

# Walter Szrek

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## Summary

Senior software consulting engineer experienced in all phases of software development and expert technical support. Skilled in system analysis, architecture, design, implementation and delivery, troubleshooting and customer support. Possesses vast experience in high volume transaction processing, system security and integrity, WAN communication software architecture, downloading in large networks, communication needs analysis, design and implementation. Expert in gaming systems requirements, lottery game design and implementation. Independent, self motivated, hands-on and not afraid of challenge and getting his hands 'dirty'.

## Professional Achievements

- Architected, designed and implemented communication software for majority of the lottery terminal networks in the world.
- Designed security architecture and system integrity solutions that became standard in the lottery environment.
- Architected, designed and implemented high volume transaction processing systems for the world largest lotteries (20,000 tps).
- Created many technical de facto standards for the lottery industry and introduced numerous significant cost reducing or enabling system improvements.
- Key contributor for several dozen projects and products; always delivered quality work on time and budget.

## Work Experience

**Szrek2Solutions**  
2002 – present

Supplier of products and services for gaming industry.

### **Senior Software Consulting Engineer, Partner, RI, USA**

Key technologist, designed and implemented advanced technology, products, solutions, provided software and systems consulting, obtained patents. Partner in international company dedicated to secure solutions for the lottery industry, offering innovative products and consulting services in the areas of system and data security, system architecture and design, game design, and system requirements definition and analysis. Specializing in the area of RNG, PKI, and security; designed a unique secure patented technology called RUN+A (Random Unpredictable Numbers with Audit, a breakthrough in random number generator applications where system integrity is critical. Created a RNG platform and a suite of trusted products including Trusted Play™, Trusted Draw™, Trusted Audit™, Trusted Monitor™. Delivered these products to several lotteries in the US and internationally.

**GTECH Corporation**  
1998 – 2002

Global market leader in on-line transaction processing lottery systems

### **Senior Software Consulting Engineer, Product Development, Warsaw, Poland**

Lead communication software development for La Francaise de Jeu (FDJ), French Lottery, High quality specialized software was delivered on time and to full customer satisfaction, meeting the requirements of no software changes in 20,000 existing FDJ terminals.

Lead design and implementation of communication software for Camelot, UK Lottery. Converted terminal network from X.25/Satellite/packet radio to ISDN/X25 PVC, on schedule and meeting all customer requirements. Introduced average savings for Camelot of £ 200,000 per year in terminal support.

Responsible for system engineering for transactional data warehouse – very successful product. Designed secure method of generating winners for game Extra – first on-line instant game in lottery environment. Consulted on security solutions proposed by different vendors.

1996– 1998

### **Senior Software Consulting Engineer, Systems Engineering, RI, USA**

Responsible for system engineering of a new instant ticket reader for probability games. Designed communication architecture for a low price terminal product. Architected communication solution for multiple host systems communicating with a single terminal network. Participated in design of future GTECH system architecture.

1992 – 1995

### **Senior Software Consulting Engineer, Brussels, Belgium**

Provided technical support, sales support, and application design consulting for many European and US customers, including largest lotteries. Designed and implemented communication software improvements for Camelot, UK Lottery: increased performance of communication subsystem from 600 to 8,000 tps; reduced time required to build communication database subsystem from 12 hours to 3 minutes which was essential in system launch in the UK. Architected, designed and implemented solutions for high volume transaction processing of slow (I/O) bound transactions, which allowed customers for large cost savings, e.g. STL (Spanish Lottery) saved approx. \$1,000,000 using a software solution in place of hardware. Introduced major performance improvements for California Lottery system to pass RFP requirements.

1989 – 1992

### **Software Consulting Engineer, RI, USA**

Architected, designed and implemented software communication management and control system, integrated with both GTECH main lottery system platforms, used till now in all GTECH delivered

systems. This system supports many different network types: X.25, IP, X.21, Satellite, X.42, dial up, X.32, and packet radio. Provided system level and high level application support for many customers, systems and products.

**1983 – 1989**

**Software Consulting Engineer, RI, USA**

Lead communication software development and high level system and game design. Architected, designed and implemented software solution for lottery system redundancy via use of multiple sites (N-Plex). Designed and implemented software subsystem for 'system bets' and many other gaming subsystems. Designed and introduced various test and simulation tools used till now.

**1979 – 1983**

**System Analyst / Programmer, RI, USA**

Designed and implemented first lottery software platform and host application, still offered as a low cost solution. Developed communication software for the first terminals built by GTECH. Designed GSC, predecessor of X.42 protocol. Introduced queuing algorithms, hash file system and many other software subsystems.

**Polish Academy of Science, Institute of Biocybernetics and Biomedical Engineering**

**1975 – 1979**

**Research Assistant, Warsaw, Poland**

Member of R&D team working on character recognition (OCR), pioneering software solutions.

## **Education**

**1970-1975**

**Warsaw Technical University (Politechnika Warszawska), Warsaw, Poland**

**MS in Computer Science**

## **Languages**

English, French, Polish

## **Hobby**

Biking, collecting old mechanical calculators ([www.calculators.szrek.com](http://www.calculators.szrek.com)), collecting posters