

LEARN HOW TO CREATE APPS DIRECTLY ON YOUR ANDROID DEVICE USING POCKET CODE: A VISUAL PROGRAMMING SYSTEM STRONGLY INSPIRED BY SCRATCH

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Abstract

Bring your Android phone to develop games, animations, and other apps using Pocket Code (freely available on Google Play)! Pocket Code allows you to create apps in a visual, "LEGO-style" programming environment. Pocket Code and the Catrobat programming language are inspired by MIT's Scratch but independently developed and entirely running on smartphones and tablets – no PC whatsoever is needed to create or execute the programs. Experiment with using the sensors coming with your smartphone or tablet, its multi-touch screen, as well as the full resolution of your device's display. If you know Scratch, creating your first fully functional app, e.g., a magnetic compass, will take you less than one minute from installation to a running app. You can then share your app by uploading it to our community site, or remix one of the thousands of apps made by others like you! If you have a Lego Mindstorms 2.0 robot, you can bring it too – make sure to bring long cable binders etc if you want to attach your smartphone to your robot to personalize its face.

Keywords visual programming, kids, children, teenagers, smartphones, tablets, Lego Mindstorms, games, mobile app, remixing, computer science education, STEM

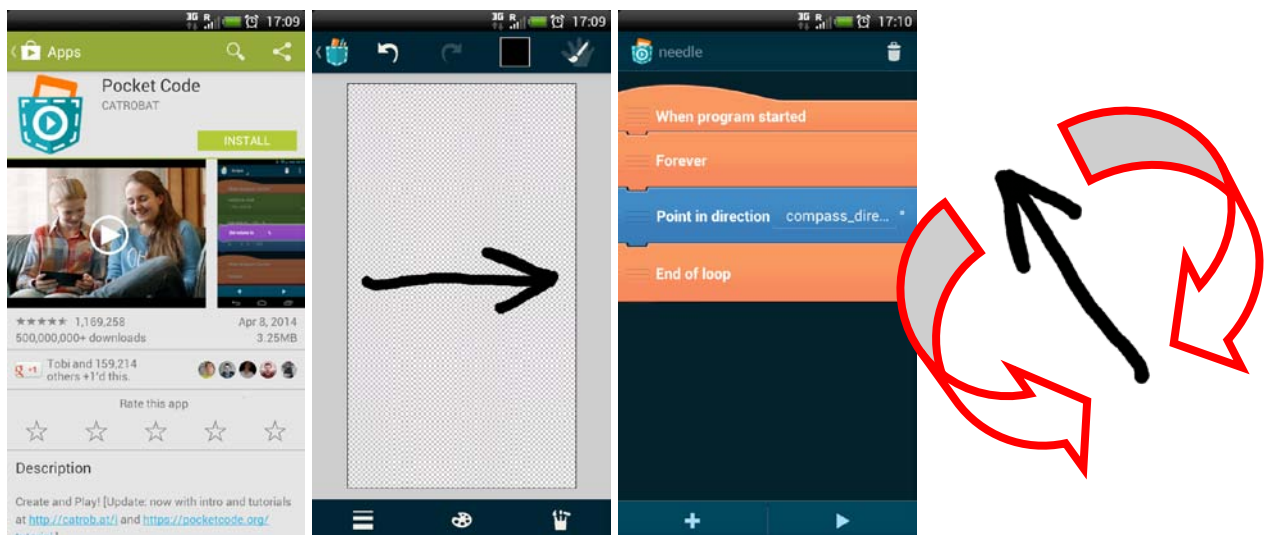


Figure 1: Your first app in one minute – (please take the numbers with a grain of salt).

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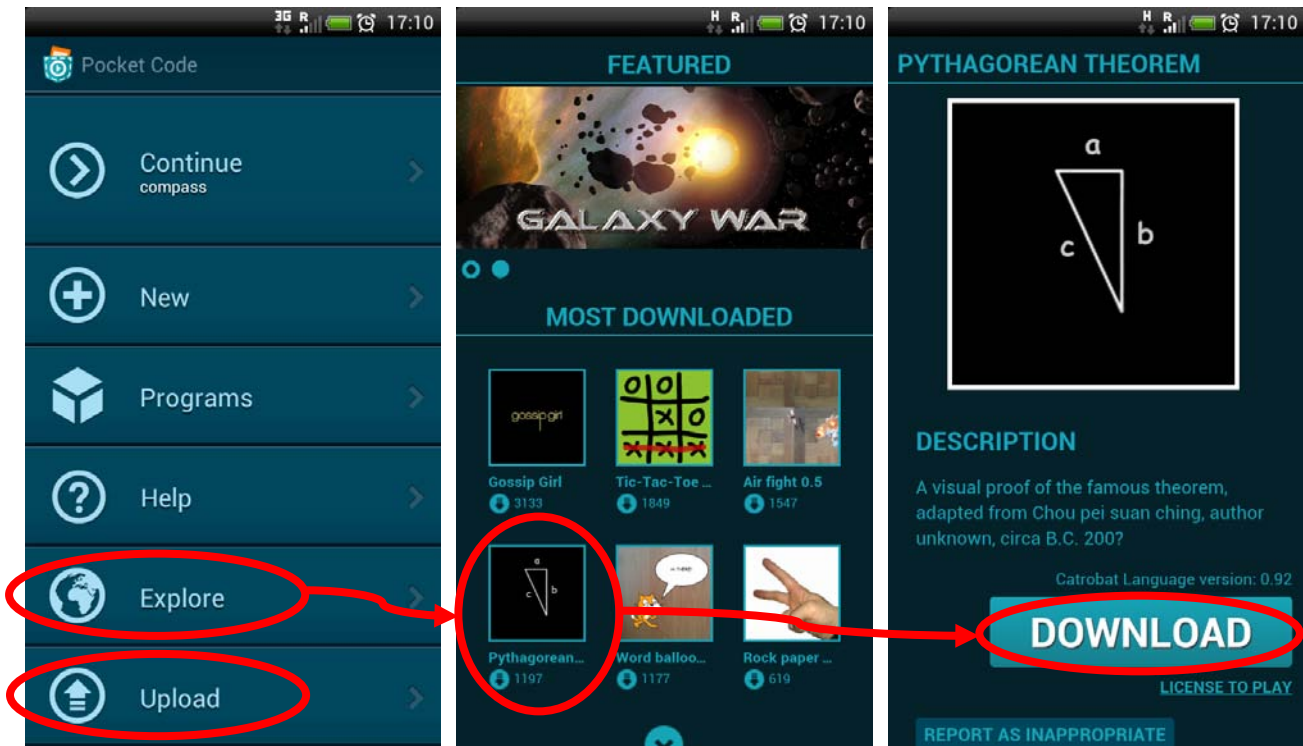


Figure 2: Upload, share, and remix Catrobat programs made with Pocket Code.

Unique aspects of Pocket Code:

- Kids can create apps on their own private and personal smartphones, at any place and whenever they have time, independently of schools and parents.
- Kids can easily show their own programs and those created by others to their friends, e.g., during school breaks, as well as family members, and also share these programs with them.
- Smartphones and tablets allow using various sensors (inclination, camera, etc) and effectors (sound, vibration, flash light) of the devices in one's programs.
- The multitouch nature of the smartphone and tablet displays makes it possible, e.g., to program a piano allowing to play chords with multiple keys at the same time.
- The high resolutions of modern smartphones and tablets, the ease of taking snapshots from, e.g., arbitrary web pages, the high resolution photos that can immediately be taken with the built-in camera at any place, the possibility to precisely edit each pixel's RGB+alpha values of the looks of objects with our Pocket Paint companion app, as well as the high speed of the built-in GPUs allows creating high quality, visually highly appealing programs.
- The small size of smartphones and the built-in Bluetooth capability allows to readily mount them directly on the front of Lego Mindstorms robots, thereby making these robots much more interesting through colorful and complex animation of their "face".
- The non-profit and multilingual character of our Catrobat project as well as the free open source character of programs contributed by kids themselves makes creating one's own apps widely accessible to kids in their own language on a worldwide scale.
- Our free open source approach and the high quality of our development process guarantee the long term availability and future extendibility of our apps and services.

Acknowledgements: See <http://catrob.at/credits> and http://developer.catrobat.org/special_thanks