Programming: The DevTools app divides development time by 10 and makes time to market finally acceptable

In a world that is constantly moving faster, both industry and individuals need innovative solutions that are both simple and practical. In the world of computing, all professionals try to reduce their time to market. The challenge for developers is to program faster whilst keeping up with new technological developments. Observing this, AIM decided to develop a new Integrated Development Environment for STM32 microcontrollers: Devtools.

DevTools, an innovation by AIM

Easily and quickly program applications for STMicroelectronics STM32 microcontrollers. Reduce development costs with services specifically dedicated to this range of microcontrollers. These were the criteria with which Grenoble-based company **AIM** developed DevTools.

DevTools originated during work carried out on a project with the company STMicroelectronics and other collaborators, funded by Minalogic in Grenoble that subsidizes applied research and collaborative R & D projects. During 3 years of research and studies, the AIM company realized that the programming needs were huge in the majority of R & D projects and that a fast and efficient programming solution was needed.

The problem of meeting the needs of the user in terms of ergonomics and programming efficiency was already something AIM had been working on with "**Agilia Intuitive Automation**", its graphical programming tool. The goal of the project was clear: make life easier for developers by providing them with a set of effective and easy-to-use programming tools. Thanks to DevTools and its powerful tools, it is possible to gain in efficiency and reduce development time. For this, DevTools has integrated wizards, new graphical programming methods, tutorials, online help and numerous examples.

Program 10 times faster with graphical programming

Today, for a microcontroller-based design, the choice of the component is certainly important in terms of functionality, but the cost of development becomes an equally important criterion. Current microcontrollers offer significant memory capacities and the development time of several hundred Kbytes of software can quickly add up. Dividing development times by 10 means that DevTools brings a new dynamic: a developer can develop 10 projects in the time it took to develop one!

Thanks to the intuitive DevTools environment, users can configure their hardware, choose their embedded system and program their application in a few clicks. DevTools consists of two software suites, both developed by AIM: Agilia and µOne. µOne is a set of

plug-ins for the Integrated Development Environment Eclipse. Agilia is a graphical programming tool whose features complement those of µOne.

Graphical programming is a major time saving factor. It's the programming process itself that changes. The developer creates his program, not by writing lines of code, but by dragging and dropping function blocks, whose code is already written, onto a programming page and then connecting them together. The result allows to create an embedded application that can then be tested on a kit. DevTools is also provided free with each AIM-Kit1 proposed by AIM.

AIM-kits, a solution for rapid prototyping

The company AIM commercializes its AIM-kits, a set of evaluation boards with STM32 microcontroller types F0, F1, F2, F4 or L1. Each AIM-kit includes an unlimited DevTools license and allows you to quickly create a user interface on the kit's touch screen. All AIM-kits are equipped with a mini-USB connector to power the board and communicate in debug mode using the on-board AIM-Link. Expansion cards for AIM-Kits are also available.

Zoom on the features of the kit

The AIM-Kit1-F103 evaluation board provides a range of inputs and outputs for performing simple automation using software suites µOne and Agilia. The heart of the card is a microcontroller from the STM32 family. The expansion ports on the card allow access to the micro-controller's GPIOs, making it easy to add expansion cards and additional features.

A technical document is provided which details the card's hardware. The evaluation board includes:

- 4 push buttons to simulate digital inputs, and a fifth to reset the microcontroller.
- 4 LEDs to simulate four digital outputs and provide visual feedback.
- 1 potentiometer to simulate analogue inputs.
- 1 buzzer for audio feedback.
- 1 two-pole relay to control a digital output.
- 1 clock embedded in the microcontroller that can be backed up by battery (CR-1220/VCN).
- 2 types of serial communication buses: CAN and RS232. It is thus possible to communicate with other systems.
- A 2.4 inch touch screen on which to build a man-machine interface.
- An AIMLink: an in-circuit debugger/programmer probe.
- Extension Ports: two connectors on each side to connect one or two expansion cards.
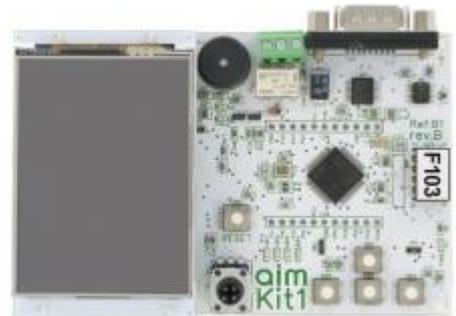
About the AIM Company

AIM, a Grenoble based company with more than 38 years of experience in manufacturing and designing real-time controllers. Its core business is the development of embedded hardware and software. AIM is both a French manufacturer and a service provider offering IT solutions in the areas of real-time instrumented kernels, programming languages, development chains, network protocols and associated drivers.

The company's references extend to many fields: military, medical, agri-food, aeronautics and industry. AIM is both designer and manufacturer of its products, all in France. Proximity and mastery of the production cycle ensures:

- Reduced delivery times thanks to permanent stocks
- An excellent pre-sales service
- A single contact for all industrial communication needs

Guy Poujoulat, director of AIM, says:

> *"It's curious because 20 years later we return to our original business,*
> *one not based on research and innovation at all costs, but on*
> *development tools because, today, real optimizations can be made."*

Recently authorized to appear in the madine-france.com site directory, AIM is a French electronics manufacturer that favours outsourcing based in France both at the level of printed circuit board manufacturing, cabling and the final integration of the modules, in plastic injection or sheet metal.

In the short term, the company wants to reach the international market and extend the use and sale of all its tools for online help, technical documentation and multi-language software (French, English, Spanish and Portuguese).

The kits are available at http://aimstore.fr/

Website: aim-plc.com

Contact: aimcontact@aim-plc.com

Tel: +33 (0) 4 76 90 10 95