Marta Salek

Personal Details

Name Marta Elizabeth Salek

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Date of birth 23 September, 1980 (Warsaw)

Interests

- Orienteering and rogaining
- Bush-walking and camping
- Jogging and walking my dog
- ARDF (Amateur Radio Direction Finding) and transmitter (fox) hunting
- Reading (particularly science fiction and fantasy)
- Roller-blading
- Home renovation and gardening

Skills

Scientific
- Mie Theory (theory of particle scattering – part of work at Ecotech)
- Functional Analysis and Topology (Masters level)
- Algebra and Number Theory (Honours level)
- Applied Mathematics (Third Year – including Integral Transforms, PDEs)
- Physics (Second Year)

Languages
- .NET (C#, VB), CSS, JavaScript, VBScript
- Transact SQL – data extraction, data updates and entry, creation and manipulation of OLE objects on a remote server, automatic emailing of reports, processing of files, data analysis and name matching
- C (using ACML) and Scilab - perform scientific calculations
- VB6 and VBA – MS Access applications, file parsers
- CGI (Perl), MySQL, AJAX (see website www.ardf.org.au)
- Currently learning Ruby, Ruby on Rails and Objective C
- HC12 assembly – can make minor changes to existing firmware code

Tools
- Visual Studio
- MS SQL Server and Management Studio
- MS Access (ODBC and ADO connections to SQL Server)
- MS Excel and MS Word
- LaTeX (used to produce Masters and Honours theses)

Other skills
- Technical documentation
- Technical specification / analysis of business rules
- Excellent literacy
- Experience with Ecotech nephelometer and associated software – calibration, leak testing, fixing simple hardware problems.

Attributes

Work effectively both in a team environment and independently. Have successfully worked in an open office and also alone, from home.

Experience in communication, gained from tutoring, acquisition of software specifications from clients and communication of changes in requirements to QA and documentation teams. Excellent grammar and literacy.

Good analytical skills and logical thinking, gained from analysis of software specifications and the construction of abstract mathematical proofs during my university years. Have the ability to consider a broad range of implications and consequences.

Learn new skills very quickly when given projects to complete. In particular, though my university degrees had no computer science components, I am now fluent in a number of software languages, having learnt these from independent study, consultation with others and completion of assigned work.

Highly disciplined and motivated. Require minimal supervision once I have obtained all information needed to complete a task.

Accomplishments

Addition of features to software asset management system

Technologies: C# .NET, TSQL

Added features to a C# application with TSQL hosted in MMC to store software and hardware asset information and calculate license compliance. Wrote detailed requirements, design and test specifications.

Involved in development of a new monitoring instrument

Calculated theoretical data and compared it to data measured by the instrument, attempting to find corrections and correlations between the two datasets. Calibrated, tested and helped physically modify the instrument when required. Wrote minor firmware changes to control new features of the instrument. Was involved in identifying what improvements had to be made to the instrument for us to attempt to make the measurements we needed. Helped investigate and source new components for the instrument, such as brighter LEDs and less noisy PMTs.

Calibration software for nephelometer light source

Technologies: VB. NET, MS Access

Passes data to and from a calibration jig which moves a detector in front of a multi-LED light source to measure its distribution. Software also iteratively adjusts the intensity of individual LEDs to try to obtain a preset distribution.

Primary author of paper for the 2007 IUAPPA conference

Title: *Advantages of Using the Ecotech Three Wavelength Nephelometer for Aerosol Measurements*

Paper contains a comparison of the performance of nephelometers with theoretical far-field scattering coefficients calculated using Mie Theory, and indicates the features of the Ecotech nephelometer which could allow it to correct its output to the far-field theory. A significant amount of calculation, performed using Scilab, was required to produce the data cited in the paper.

Conversion of Job Tracking System to ASP .NET

Technologies: ASP .NET, TSQL, CSS, Javascript, ASP

Schedules jobs for members of an IT department. Allows users to post feedback. Automatic emails when job status is changed. Monthly invoices generated for billable jobs.

Online Broker Quoting System

Technologies: ASP. NET, TSQL, CSS, Javascript

Includes SQL-based name-matching algorithm that analyses words in an organisation's name and compares these to existing organisation names using a combined Levenschtein and Soundex algorithm. Baseline statistics have been calculated to estimate the probability of a match. Different word order in club names and mistyped information has been taken into account. All quote questions in the application are generated dynamically based on information stored in various SQL tables. Depending on the answer to a question, other questions are displayed / hidden – this behaviour is again controlled using SQL tables, so can be adapted without republishing the .NET solution. Questions also have variable rates associated to them for premium calculation purposes.

Interactive, database-driven website (www.ardf.org.au)

Technologies used: CGI (Perl), Javascript, HTML, CSS, MySQL

Members are able to login to the site, update contact details and post pictures / event reports. Members may also view minutes of meetings, add and update event details and perform other administrative tasks. A scheduled reminder service has been implemented to automatically send emails to members regarding upcoming events. AJAX is implemented on all pages to allow incremental loading with complete page postback. Website is compatible with the most common browsers.

Involved in development of TECH Services web application

Technologies: ASP .NET, TSQL, CSS, Javascript

Job scheduling and stock control web-based application, dealing with the scheduling of terminations and installations of ATMs for St George Bank.

Conversion of MIS (Management Information System) to ASP .NET

Technologies: ASP .NET, TSQL, CSS, Javascript, ASP

Mostly reporting application with some data update and entry pages.

Sales Reporting

Technologies: TSQL

Data extraction from large tables (several million records) which were poorly indexed – procedure optimisation was required to ensure reports ran in a reasonable time.

Maintenance and enhancement of the DX Mail Management System

Technologies: MS Access 2000, TSQL

Debugging of existing membership fee management module. Addition of new modules to control product orders and Clear and Lodge services, perform mail audits, allow the creation of MARs (Membership Adjustment Requests), and allow the creation of membership and Clear and Lodge quotes.

Technical Documentation

Documentation of all major SQL Server data processing tasks for IPEC, including SMS (Sort Management System for freight scans), TITRACK (Track and Trace system – freight tracking), Remote Print (consignment note printing) and Linehaul (interstate freight). Documents included pseudocode, documentation of backup procedures and overall application structure and annotated procedure listings. Documents ranged from 100 to 600 pages in length.

Work History

Organisation	Position Held	Period
ManageSoft	Software engineer	January 2008 – Current
Ecotech	Project engineer	February 2007 – December 2007
Sportscover Australia	Software development contractor	February 2006 – February 2007
Victorian ARDF Group	Volunteer website developer	December 2005 – January 2006 and December 2007 – January 2008
ZIMPOL Consulting and Investment Services	Software development contractor	July 2003 – December 2005
The University of Melbourne	Mathematics tutor (first and second year), exam marker	January 2001 – July 2003

Education

Master of Science, Mathematics (January 2002 – April 2004)

Thesis topic	Existence of a Bishop family of annuli
Specialisation	Functional analysis, pseudoholomorphic analysis (generalisation of complex analysis), topology
Grade	H1
Awards	Pratt Scholarship (living stipend and full scholarship for duration of Masters degree)

Bachelor of Science, Honours (January 2001 - December 2001)

Thesis topic	Degree Theory (primarily functional analysis)
Grade	H1
Awards	• Dean's Honours List • Wyselaskie Scholarship in Mathematics

Bachelor of Science (January 1999 - February 2001)

Achievements	Completed the three year undergraduate course in two years, taking one subject throughout the summer vacation of 2000/2001
Lowest Grade	H1 – Academic transcript available on request
Awards	• National Scholarship (full scholarship, also covered Honours year) • Dean's Honours List (1999 – for first year, 2000 – for third year) • Muriel Ramm Bursary in BSc (2000) • William Sutherland Prize for Physics (2000) • E.R. Love Prize for Mathematics (2000) • Dean's Prize (1999) • Dwight's Prize for Physics (1999)

VCE (January 1997 – December 1998)

ENTER	99.95
Awards	• VCE Premier's Award for Information Systems • Australian Students' Prize