

# USER MANUAL

iCrawler

Client: Emilio Mumba

Team: The 5 Concurrent Nodes

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### 1 Overview

You have a 13 year old child whom in the past years excelled at school in academics and sports activities. Suddenly, out of the blue, you start noticing a change in his behavior; his/her grades are dropping, he/she spends more time alone and doesn't enjoy doing the things he/she use to do. This can be really stressful and saddening for any parent/guardian; even worse, when the child is not talking to you... he/she could be a victim of bullying, he/she could be associated with bad company, or it could be a temporal thing. Where do you start?

#### WHAT IS iCRAWLER?

iCrawler is a mobile monitoring app that monitors crucial activities on android mobile devices. The app uses the most efficient methods to collect and report the data to a dashboard. The user can then login, from anywhere in the world, and view the reported data.

#### WHY CHOOSEICRAWLER?

The app is designed with the parent and child in mind. Unlike any other mobile monitoring app, the app is not designed for multi-purpose use, instead it is strictly focused on the parent and child. It makes use of highly efficient and reliable methods to collect the data without exhausting the devices limited resources. Extensive research was done in the technology used in the development. Through this the app and dashboard can be ranked with most, if not all, the current trending competitors.

#### iCRAWLER? FEATURES

Call logging (incoming,outgoing, and missed)
SMS logging (sent,received)
Web monitoring (history)
Wi-Fi connections (name, MAC)
Installed apps (Facebook, Angry Birds, etc)
User geolocation (last seen)
Mobile device on/off

# 2 Configuration

iCrawler				
Stable release	1.0			
Development status	Active			
Operating System	Android 4.2+			
Platform	Android			
Internet connection	Yes			
Available in	English			
Type	Monitoring Application			
License	Free			
Website	www.github.com/u11241617/COS301-Mobile-Monitoring-App			

## 3 User Access Levels

Our Github repository is private, only invited users can download the appliaction, additionally a user has to be registered on iCrawler to be able to have the app submit their user activities onto the dashboard, and to be able to log onto the dashboard.

## 4 Installation

The iCrawler APK (Android Application Kit) is currently only available for download on our GitHub repository. Follow this link inorder to start the download...

https://github.com/u11241617/COS301-Mobile-Monitoring-App/tree/master/Android%20Project/

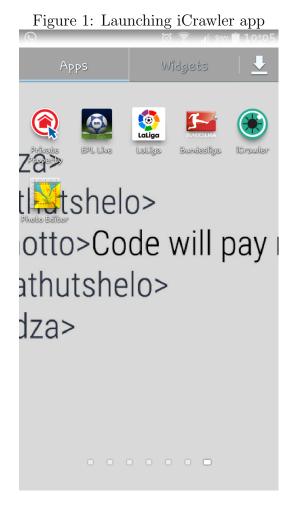
NB: Open the app-release folder to find the apk

When the download has successfully completed the installation should automatically start, if not follow the following steps:

- 1. Navigate to 'File Management' from the options menu on your device
- 2. Under the 'Download' folder locate and launch a file named 'iCrawler.apk' within this folder
- 3. When a 'Install blocked' popup appears, select the 'Settings' option
- 4. Scroll down and check the option 'Unknown Sources'
- 5. Another popup will appear, simply click 'OK' then 'Next' followed by 'Install'
- 6. On completion you will see the options 'Done' and 'Open', click 'Open' to start the app ...

# 5 Getting Started

After successful installation, locate the iCrawler app icon and click on it to launch the app.



### • Welcome to iCrawler

This is the landing page when you launch the app. This page introduces what the app is about and also provides you with the options to either proceed with the app tour or skip to sign up/sign in.



### • Take tour

If you opt to take a tour, this tour will explain all the features that come with this app.

The app runs on the background collecting and compiling data logs of activities on your device.



To view the compiled logs you simply log onto the web application, using either your laptop or desktop, with your credentials and view the collected data.



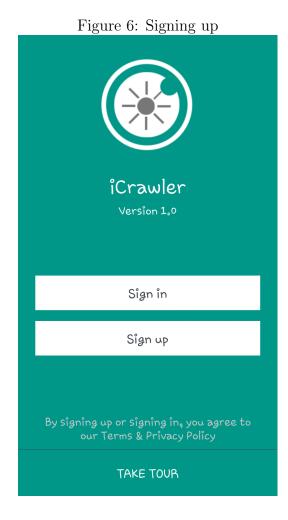
To be able to use the awesome features that come with this app, all you have to do is sign up, if you are a new user, or simply just sign in and you are ready to go!



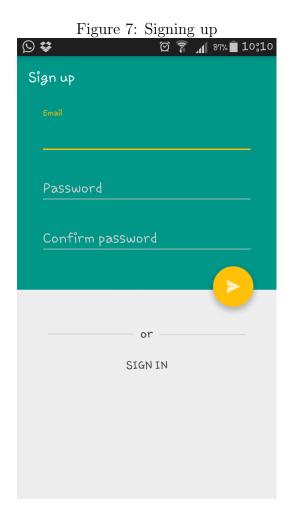
## • Skip tour

If you decided to skip the app tour then you get the options to Sign up or Sign in; you can still take the tour by clicking the 'Take Tour' link at the bottom.

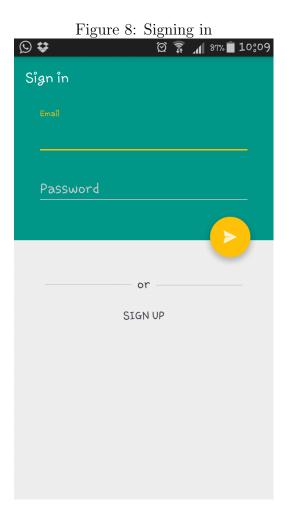
By signing up or signing in, you agree to our Terms and Privacy Policy.



If you have never used the iCrawler app before, you need to sign up; simply enter your valid email address and password then click the 'orange arrow' pointing to the right in order to subscribe as a new user.



If you have used the iCrawler app before, you need not to sign up again, simply enter your credentials and then click the 'orange arrow' pointing to the right in order to subscribe the new device. If not, click 'Sign up' to register as a new user.



## 6 Using the Mobile App

The app runs in the background after 'Signing up' or 'Signing in'; there is no other form of interaction with the app thereafter. You can access the log reports generated via the web application (dashboard).

# 7 Using the Web App

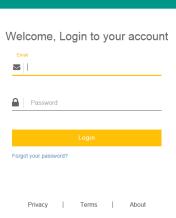
The data collected from the mobile device can only be viewed using the web application (dashboard). The dashboard is highly responsive to different window dimensions but we recommend not going below 700x800.

#### • Landing page

This is the landing page that appears when using the desktop web browser. To login, the user must provide the requested credentials, which are the same as the ones he/she used when 'signing up' or 'signing in' using the mobile device app.

Figure 9: Login page

Crawler



### • Home page

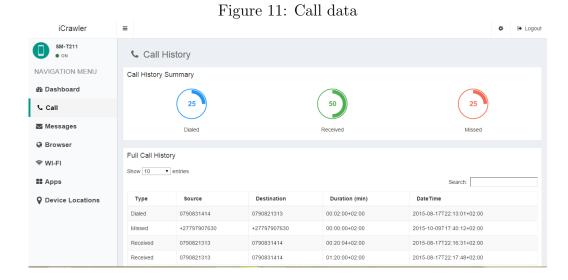
On successful login, the user is welcomed by the dashboard home page. This page summarizes the data collected from the devices and all the devices linked with the current user account. On the top-left you find a notifier informing the user about the currently selected device and whether or not the device is on(green)/off(red).



Figure 10: Dashboard control panel

## • Calls page

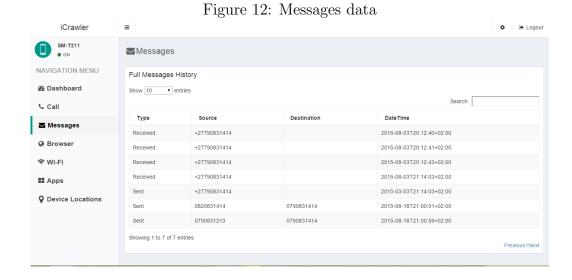
This page consists of the reports collected from the call activities on the mobile device. A summary of the total dialed, received, and missed calls is provided to aid the user.



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### • Messages page

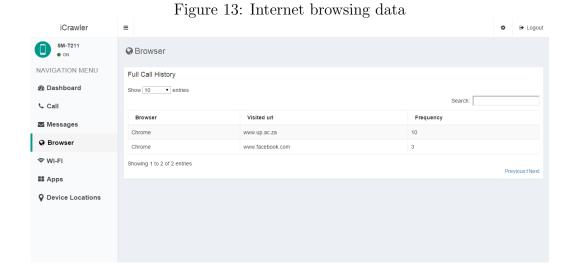
This page consists of the reports collected from the messaging activities on the mobile device. Due to the Privacy Act in our country we can not retrieve the communicated content.



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## • Browser page

This page consists of the reports collected from the internet browsing activities on the mobile device. The browser used, URL visited, including the frequency are included in the report.



## • Wifi page

This page consists of the reports collected from the wifi connection activities on the mobile device.

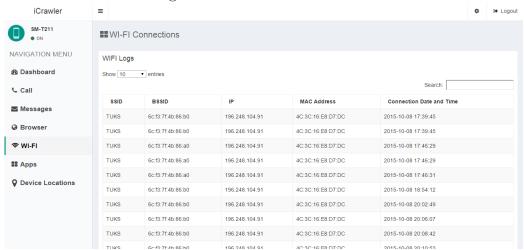
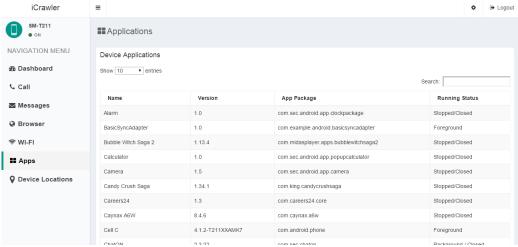


Figure 14: Wifi connection data

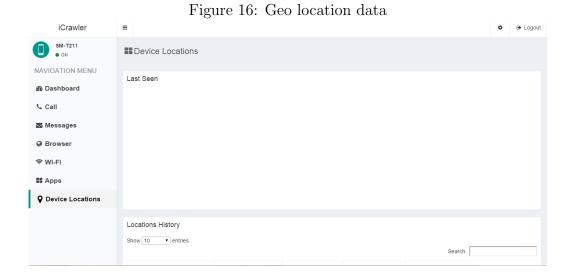
## • Apps page

This page consists of the reports collected from the installed apps on the mobile device. The 'running status' column assists in determining whether the app runs on the foreground, running or stopped/closed.



## • Device location page

This page consists of a summary of the last know locations of the user's mobile device. This data is reported every 30min.



### • Privacy page

The privacy policy of the iCrawler services are all stated here.

### Figure 17: Privacy policy



#### Privacy policy

This privacy governs your use of the software application, iCrawler, which is a mobile monitoring app that was developed by the students from the Department of Computer Science at the University of Pretoria. The application monitors your activities on the mobile device and report application data/logs to a dashboard on a desktop computer. The objective of this application is to display and assist in understanding the activities performed by you (or the user of the device in the case where you are the owner of this device but not the user) on the device as well as shed more light into your behaviour as a user of this device.

User Provided Information
The Application obtains the information you provide when you register on the application. Registration with us is non-optional. You have to register your application with us as part of the installation process. When you register with us and use the aapplication, you generally provide (a) your email address and password; and (b) what you specifically intend to use the application for; We may also use the information you provided us to contact you from time to time to provide you with important information and required notices. We will not use the information you provided to us for marketing promotions

In addition, the application will collect certain information automatically, including, but not limited to, the type of mobile device you use, your mobile devices unique device ID, the IP address of in addition, the application will collect certain information able internet browsers you use, and information about well-you mobile devices your mobile devices. Your mobile devices on your mobile devices, your mobile application will make use of GPS technology (or other similar technology) to determine your current location in order to determine the city you are located within and collect your call logs. Bluetooth and Wi-Fi logs, text messages including WhatsApp and/or Facebook. Or thin drafties see and/or have access to information obtained by the Application? Yes. We will share your information with third parties see and/or have access to information obtained by the Application? Yes. We will share your information with third parties only in the ways that are described in this privacy statement. We may disclose User Provided and Automatically, Collected information. 46e as required by law, such as to comply with a subpoena, or similar legal process. 46e when we believe in good fath that disclosure is necessary to protect our rights, protect your safety or the safety of others, investigate fraud, or respond to a government request; 46e with our trusted services providers who work on our behalf, do not have an independent use of the information we disclose to them, and have agreed to adhere to the rules set forth in this privacy statement. deg if the University of Pretoria is involved in a merger, acquisition, or sale of all or a portion of its assets, you will be notified via email and/or a prominent notice on our desktop dashboard of any change in ownership or uses of this information, as well as any choices you may have regarding this information. What are my opt-out rights? You can stoll collection of information by the Application easily by uninstalling the Application. You may use the standard uninstall processes as may be available as part of your mobile device or via the mobile application marketplace or network. You can also request to opt-

### • Terms page

The Terms of use of the iCrawler services are all stated here.

## Figure 18: Terms of use



#### Terms of use

Thank you for using our product.
This product is governed by the University of Pretoria, Computer Science Department, located at Hillicrest, Pretoria, 0083

By using our product, you are agreeing to our terms of use. Please read them carefully and ensure that you fully understand them. Our product under goes continuous development. Our terms of use may be updated/amended from time to time, so sometimes additional terms of use or product requirements (including user intent) may apply. Additional terms will be available with the relevant services, and those additional terms become part of your agreement with us if you use those services.

Using our Services
You must follow any policies made available to you within the Services. Do not misuse our Services. For example, do not interfere with our Services or try to access them using a method other than the interface and the instructions that we provide. You may use our Services only as permitted by law, including applicable export and re-export control laws and regulations. We may suspend or stop providing our Services to you if you do not comply with our terms of use or policies or if we are investigating suspected misconduct. Using our Services does not give you ownership of any intellectual property rights in our Services or the content you access. You may not use content from our Services unless you obtain permission from its owner or are otherwise permitted by law. These terms do not grant you the right to use any branding or logos used in our Services. Do not remove, obscure, or after any legal notices displayed in or along with our Services.

In connection with your use of the Services, we may send you service announcements, administrative messages, and other information. You may opt out of some of those communications, Some of our Services are available on mobile devices. Do not use such Services in a way that distracts you and prevents you from obeying traffic or safety laws.

### • About page

This About page consists of all the relevant information regarding all the involved parties in this project.

Figure 19: About us



#### About us

EyeCrawler is a mobile monitoring application. This application has an android component which needs to be installed on an android mobile device with the sole purpose of collecting call logs, text message logs, browser logs, bluetooth logs, device information, device data usage logs, and device location. Moreover the android mobile application sends this data onto this dashboard where you are able to login and analyse it.

We are a team of four final year information technology students at the University of pretoria, the development of this application is part of our course work for COS 301 - Software Engineering.

Emilio Rymond Mumba (BSc Hon Comp Sci)
is a SAP Basis Associate Consultant at EPI-USE Africa (Pty) Ltd. He is also a committee member of the ADFSL Conference on Digital Forensics, Security and Law 2015. Some of his recent publications include Testing the Harmonised Digital Forensic Investigation Process in Post Mortem Digital Investigation and Mobile Forensics using the Harmonised Digital Forensic Investigation Process. In 2013 he was involved in the E-Health and the Easy E-Pass projects.

#### Khathutshelo Shaun Matidza (BSc IT)

"I have always been curious on the development of huge soft-ware projects and I feel like this is the perfect starting point for me. My decision is based on the fact that this project seems to provide an exceptional challenge. I am a curious person and I love a challenge. I can assure you (the client) that I will lead this team to give our utmost best in order to successfully complete and deliver a valuable final product."

#### Sylvester Sandile Mpangane (BSc Comp Sci)

elieve this project will provide a good platform to learn new technologies and enhance my knowledge within the software engineering domain."

# 8 Troubleshooting

The following section lists some of the iCrawler app's possible issues and resolutions:

- **Does not launch.** Restart your phone and try to launch the application again.
- Crashes immediately after launch. Ensure that your device meets the minimum specifications to run iCrawler (See configurations). Go to Settings → Apps → Manage Apps → Running, to check if your apps are not using up all your memory. Try to end all processes you do not need and re-start your phone.
- Other unknown causes. If problems continue, delete the app completely and then reinstall it.