Bartosz Biel

I'm a software designer and developer. I build bridges.

Perforce

YMI

C++11

Playstation4

C++11 Python

MFC Visual Studio Toolsfor Office Digiblast

WPFoperat Perforce

Silverlight

... between reality and imagination

Playstation4 PHP

boxOne

penul

design and creation of video games and video game production tools

Xbox360 PHP

ython

- Experience managing a technological team for almost 10 years (around 30 projects)
- > Co-created multiple video games for demanding hardware platforms

Win

Implemented game-like interaction and awarding systems in non-game applications to make them enjoyable

... between theory and visualization

design and creation of decision support systems

- > Created an innovative tool for interconnecting various techniques of artificial intelligence
- Created multiple expert systems that were used for proving PhD theses, and then implemented in the industry

... between companies and people

design and creation of scientific, industrial and business software

- > Created multiple software packages in the field of **civionics**, including bridge management systems and real-time measurement / data processing software
- Created and developed 7 large applications for business / state customers
- Created and sold first own C++ application back in 1996; after some upgrades it still serves its commercial purpose for the client

Projects with value up to \$14M ranging from

complex industrial, business and scientific applications using highly customized MFC and proprietary user interaction systems, through AAA video games and creation tools, up to WinRT applications created for the launch event of Microsoft Windows 8



SPIN Software

Co-founder, Lead Developer

- Coordination and work on international projects: US, South Korea, Canada, Europe
 - **Technical leadership**
 - Business development
 - Account co-management
 - Human resources management

Selected Achievements

- Co-developed a proprietary multi-platform technology, including a windowing system
- Co-created and released multiple game titles (for demanding hardware platforms), published by renowned companies across the world
- Learned and applied the infrastructure management theory and law, and created successful bridge management systems for state and local government customers

since 2000

Techland

Lead Software Engineer

- Conducting the Tools and Technology team and contributing to multiple video game projects
- Part of the Research and Development team
- Responsible for the software development internship program; 30% of trainees have become successful employees of the company

Selected Achievements

- Progressed the production tools from old technologies into new ones
- Created a licensable technological product (Chrome Engine) out of an ailing in-house toolset
- Established an effective communication between the technology team and the rest of the company (multiple other teams, and the board)

University of Wrocław

Systems Administrator, Faculty of Law, Administration and Economics

2005 - 2006



Wrocław University of Technology

1996 – 2004

Faculty of **Computer Science and Management** Master thesis: Evolutionary algorithms for creation and tuning of fuzzy inference models (5.0)

Microsoft Certified Professional

Visual C++ (certification number A139-7403)

1998, 2003



Mastered Technologies	Primary technologies (everyday usage): C++ (expert level), C++11, MFC, proprietary systems; complemented by: Microsoft .NET (C#, C++/CX), WPF, Silverlight, DirectX, Direct2D, OpenGL, HTML5/JS, PHP, SQL, XML, Python, Visual Studio Tools for Office, Perforce, SVN etc.
Covered Platforms	Desktop: Win32, Win64, WinRT (Windows 8) Console: Xbox 360, Playstation 3, Xbox One, Playstation 4 Mobile: Windows Phone 8, Nintendo 3DS, GBA, Digiblast, PocketPC/ARM
Languages	Proficient English
Memberships	Mensa Polska: Card-Carrying Member since 1998
Interests cities)	Intelligent transportation and accommodation infrastructure (buildings, roads,
	Video games and 3D design applications; industrial, scientific / artificial intelligence software (expert systems, neural networks, fuzzy logic, natural language processing)
	Prose writing: short stories and essays for private usage
Scientific publications	Published 7 papers and reports, see http://bartoszbien.com/portfolio_industry.php



At SPIN as the Lead C++ Developer / Product Owner

Civionics (Software for Civil Engineering)

- SZOK: a complete software system to support evidence, maintenance and operation of bridges, tunnels and highways, used by municipal and local boards of public roads, including the City of Wrocław
- Rubikon: a specialized, visual management system for long-span bridges
- **Manabris**: an advanced software for modal analysis of bridge structures (Resonance Curve Method, Logarithmic Decrement Technique and Mode Shape Investigation, Sweep and Free Run modes)

Artificial Intelligence / Decision Support Systems

- Neuritis: the Expert Function Development Environment that allows the knowledge engineer to combine various artificial intelligence and soft computing techniques with mathematical logic; the techniques include multilayer perceptrons and fuzzy logic controllers with evolutionary training
- Bridge Evaluation Expert Function: widely used by Polish Railways for assessment of technical condition of railway bridges and viaducts
- NOBLA Expert System for girder plate bridges
- **OSP1**: Technical Condition Assessment of Drainage Pipes (the EU Project)

Video Games / 3D Design Applications

- Constructor Pro: an advanced 3D editor with built-in ray-tracing capabilities for industrial production
- Nintendo 3DSTM games: Funfair Party Games, Murder on the Titanic, 55-in-1 Game Collection
- Games for Windows: Puerto Rico, Ultimate Pinball Challenge (4 different editions + toolset), 3D Constructor, Carry Slee Series, High School Musical – Livin' the Dream (for Disney Studios)
- Other portable games: Gormiti II (Digiblast), Sudoku Total (PocketPC, PDAs, ARM)

Business Applications

- ISPA 2: a software to support accounting of investments financed by Instrument for Structural Policies for Pre-Accession (ISPA) funds, used by the Municipality of Wrocław during the preaccession term
- DigiCase Content Wizard: an environment targeting creation of informational and advertisement layouts for information kiosks
- **IITD/Order, IITD/FullText**: the intranet public ordering system and online publication management system for the Polish Academy of Sciences, Institute of Immunology and Experimental Therapy

At Techland as the Team Lead / Product Owner / Lead Tools Engineer /

Programming Lead (budgets up to \$14M, five different platforms)

- **Dying Light** (with Warner Bros Interactive Entertainment)
- **Chrome Engine 4, 5, 6**: Techland's proprietary game engine and development toolset (including the ChromEd world editor)
- Industrial Research on the Technology of a Scalable City for the Purpose of Video Games: EU project, RandD, applied to commercial usage as a primary participant
- Call of Juarez: Gunslinger (with Ubisoft)
- **Dead Island: Riptide** (with Deep Silver)
- Software Design and Development Internship Program
- **Dead Island** (with Deep Silver)
- Call of Juarez: The Cartel (with Ubisoft)
- Call of Juarez: Bound in Blood (with Ubisoft)
- Handy Dictionary for Windows 8 (side project; supported and promoted by Microsoft as one of the few Polish applications for the release of Windows 8)



we build bridges between imagination and reality

- world-class video games and game development tools
- highly engaging educational software
- interactive large screen presentation systems

Full Game Portfolio: HERE

Having taken part in multiple eight-figure budget AAA video game productions, as well as numerous mid-size titles, we offer you our comprehensive experience in designing and developing high-quality video games for multiple platforms. We get the most out of **Microsoft Windows**, **iOS**, **Nintendo 3DS**, **PS3**, **Xbox 360**, **and most recently PS4 and Xbox One**.

We efficiently put across the complete development workflow, from creating engines and tools, through designing game mechanics, up to obtaining certifications for the gold master version of the game. We carefully build and maintain communication among multiple teams responsible for design, engine and gameplay programming, art and level creation.

We utilize modern user experience technologies such as **Microsoft Kinect**, **Google Glass**, **Oculus Rift**, **and beyond**. We have greatly participated in creating technology and mechanics for games published by **Disney Interactive Studios**, **Ubisoft Entertainment**, **Deep Silver (Koch Media)**, **and Warner Bros Interactive Entertainment**.

we build bridges between companies and people

- logical reinforcements of enterprise processes
- comprehensible user interaction
- modern database solutions under maximum security

Through creating logical representations of your enterprise processes, we make our software tangibly augment your business. From high-performance relational and object-oriented databases, through a **coherent logic**, up to rich user experience front-ends, we build goal-oriented workflows for diverse branches of business.

We design and build custom-made solutions for luxury clients and public or academic institutions, as well as for developing enterprises. We cover your highly specific enterprise requirements, such as Content, Customer, Order or Human Resources Management, using modern database solutions under maximum security.

we build bridges between theory and visualization

- multi-purpose software for smart infrastructure
- real-time sensoring and data analysis
- expert systems and decision support systems

Full Industrial Portfolio: HERE

Full Business Portfolio: HERE

We build management, sensoring and analysis software for smart infrastructure, such as bridges, tunnels, highways and oil rigs. Our experience includes multiple knowledge-based soft computing applications – Expert Systems and Decision Support Systems. For these purposes we combine proven techniques of artificial intelligence (neural networks, fuzzy logic controllers, evolutionary algorithms) with novelty solutions such as hybrid networks and intelligent agents.

Considering the complexity of the domain in user's perception, we especially care about the quality of interaction. **Our solutions transform your complex data into comprehensible modern visuals, such as graphs, clouds or heat maps.**