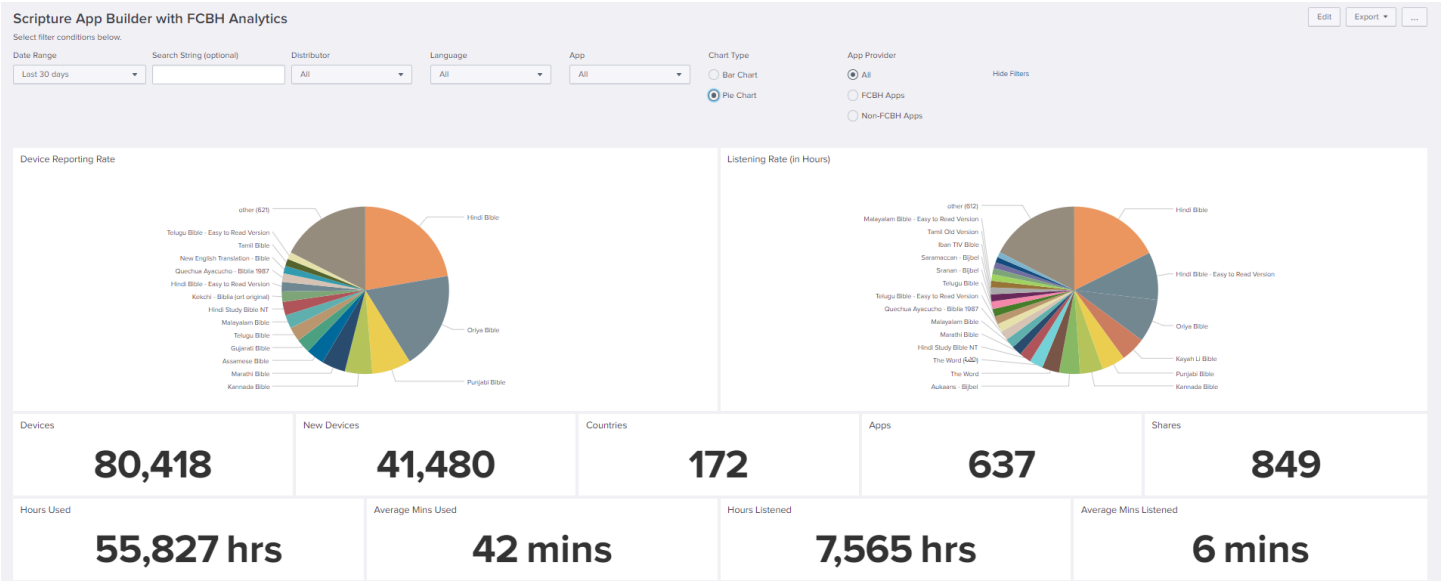
Dashboard

Data is aggregated by an FCBH server running Splunk, and displayed via interactive dashboard which allows drill-down to specific apps/versions/countries etc. The dashboard is a work in progress, and interested ministry partners are welcome to contribute or build their own dashboards on the Splunk server.

A snapshot of the dashboard is below:



While no location information is uploaded by devices, Amazon's servers record the IP addresses where data uploads occur from. FCBH then uses Maxmind's free database to estimate device locations (at approximately 99% and 95% accuracy for country and city respectively). The first element of the dashboard's first row indicates the date range of the data displayed on the dashboard. The other elements of the filter row will be described later.



Charts

- “Device Reporting Rate” - Bar height indicates the number of unique devices that reported over the period of time indicated by the width of the bar. In this snapshot, there is one bar per month, so the rate is devices per month. As you change the date range, bar widths will resize dynamically (monthly, weekly, daily, etc).
- “Listening Rate” - Bar height indicates the number of hours of audio listened to over the period of time indicated by the width of the bar.

Numbers

- “Devices” - the total number of unique reporting devices (equal to the sum of all the device rate bars).
- “New Devices” - the total number of new reporting devices for that timeframe.
- “Countries” - the number of distinct countries the apps reported from.
- “Apps” - the number of distinct apps that have reported to the analytics service.
- “Shares” - the number of times a “share” action was initiated within the apps.
- “Hours Used” - the number of hours the apps were in foreground use (eg, the app is being displayed on the screen, also known as “session time”).
- “Average Mins Used” - the average minutes the apps were in foreground use.
- “Hours Listened” - the number of hours the apps were playing audio (which can occur even if the app is not in the foreground, so it is possible for this number to be larger than “Hours Used”).
- “Average Mins Listened“ - the average minutes the apps playing audio.

Filters

- “Date Range” - the timeframe of the data being displayed on the dashboard. A change to this filter affects all other elements on the dashboard.
- “Search String” - a Search Processing Language (SPL) search criteria, examples will be shown later.
- “Distributor” - a list of organizations who distributed the apps which have reported within the selected date range. If one is selected, only the apps distributed by that organization are shown. De-select by clicking the “X”. Distributor is only determinable for FCBH apps (apps report package and version names, and FCBH maintains a record of which package,version was distributed by who).

- “Language” - a list of languages in the reporting apps within the selected date range. If one is selected on the apps containing that language will be shown. Similar to distributor, language is only determinable for FCBH apps.
- “App” - a list of app names which have reported within the selected date range. If one is selected, the time chart colors change to indicate version information (if multiple versions of the selected app have reported within the selected date range). App names are also only determinable for FCBH apps, non-FCBH apps simply show the package name here.
- App Provider - users can choose stats either FCBH only or Non-FCBH apps or both.
- Chart Type - users have the flexibility to view the timechart in Bar-chart format or distribution per Bible Apps in a Pie-chart format.

Search String examples

- If “fcbh” (without the quotes) is entered in the box (and hit return to take effect), only apps that contain “fcbh” in their package strings will be shown.
- “NOT fcbh” - only apps that do NOT contain “fcbh” in their package name will be shown, eg only show apps which FCBH did NOT build.
- “wycliffe” - only show Wycliffe-built apps
- “Malaysia” - only show apps reporting from Malaysia
- “org.ips” - only show apps published by Kalaam Media (Internet Publishing Service) in Google Play Store.
- Refer more examples on the Dashboard in the **How to use the Search Box** section.

Data

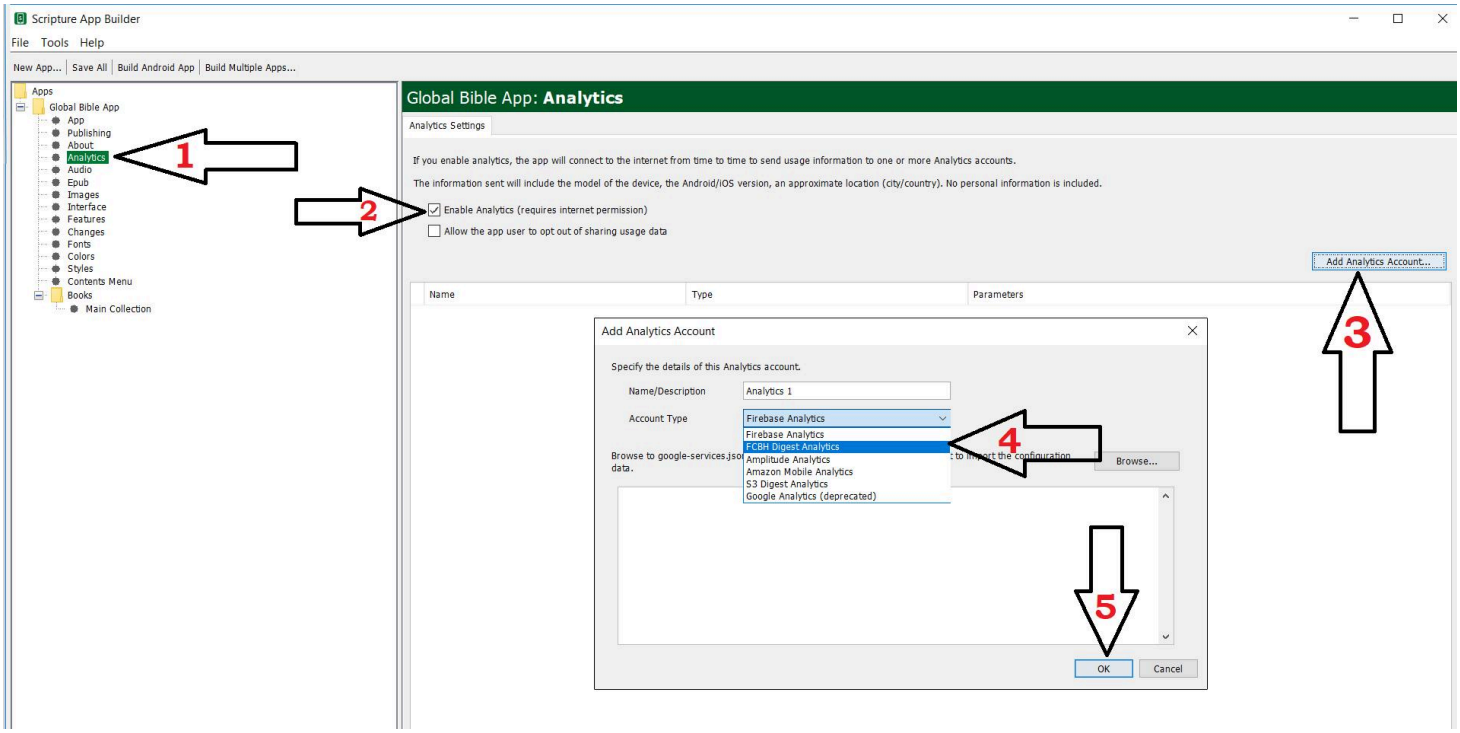
This section provides more details about the data that is uploaded by devices. A complete sample data upload is below:


```
{"startTime":"20180306T0835Z","period":1440,"id":"12db7e3f-93d9-4370-b12b-fe048804e4f5","package":"
org.fcbh.hndwtc.n2","version_name":"1.0.1","sessions":1,"sessionMins":21,"shares":3,"dams":[{"damid
":"HNDWTCN2DA","playMins":25,"chaps":["MRK 1","MRK 1","MRK 2","MRK 2","MRK 3","MRK 4","MRK 4"]}]}
```


which is 296 bytes uncompressed and 224 bytes compressed. This sample summarizes:

- one day of activity (1440 minutes) starting 2018-03-06
- The id is a GUID which was randomly generated on the phone when the app was first launched, enabling determination of how many unique installations of the app are in use (**but no user-identifying information**).
- Package and version indicate exactly which app is in use. FCBH's convention for these are below, but these are FCBH conventions only - they are by no means requirements:
    - package name indicates app content. In this example, hndwtc indicates WTC's Hindi translation, and n2 indicates New Testament content with background music.
    - version number indicates app build number, which FCBH associates via internal records to app rebuilds for bug fixes and/or enhancements, and more commonly, to distinct fielding effort. For example, apps available on bible.build will have a specific version number, allowing estimation of the impact of that distribution mechanism. Or, a distinct version assigned to a specific short-term church mission team, enabling them to see Scripture usage and spread as a direct result of their efforts. The dashboard allows drill-down to this level of detail (e.g. specific app version).
- This install was for a single 21-minute session. This (and other) values would be incremented if the app had been used multiple times within the reporting period.
- The user pressed share in the app 3 times.
- The app played FCBH audio HNDWTCN2DA, which is a "DAMid" from FCBH's Digital Bible Platform(DBP).
- The app played audio for 25 minutes. Since this is greater than 21 minute session time, the audio must have been playing while the screen was off for 4 minutes. Comparison of these fields enable some rough comparison of audio-only use, versus use of audio in combination with text.
- Mark 1-4 were played. Mark 1 and 4 being listed twice each indicates that the user pressed play twice in each chapter (and thus, also pressed stop in each).

The above very small upload minimizes transmission costs for users. Once the data is uploaded, an AWS Lambda replaces the IP address with approximate geographical location, then the data is loaded into Splunk, where additional information is added (Distributor, Language, and App name) for FCBH apps (which are the only ones about which additional information is known). The dashboard search string can then be used to search any of these pieces of information.



[Learn more about FCBH Analytics Service for Scripture App Builder Apps]