

CHAPTER SEVEN

DELPHI

“Delphi is to [...] Visual Basic as what the electronic calculator was to the slide rule”

- *Philippe Kahn*

PROJECT MONET

The last version of Turbo Pascal was released in 1992. By then, Windows had been on the market for a while, and it became clear that everything was moving toward graphical GUIs and visual elements. Although Borland released a version of Pascal on Windows (Turbo Pascal for Windows), it did not come with a graphical editor. It was clear at Borland that they needed to develop this very quickly. Yet, Borland’s first graphics project wasn’t Delphi.

“We worked on a pure visual product called Project Monet,” said Anders Hejlsberg. “It was about building

applications visually, just plug and play and draw lines between the inputs and outputs on the different things. We called them Software ICs (Integrated Circuits).” Project Monet consisted of a set of components you could put on the screen, visually link them together, and build a complete application.

I spoke to Chuck Jazdzewski, who was chief scientist and architect at Borland, about Project Monet. He was clear about its chances of success. “Monet was, I think, a project that was doomed to fail. When you were working with Monet, it became a mess, with diagrams that were really hard to understand”.

“Making Fahrenheit to Celsius converters was super easy,” said Anders¹²⁷, “But it turned out that making big applications was terrible because you had lines going from everything to everything, and it just wasn’t scalable. But I think in that process I got a real appreciation for what does work well visually. It’s a pure visual design tool and a pure failure.”

Still, it was clear that Borland had to do something with graphical displays and GUIs. When Microsoft released Visual Basic to the Windows market, it addressed a need for a development tool with a GUI. However, Visual Basic was not object-oriented and was an interpreted language, something similar to p-code. So, Hejlsberg thought, “We can do this. We can do this, and we can do it better.”

The experience gained with Project Monet influenced the development of Delphi because it made clear where the pain points were in developing such a visual tool. The scalability issues and limitations of purely visual code soon became clear, but conversely so did the powerful benefits of visual development. Borland coined the term Rapid Application Development (RAD) and thus began the development of Delphi.

INTRODUCTION

Yet the focus was not even so much on the graphics part of Delphi. “The key idea was to design a tool that combines a visual development environment, Client/Server database support, and a native code compiler,” said Anders.¹²⁸ “Before Delphi, you always had to make a choice. Do I go for the performance of a native code compiler or the ease of use of a visual development environment? Do I go for a powerful object-oriented language or a proprietary 4GL Client/Server tool? What programmers really want is all of the above, in one package. That’s what we set out to do with Delphi.”

That Borland would spend money on the development of Delphi wasn’t a given. Anders and Chuck, as well as Gary Whizin and Zack Urlocker, had been trying to convince

Borland's management for more than one and a half years to dedicate a budget for the development. It wasn't until the direct management was laid off before they had a change. "In one layoff, we got this temporary manager that came from the Quattro team to run the languages department team," said Chuck. "And one of the first things we did was sort of ambush him at the end of a rollout meeting. We told him that we had this great idea, and asked if we could do it. He thought it sounded good, so we went away and made sure that for a long time we didn't talk to him."

And in the fall of 1993, Delphi was almost ready to ship. The development team was on track for the release, and they planned to spend three months to stabilize the build. There was only one problem. Visual Basic 3 had just been released, and it included database support. This was support that Delphi didn't have at that time. The development team and management came together to decide; ship this version, or delay the release by one year, but add client/server support? Ultimately, the decision was made by a tenacious Zack Urlocker.

Zack learned Pascal at Concordia University in Montreal, Canada, on a CDC mainframe under the supervision of Professor Peter Gregono, who wrote one of the first books on Pascal. Zack bought an IBM PC and Turbo Pascal 3.0 and was impressed with what you could do with Pascal.

“I wrote a Pascal compiler as one of my class projects,” said Zack, “but I dreamed of working for Borland.”



*Zack Urlocker, around the release of Delphi
1 at the Software Development Conference
95, photo courtesy of Zack Urlocker*

After graduating and working for another company, in 1989, Zack was hired by Borland. The first project he was involved in was Turbo Pascal 6, although it was just the launch of the product. He moved quickly through the ranks of Borland, and when the company was working on Delphi, he was the Director of Delphi Product Management. Borland’s development team initially wanted to create a competitor that could stand up to Visual Basic. But Zack wanted more, which, in hindsight, turned out to be the right choice.

Borland’s Vice President Rob Dickerson, Anders

PIONEERING SIMPLICITY

Hejlsberg, and R&D Manager Gary Whizin were trying to figure out the best way to build client/server apps. They looked around at what they had. C++ was too hard, and dBase and Paradox were too limited. Zack convinced Rob, Gary, and Anders that it wasn't only necessary to create a Windows development environment but also to tackle client/server development at the same time.



The development team of Borland, including Anders Hejlsberg, Gary Whizin, Chuck Jazdzewski, photo courtesy of Zack Urlocker

“We didn't really know what client/server computing was, but we knew it was important,” said Zack when I spoke to him about the considerations for delaying the release for this. “It was important that people could create Windows applications without understanding all the nitty-gritty details of how Windows works, of how client/server works,

and even how memory management with complicated pointers works.”

Eventually, this became Borland’s biggest differentiator in the market. Developing applications with Delphi was several times faster than with Visual Basic, SQL Windows, or PowerBuilder. Although the client/server functionality delayed the launch by about nine months, the expanded database connectivity and components proved to be a hit. It went a lot further than other tools. Visual Basic had gotten there first and was a good product, but it was limited; you couldn’t create new components and extend the product itself.

One of the more revolutionary ideas was that the RTL (and VCL) computer source code was included. Back in the Turbo Pascal days, you had to buy a separate version (Borland Pascal) to get the RTL, but with Delphi, everything was included. Chuck Jazdzewski was certainly aware of this when he wrote code; everything he wrote was going to be looked at by customers. It therefore should be an example of what the code should look like exactly, from formatting to the way you structured your used units.

For Anders, the most challenging thing was developing the two-way GUI editor. Keeping the code and the editor in sync was no easy task. He also had to work around all sorts of absurdities in Windows. There was also a discussion

about whether garbage collection should be in Delphi, but Anders didn't think this would be finished in time. But that was a good idea in retrospect. "Garbage collection is a great idea for productivity, but terrible for interoperability when you're talking to a non GC operating system," said Anders. "It adds a lot of complexity."

On February 14, 1995, Delphi 1 was released at the Software Development Conference 95 West at the Moscone Center in San Francisco, CA. Borland already knew they had a great product on their hands. The beta testers were wildly enthusiastic, and the feedback they received on the beta version was overwhelmingly positive. Still, everyone was completely surprised by the depth of enthusiasm for Delphi. "The scale of Delphi's success took us by surprise," said Zack. "The Borland booth was mobbed at the conference." There were lines of developers at Borland's exhibition stand. Bill Gates came to take a look, and during the pre-release handout, rumor had it that Borland was giving away thousands of copies of Delphi.¹²⁹ Even security had to get involved to manage the line of people waiting at the door.¹³⁰ The presentation at the Software Development Conference was fully loaded. People were already excited about the product, and when Anders opened up the Delphi IDE within the Delphi IDE itself and just compiled it, everything just blew up, and they got a standing ovation.