A WEB-BASED PROTOTYPE FOR REMOTE CAR DIAGNOSTICS

Lupu Bogdan Alexandru

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2.1 Hardware

2.1.1 Raspberry Pi

Raspberry Pi is a series of credit card-sized single-board computers developed in the UK by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools.

Over the past decades, computers have gotten cheaper and cheaper, so today you can find them not only at your desk, but also in nearly every consumer electronics device, such as smartphones and DVD players. Still, computers arent so cheap that you spontaneously buy one when shopping for your groceries. Usually, you carefully plan your next computer purchase, because you have to use it for a couple of years. Computers like the Raspberry Pi will change the situation completely in the near future. The Raspberry Pior Pi, for shortis a full-blown desktop PC that costs only $35. You can connect it directly to the Internet, and it can display high-definition videos. Also, it runs Linux, so you dont have to pay for an operating system. This makes the Pi probably the first throwaway computer in history.

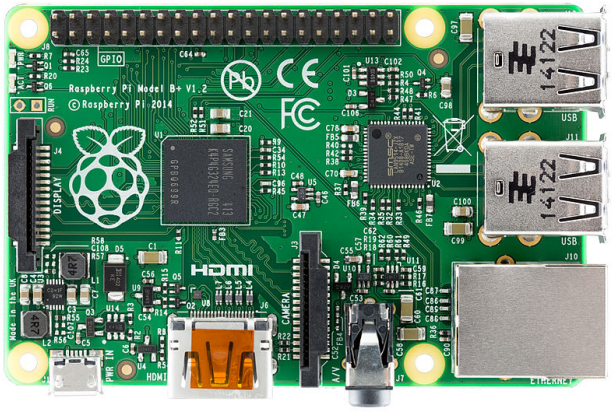

Figure 2.1: Raspberry Pi 1 model B+

Originally, the Raspberry Foundation built the Pi to teach children how to program, so it comes as no surprise that the Pi is an excellent device for exactly this purpose. On top of that, you can use the Pi for many other exciting things. For example, you can turn it into a multimedia center, use it as a cheap but powerful web server, or play some classic games. The Pi is also a great machine for experimenting with electronics. In contrast to

many popular microcontroller boards, such as the Arduino, the Pi runs a full-blown operating system, and you can choose from a wide range of programming languages to implement your projects. With cheap and small devices like the Raspberry Pi, a new era of ubiquitous

computing has begun, and you can be part of it. This book will help you get up to speed quickly.

Get to Know the Hardware Unboxing a new Pi is exciting, but it certainly is not comparable to unboxing a new Apple product. Usually, the Pi comes in a plain cardboard box with one or two sheets of paper containing the usual safety hints for electronic devices and a quick-start guide. The first version of the Pi looks attractive only to real geeks. It is a singleboard computer without a case, and its the size of a credit card. It somewhat resembles the innards of the many electronic devices you might have opened when you were a child. Later versions of the Pi might have a case, but until then we have to focus on its inner values, and thats what counts, isnt it?

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2.2.2 Web Application Front-End

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Chapter 3

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Bibliography

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