TECHNICAL NOTE
CAPRIDROID: A Virtual Guide for Caprine Producers

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INTRODUCTION

Critical development of technology has marked human life. Farmers committed to emerging agricultures will receive $140 million USD investment funds by the technological sector until the year 2020. In the next three decades, 80% of cost-effectiveness will come from proper use of mobile systems (Khurana and Sohal, 2011; Janus, 2012).

Companies, like Vodafone and Accenture, presented a study named Connected Agriculture in 2013, in which the advantages of mobile data services for small agricultural exploitations generally operate in adverse conditions.

Caprine productions may be productive and cost effective if livestock professionals and farmers, beside acquiring the necessary knowledge, can also access technological elements to help make decisions achieve optimum management of animals (Flores and Ramírez, 2013). In that sense, identification of rural potentials, from particularities that allow problem solution with active participation of all social actors, with the least external dependency, is essential (Altieri and Toledo, 2011).

Ion response to those needs, a virtual guide called CAPRIDROID was designed for Android based mobile devices. It is useful to farmers, developers and others involved in caprine raising.

DEVELOPMENT

CAPRIDROID is a computer software developed under General Public License for mobile devices using Android. Free licensed Creative Commons (CC) was used for visuals. Integrated Development Environment (IDE) was designed for manufacture, using Android applications APPMK (Android Magazine App Maker Professional). An IDE made of pre-compiled complements, using Phyton as a programming language that disassociates embedded elements into Android.

Its primary and compilation language is Java 7.0, using a compatible JDK 7.9 virtualization platform (Java Development Kit) JFree to service from master libraries that restore a code to optimize and make it lighter in low performance devices. The application was executed, and passed the Dalvik Virtual Machine tests to provide the mobile processor with necessary instructions.

Interfaces were compiled and programmed together in the standard IDE of Eclypse, which provides brands for the project. That way, the menus and visual scale models levitate, floating around the Java dynamic environment to show the contents. The previous allows proper optimization of space in the screen, and make horizontal and vertical scrolling of information and menus. CAPRIDROID is a mobile version of the Manual of Good Practices of Caprine Raising, previously designed and registered at the National Center for Copyright (CENDA: 3864-12-2014).

The software includes images taken by the authors in the field. The logo was designed using Adobe Photoshop CS6, handled with creative design techniques.

The size of this software version is 2 MB, because all the program runs on a value, and the user does not notice RAM use in the Android device, depending on the value given.

CAPRIDROID is a computer tool available to cell phones based on Android 2.3.3. It provides updated information about caprine raising systems under low-consumption sustainable conditions. Thus, the client can access information, progressively, until good herd raising practices can be applied.

The software is an interactive e-book, a virtual guide in which the user turns pages and can access a contents page in each chapter. It is a digital manual with a cover page (Fig. 1), introduction, configuration, main breeds, low consumption, raising, nutrition, breeding, health, genetic breeding and appendages.

The nutrition, breeding and health chapters are divided into sections to facilitate consultation. For instance, in the first chapter, the user may access sections like, water consumption, grazing elements, arborescent species recommended, or ration estimation.

One of the advantages of the program is versatility; another is personalization (increase font size, change font color, line space, and background color depending on the time of the day). It is an easy to use flexible program, that includes choices to highlight text, search for terms and know the percent studied and the time. These features were suggested by Silva et al. (2012), who noted that every software must meet the requirements and expectations of users.

Some of the advantages are a lot of images of images, graphs, and tables, that make the digital software more understandable and interesting (Patel et al., 2012). The interface language is ready for a wide range of users, from private farmers to professionals.

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Fig. 1. CAPRIDROID software cover