# DR.SCRATCH'S DOCUMENTATION

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*Our passion is our strength.*

II

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# Chapter 1

# Getting started with Dr.Scratch

## 1.1 The beginning

*' Dr.Scratch is a web application to analyze your own (or their students) Scratch projects. Feedback is given in a variety of areas Computational Thinking. That way, you or your students can be able to learn and improve your programming skills.'*

To begin with, we want to show the evolution of Dr.Scratch and how it works without going into technical details. The reason of this is we would like have a view of our errors at the beginning and how we did solve thank to the feedback of our users.

Dr.Scratch begins as a simple idea, correct bad habits that many students can acquire programming. Is being introduced the Scratch environment as a tool to teach programming skills or develop computational thinking is increasingly common in all levels of education and Dr.Scratch tries to help in this mission.

At first, we thought about the Scratch projects which you can download from Scratch web how the Figure 1.1 shows. It allows you to have your project in your own computer and upload it to Dr.Scratch to be analyzing.

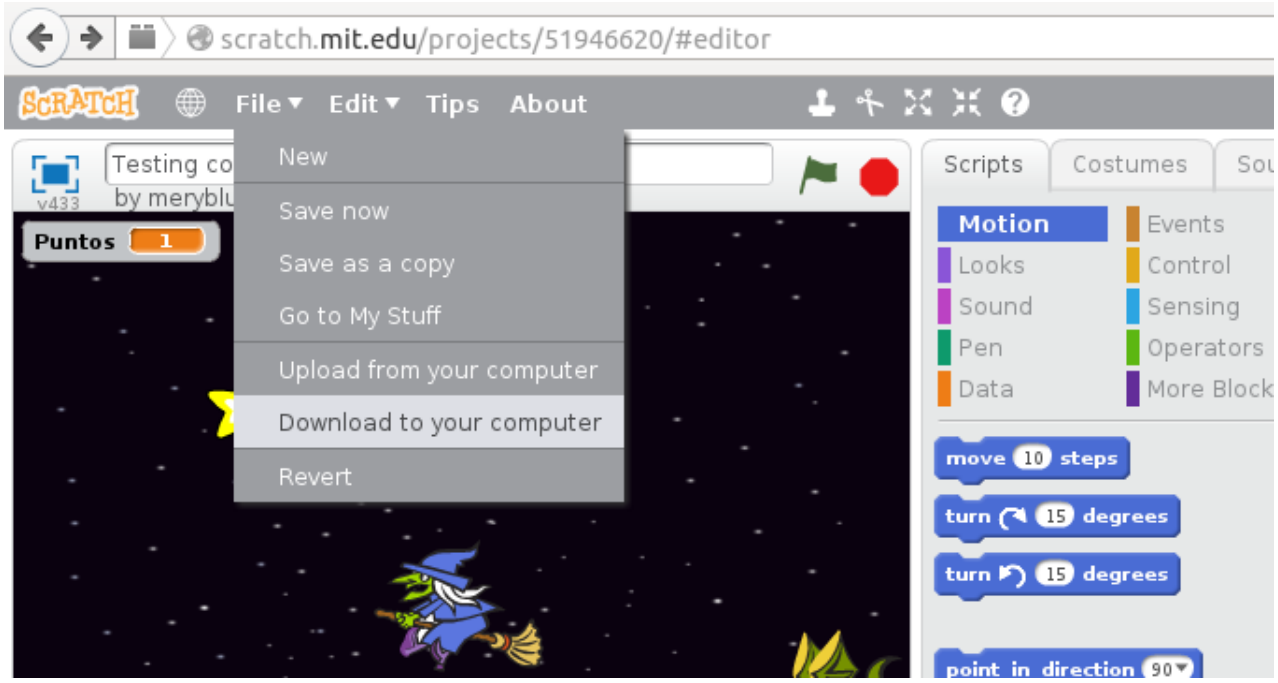


Figure 1.1: Downloading a project from Scratch to your computer.

The first appearance that we designed was very simple to use this option and it helped us to implement the functionality of upload of file and analysis. You can take a look at the Figure 1.2 shows.

You could choose a file (previously downloaded from Scratch), click " Send " to analyze and find code smells with the information provided on the dashboard that Dr.Scratch showed after a few seconds.

Also you had got extra information:

- A demo video explaining how to use Dr.Scratch to improve your programming skills.
- A contact section where you could find our e-mail and twitter to write us if you wanted.
- The new features that we wanted to develop in that moment.
- The posibility to sign in on the top.

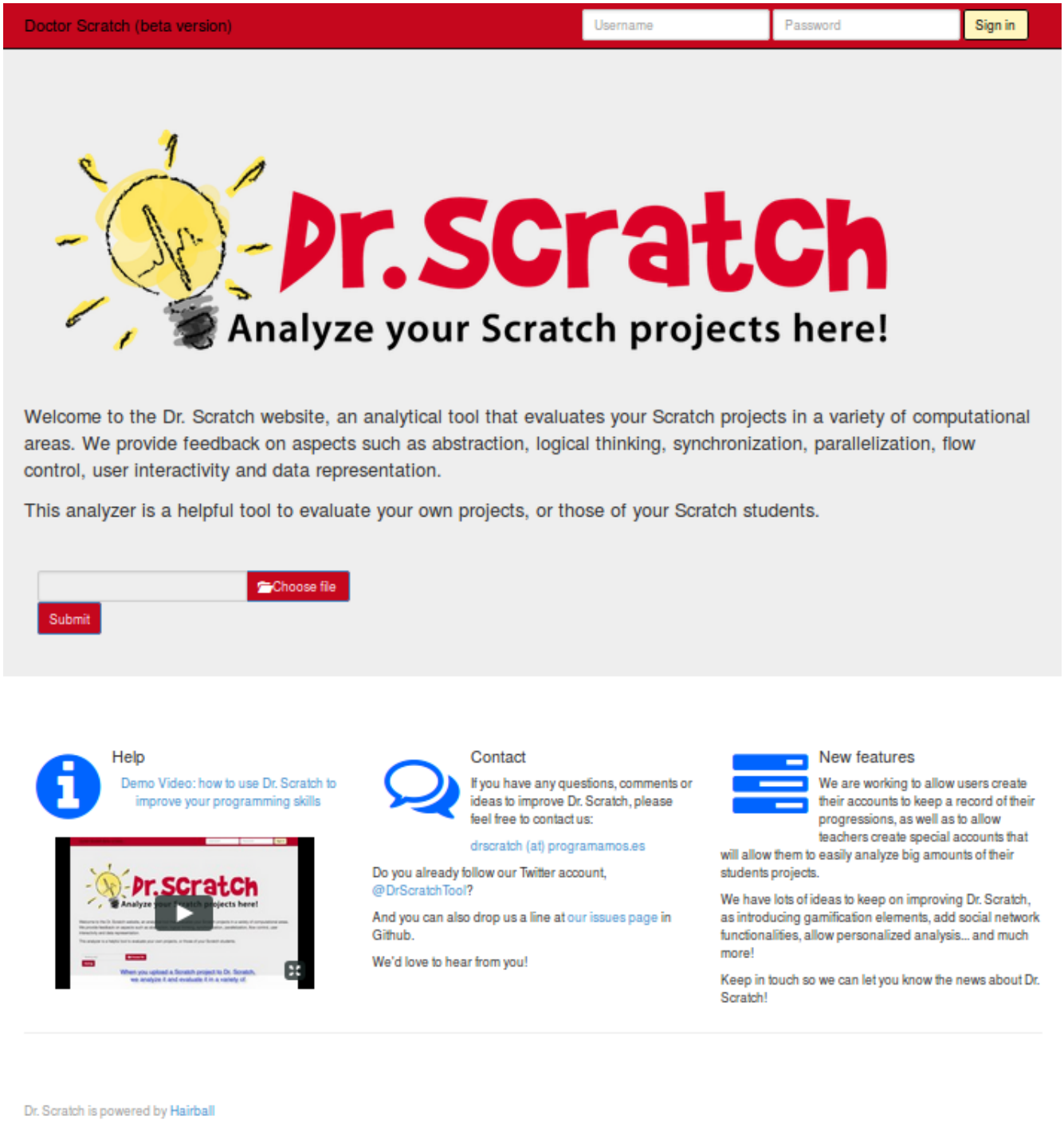


Figure 1.2: First Appearance of Dr.Scratch.

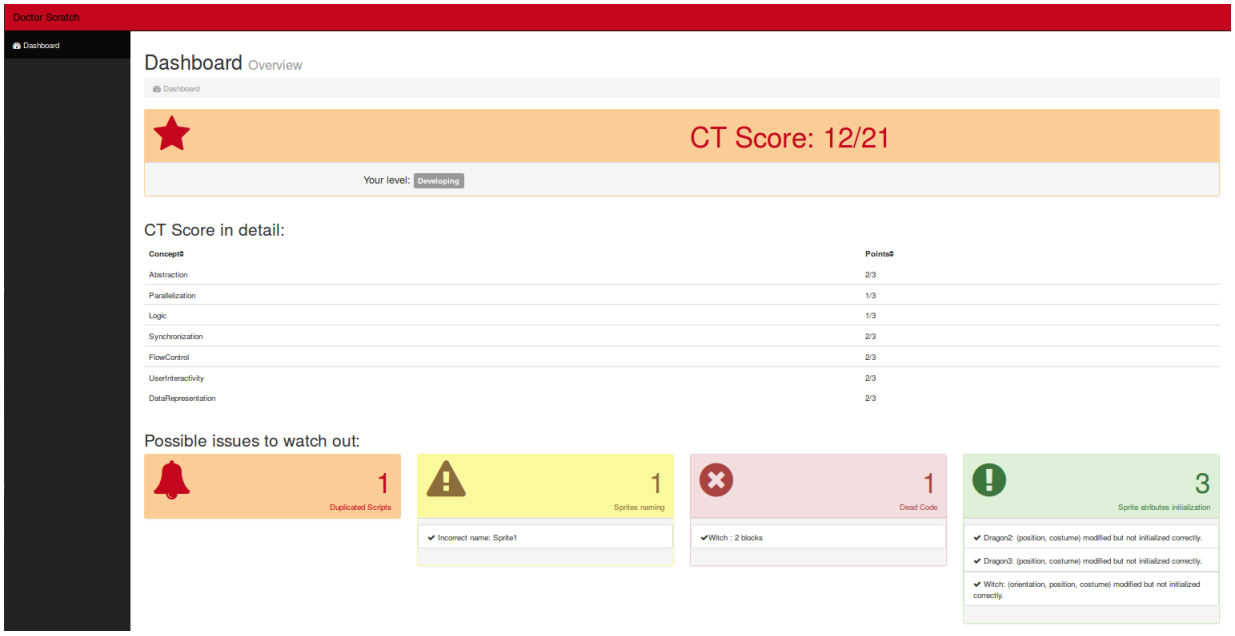


Figure 1.3: First Dashboard of Dr.Scratch.

When you clicked on "Send" Dr.Scratch uploaded your project to our server without to save any additional information. After that, we used and still use some plug-ins (which will be described later) to analyze the project and showed the dashboard you can see in the Figure 1.3.

The dashboard gives you information in detail about several aspects which are related to Computational Thinking like:

- Logic
- Abstraction
- Parallelization
- Synchronization
- Flow Control
- User Interactivity
- Data Representation

In accordance with these aspects, your project will have a score that is showed in the top with the title "CT Score" and gives you a idea about your level.

The other information provided tells about those habits which some programmers can acquire when starts in this world. We have started with four of these bad habits:

1. Duplicated scripts
2. Sprite naming
3. Dead code
4. Sprite attributes initialization

This appearance was in production since November of 2014 until March of 2015. Although it was very simple, had high acceptance. We reckon this was the reason of his successful. But we have a long way to go, in fact, we are including new features and appearances trying to get close to the final product. These new features and appearances will be described in the following section explaining why we thought it was a good idea add it.

## 1.2 Always improving