Norris

Node Real-time Intelligence

Norris - Android Manual

Document Informations

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Summary

This document contains technical and operative informations on the usage of the Norris Android application$_{|g|}$.

Changelog

Version	Date	Author	Role	Description
v4.0	2015/07/03	Matteo Furlan	Project Manager	Verification and validation
v3.4	2015/07/03	Francesco Rossetto	Verifier	Document verification
v3.3	2015/07/03	Enrico Savoca	Verifier	Document verification
v3.2	2015/07/02	Maria Giovanna Chinellato	Programmer	Corrected some terminology
v3.1	2015/07/02	Samuele Zanella	Programmer	Separated from the web app part
v3.0	2015/06/14	Davide Trivellato	Project Manager	Verification and validation
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v2.6	2015/06/11	Maria Giovanna Chinellato	Verifier	Document verification
v2.5	2015/06/11	Samuele Zanella	Programmer	Completed the Android App section
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v2.3	2015/06/09	Samuele Zanella	Programmer	Completed the Web App section
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v2.1	2015/06/08	Enrico Savoca	Programmer	Creation of the base structure

Tabella 1: Document versioning.

Indice

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Elenco delle figure

Elenco delle tabelle

1 Introduction

2 Welcome to Chart Norris

Chart Norris is an Android$_{|g|}$ app that allows users to connect to specific Norris URLs$_{|g|}$ and to get from them real time data streams. The obtained data can be arranged and displayed in different types of charts: bar charts$_{|g|}$, line charts$_{|g|}$, map charts$_{|g|}$ and tables. The app purpose is to grant to users a really similar experience to the one experienced by browser$_{|g|}$ users.

2.1 Document purpose

The document goal is to explain users how to install and use the application, in order to make it easier and to let them achieve the most complete experience with it.

2.2 Glossary

In pursuance of avoiding words' misunderstanding and allowing a clear comprehension of the manual, it's possible to find the explanation to some ambiguous or specific words at the end of the document, in a Glossary. Words that are reported in the glossary are marked with the following symbol: $_{|g|}$.

2.3 System requirements

The app works on tablets and smartphones running Android 2.2 or higher and it requires a WiFi$_{|g|}$ or packet data$_{|g|}$ connection.

2.4 Problems and malfunctioning

For each kind of unexpected problem with the app, please read the specific section.

3 Getting started

3.1 App installation

The Chart Norris application can be downloaded for free from the Aptoide platform at the following link: http://deltagraphs.store.aptoide.com/app/market/deltagraphs.norrisviewer/1/9844525/Chart+Norris.

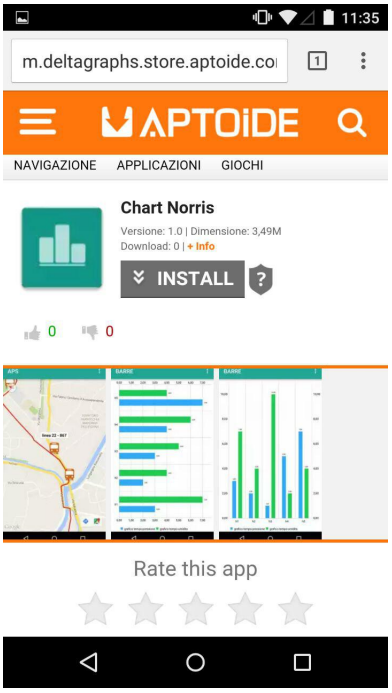

Figura 1: The app page on Aptoide

Otherwise, it can be found on our repository$_{|g|}$ at the following URL$_{|g|}$: http://github.com/DeltaGraphs/norris-viewer. Look for the file named **ChartNorris.apk** and download it for free. As soon as the download is completed, the app will be automatically installed. The application requires slightly more than 3 MB$_{|g|}$ to be installed and in order to work it requires the following permissions:

- complete network access;
- network state visualization;
- Wi-Fi state visualization;
- access to GPS position:
  - exact location access;
  - approximate location access;
- access to Google services;
- USB archive access for reading and writing.

Follow the steps below to successfully perform the installation:

- **step 1**: read the privacy assurance and accept it:

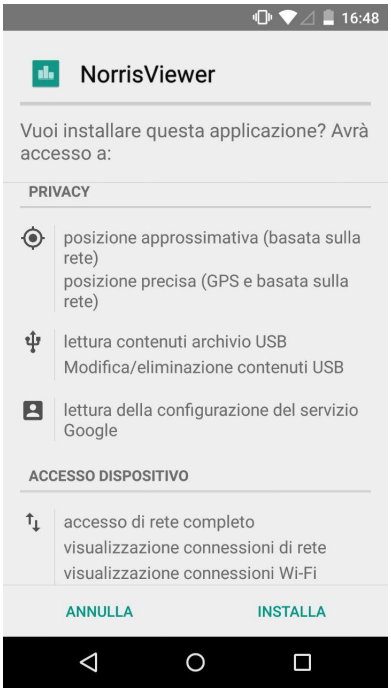

Figura 2: Installation pt.1

- **step 2**: wait until the installation has ended:

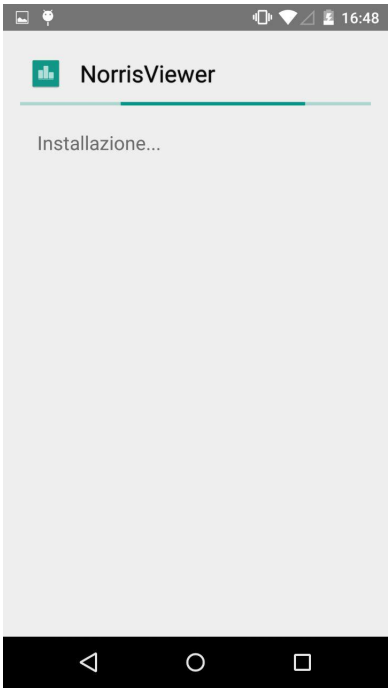

Figura 3: Installation pt.2

- **step 2**: exit the installation or open the app:

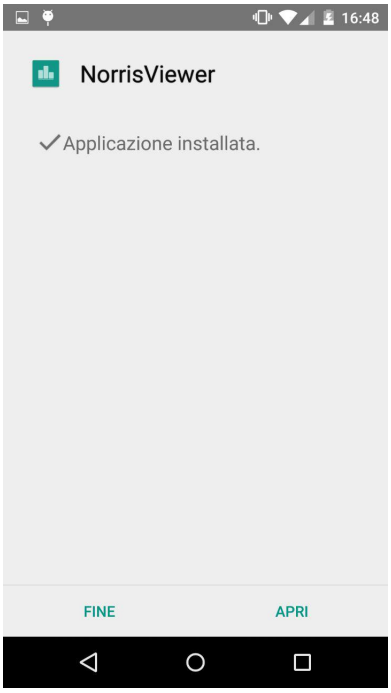

Figura 4: Installation pt.3

3.2 What is Chart Norris

As previously introduced, Chart Norris is an Android app$_{|g|}$ that displays data streams and static data on charts. As the app connects to a valid NorrisURL$_{|g|}$, the user can choose a chart to see its data. The type of streaming depends on the kind of data that is received from the app. The main purpose of the app is to have a complete experience, similarly to the browser version. Despite that, because of different types of interactions and display sizes, the browser$_{|g|}$ version and the Android$_{|g|}$ app features may sometimes differ. Further explanations regarding the app will follow in the next chapters, with a step-to-step guide to interaction supplied by images.

3.3 GUI$_{|g|}$ description

User can interact with the app Chart Norris, through a simple and clean graphic interface. Through the app, users can easily be shown a chart and interact with it. The user interface is composed of an action bar$_{|g|}$ placed on the top of the window and a main container where contents will be displayed. In most of the activities a special button on the right side of the action bar can also be found, which is used to display settings and other actions that user can perform.

4 App layout

4.1 URL Dialog box

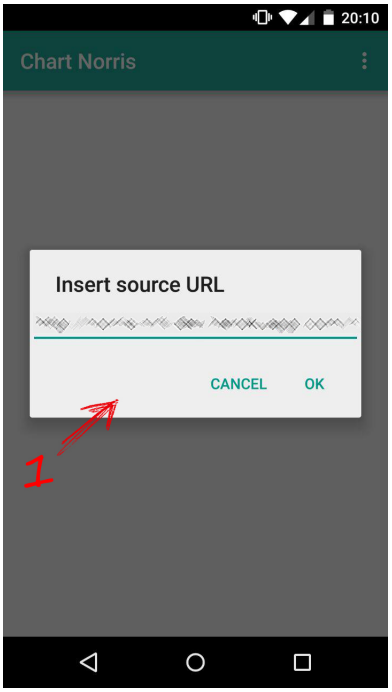

Figura 5: URL Dialog box

This is the first thing you can see as you start the application. It's a dialog box that hovers the main window (which will be explained in the next section) and shows an editable text area and two buttons: one to reject and one to confirm. In this dialog user can enter an URL and see the relative list of graphs and pages.

4.2 Home Window

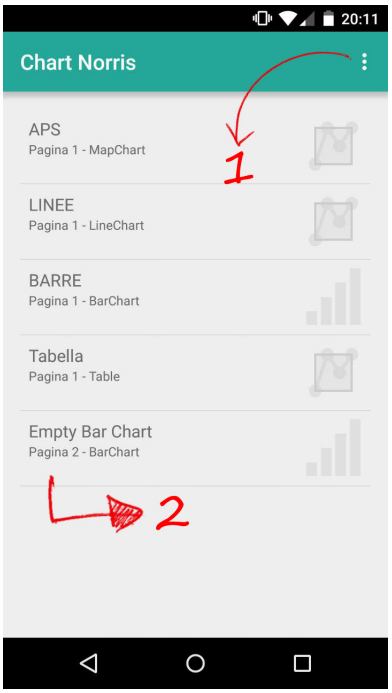

Figura 6: Home window

In this window, the user can see the graph list with their own description and the page where they are placed. The layout is composed of three parts:

- **Action bar**: placed on top, it shows the instance title and a button for the menu;
- **Main content**: placed in the center of the window, it shows a clickable list of graphs;
- **Standard commands bar**: placed at the bottom of the window, it's composed of three standard buttons (Back button, Home button and Task Manager button).

The standard android top bar (with time, signal and battery level) has been hidden in order to gain more space for the app UI; in fact, it has been designed especially for small screens. It's not been completely removed but merely hidden, so it can be display with a simple gesture: drag your finger down from top area of your screen.

4.2.0.1 Menu button : this button shows a little menu in you can select one among the following options:

- **Settings**: display the URL dialog box to insert a new URL;
- **Credits**: display the app credits.

The menu is shown in fig.7

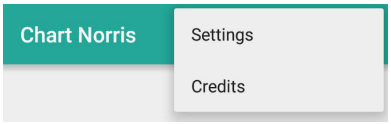

Figura 7: Options menu

4.3 Map Window

Figura 8: Map window

The Map window shows the data in a custom Google map. Data may be static or dynamic.

4.3.0.2 Legend on point: Point 1 in Fig. 8 shows the legend on point feature. It consists of a little text box that describes the selected marker. When you select a marker, you can also search for that position or watch road indications from your position to the marker's one with standards Google map's navigation buttons displayed on the bottom-right corner.

4.3.0.3 Custom markers: Point 2 in Fig. 8 shows a custom marker, as we implemented the possibility to use custom preset markers. In the example, a particular bus icon has been used for the istance that shows buses paths and positions.

4.3.0.4 Polyline: Point 3 in Fig. 8 is the $\text{polyline}_{|g|}$ feature. Polylines allow the developer to draw any path on the map. In the example, a $\text{polyline}_{|g|}$ shows the buses path.

4.4 Line chart Window

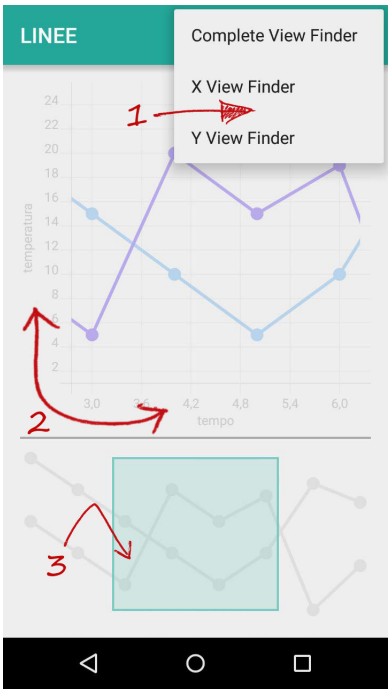

Figura 9: Line chart window

Line chart window shows an istance of a particular chart that shows data in one or more lines.

4.4.0.5 Settings Point 1 in Fig. 9 shows the settings menu that will be displayed after pressing the dedicated button. The actions allowed to users are:

- **X View Finder**: allows user to scroll the View Finder selector horizzontally;
- **Y View Finder**: allows user to scroll the View Finder selector vertically;
- **Complete View Finder**: allows user to scroll in every direction.

4.4.0.6 Axis Point 2 in Fig. 9 shows custom axes for the particular graph instance.

4.4.0.7 View Finder At point 3 there's the core feature of this graph: the View Finder. It's a particular way of zoomng that allows the user to have a full vision of the graph on the preview graph and an enlarged vision of the zoomed area on the main graph. The ViewFinder selector can be resized depending on the type of scrolling selected in the menu.

4.4.0.8 Point Value When you select a point on the graph with your finger, it will display the name of the line and the X and Y values of that point, like in Fig.10.

Figura 10: Point value

4.5 Bar chart Window

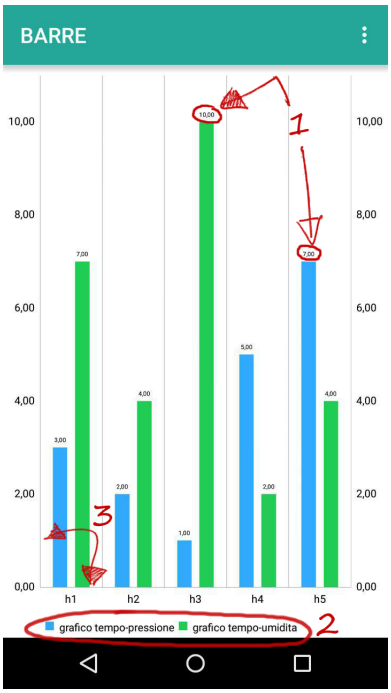

Figura 11: Bar chart window with vertical bar chart

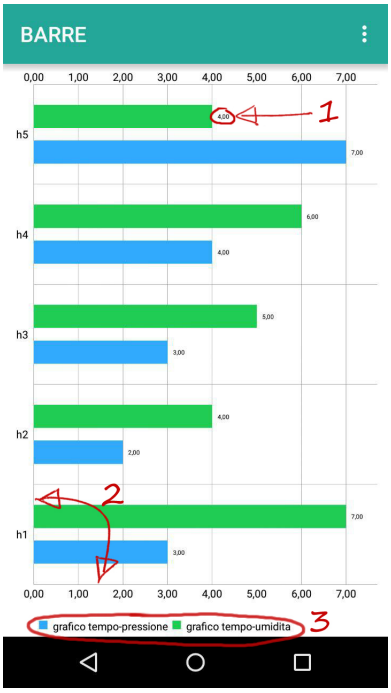

Figura 12: Bar chart window with horizontal bar chart

In this window you can see the implementation of a vertical or horizontal bar chart, depending on the instance. On the top of any column is each column' own Y value displayed, as shown at point 1 of Fig.11-12. At point 2 of Fig.11-12 you can see custom axes for each graph instance. Ultimately, in Fig.11-12 at point 3, the legend can be seen. Legend is made of two parts for each flow:

- **Colored icon**: a colored, square-shaped icon that shows the color of the flow;
- **Label**: the name of the flow.

4.6 Table Window

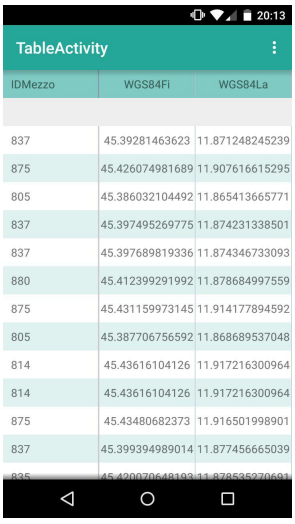

Figura 13: Table window

The window shows a particular instance of a table. Tables could be sorted or unsorted depending on the specific instance. You can see data and scroll horizontally and vertically the table but more features will be implemented in future releases of the app.

5 Problems and malfunctioning

The application is still in its early stage, so the user might run into some runtime bugs or technical issues when using some devices. Should any malfunctioning be found, we ask you to please send us an e-mail with the problem description at the following e-mail address: deltagraphs@gmail.com.

6 Glossary

6.1 A

Action bar: is a window feature that identifies the user location, and provides user actions and navigation modes.

Activity: is a single, focused thing that the user can do. Almost all activities interact with the user.

AngularJS: is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation, Android is designed primarily for touchscreen mobile devices such as smartphones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear).

AngularJS: is an open-source web application framework maintained by Google and by a community of individual developers and corporations to address many of the challenges encountered in developing single-page applications.

6.2 B

Bar chart: is a chart that presents Grouped data with rectangular bars with lengths proportional to the values that they represent. The bars can be plotted vertically or horizontally. A vertical bar chart is sometimes called a column bar chart.

Browser: is a software application for retrieving, presenting and traversing information resources on the World Wide Web.

6.3 C

6.4 D

6.5 E

6.6 F

6.7 G

internet: a graphical user interface or GUI, is a type of interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, as opposed to text-based interfaces, typed command labels or text navigation.

6.8 H

6.9 I

internet: is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide.

6.10 L

Line chart: is a type of chart which displays information as a series of data points called 'markers' connected by straight line segments.

6.11 M

Map chart: is a type of chart which displays information about a map and its markers.

MB: is a multiple of the unit byte for digital information.

6.12 N

6.13 O

6.14 P

Packet Data: is a formatted unit of data carried by a packet-switched network. Computer communications links that do not support packets, such as traditional point-to-point telecommunications links, simply transmit data as a bit stream. When data is formatted into packets, the bandwidth of the communication medium can be better shared among users than if the network were circuit switched.

Polyline: is a list of points, where line segments are drawn between consecutive points.

6.15 Q

6.16 R

Repository: is an on-disk data structure which stores metadata for a set of files and/or directory structure. Depending on whether the version control system in use is distributed (for instance, Git or Mercurial) or centralized (Subversion or Perforce, for example), the whole set of information in the repository may be duplicated on every user's system or may be maintained on a single server.

6.17 S

6.18 T

6.19 U

URL: a Uniform Resource Locator (URL) is a reference to a resource that specifies the location of the resource on a computer network and a mechanism for retrieving it.

6.20 V

6.21 W

WiFi: is a local area wireless computer networking technology that allows electronic devices to network.

6.22 Z