Dear reader!

In front of you is a book – well not just a book, but more than that. This book will not only show you how to program AVR microcontrollers with Bascom-AVR software, but it will also show you microcontroller hardware which, with the help of your program, will breathe new life into your projects. When I talk to people involved into programming microcontrollers, I often hear that the only way to enter this world, is to use either C or assembly language, because these two languages offer the best possible results. I partially agree with that statement. It's true that an engineer, who is fully-occupied with microcontroller designs, should use C and assembly language. One reason is that they have to switch from one microcontroller family to another very quickly – due to project targets, of course.

But for newbies to microcontroller programming, it's different – much different!

Give them a C compiler, a development board and a goal to display some data on an LCD, and you will see it is not a piece of cake for them. Often a newbie will even have problems with that simple task. It is a much different story with Bascom-AVR: ask the same newbie to perform the same task and it will be done in no time. People, who have attended Bascom seminars that I have presented, are impressed with Bascom's ease of programming, in fact, many say that they love to use Bascom. Once attracted to world of microcontrollers, there is no way back – he or she will probably program microcontrollers as either a hobby or professionally. I have, as a test, given our development boards along with a few minutes of lectures, to my son and his friend, when they were 10 years old. In no time at all, LEDs were blinking in various ways. Later, my son built himself an LCD scheduler for his school classes, as well as other projects. In this book you will find the basics needed to start programming AVR microcontrollers. From the basics you will advance to the programming and use of some modern electronic devices, such as a graphical LCD with a touchscreen, GPS, various sensors and many other interesting devices which interface to microcontrollers.

I have known Mr. Vladimir Mitrović for more than 15 years, and I still remember the day when I showed him how to program with Bascom. He has truly embraced it and upgraded many Bascom programs with very clever assembly language programming - a winning combination. The ease of programming that is offered by Bascom combined with full access to the microcontroller, using assembly language, can beat any C compiler that we know of, when time-efficient programming is concerned.
I am very pleased that Mr. Vladimir Mitrović has decided to contribute some of his fine articles to this book. Without them, this book would not be the same. In the book, articles by other authors can also be found. The reason is simple: we found them to be very interesting and they fit the concept of the book. Thanks to Mr. Vladimir Mitrović and all of the contributing authors for their articles and programs. I also acknowledge the lecturers and the proof-reader, Mr. Brian Millier, well known Circuit Cellar writer and regular Bascom-AVR programmer, who adapted this book for English speaking readers.

I dedicate this book to my late son Miha who was a real inventor who loved designing- including microcontroller design.

Jurij Mikeln