DAN DANIEL

Software Engineer

CONTACT INFORMATION

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PROFESSIONAL SKILLS

C#, ASP .NET, MVC, Entity Framework, WCF, WebAPI, Linq, SignalR, IIS, AD

JavaScript, AJAX, JQuery, Bootstrap, HTML5, CSS3

MySQL, MSSQL, Elasticsearch

TFS, TFVC, Git, Subversion

Java (J2EE, J2SE), Hibernate, JSP

Android Application & IME Development (API 16+)

PROFESSIONAL INTERESTS

Object-Oriented Design, Programming Languages

Application and Framework Design & Development

Software Quality, Software Reuse

Research

LANGUAGES

ENGLISH ★★★★

HUNGARIAN ★★★★★

ROMANIAN ★★★★

I am interested in software- engineering, evolution and reuse. Passionate about helping developers gaining more results with less effort. Participating in research projects hoping to gain a deeper understanding of the topics and applying ideas in real life large-scale software systems.

I Obtained **Master of Science degree** in **Information Technology**, have **6+ years** of experience in **Software Engineering** and most industrial experience in **C#, ASP.NET, MVC, WCF, SignalR, Javascript HTML5 and CSS3**.

In my free time I like to do open-source development, help developer communities, and join programming contests, jog, cycle and hike.

WORK EXPERIENCE

SOFTWARE ENGNEER – SYSTEM SPECIALIST

ST Electronics, Singapore — Feb 2014 - Current

Responsibilities: Framework development to enhance web system development speed and stability. The framework ECP (Entity Code Production) was **based on own developed generative programming language** which helped **revolutionize how we build software systems**. The core of the framework consists of software modules based on proven best practices and design patterns. These modules consists of solutions ranging from SQL, C#, HTML, Javascript to other scripts and config files which are represented as parametric templates. The templates are applied on business-logic specific entities, and **compiled into complete N-tier web system's deployable source code**. Using our framework the development teams completed their tasks in **half the time with half the staff, saving 75% costs** on the development phase. Our team grew from one person the eight, and helped in **completing over 20 projects** which include public safety, medical related, resource management, business intelligence and data analytics projects as well.

The framework **has won Innovation award and Outstanding EVA Initiative Award in 2016 for greatly reducing development time and costs, and improving software stability.**

RESEARCH ASSISTANT

School of Computing, National University of Singapore — Feb 2012 - Nov 2013

Responsibilities: Developing and evaluating tools and technologies that improve code maintainability and understandability in industrial software systems. **Implemented** a technology (VCL, Variant Configuration Language), **programming language and its compiler for applying adaptive reuse**. The development was done in Java.

We demonstrated VCL's potential to reduce program complexity by eliminating redundant codes in a publication titled "Configuring Software for Reuse with VCL" which **was published** in an international conference (SPLST '13). **We achieved 77.2% code reduction in the well-known Java Buffer Library** by using VCL templates, making the code easier to read and enhance.

We conducted a case study using the **Linux kernel code and achieved a 61% code compression** by refactoring cloned code instances into generic VCL templates. This allowed us to greatly enhance maintainability of the input driver code in Linux kernel code. The study later **has been published** with title: "Managing Big Clones to Ease Evolution: Linux Kernel Example" in an international conference (IEEE FEDCIS '16).

RESEARCH ASSISTANT – TEACHING ASSISTANT

Department of Software Engineering, University of Szeged — Feb 2010 - Jan 2012

Teaching: Programming I (seminar)

Basics of Object- Oriented programming, Java programming language

Research Assistant (from June 2010)

Responsibilities: Evaluating software quality measurement practices, preparing software system quality reports using automated source **code analysis and providing refactoring suggestions.**

Java web-, desktop application and SOAP web-service development. **Automated collection** of information about software systems **from various source code repositories** and providing information about the current quality state of the system. Providing automated **design pattern** usage and **refactoring** option suggestions based on design faults and vulnerabilities in the systems.

EDUCATION

MASTER'S DEGREE – SOFTWARE INFORMATION TECHNOLOGY

Faculty of Science and Informatics, University of Szeged, Hungary — Sep 2011 - Jan 2014

Thesis: Towards Better Variability Management in Industrial Software Systems

BACHELOR'S DEGREE – SOFTWARE INFORMATION TECHNOLOGY

Faculty of Science and Informatics, University of Szeged, Hungary — Sep 2007 – Jun 2011

Thesis: Object Oriented Software (Java, C#, C++) Structure Visualization Interactive Tool

RESEARCH IN COMPUTER SCIENCE

Scientific Students' Association Budapest 2013
Towards Better Variability Management in Industrial Software Systems

SPLST 2013 - 13th Symposium on Programming Languages and Software Tools
Configuring Software for Reuse with VCL

FedCSIS - Federated Conference on Computer Science and Information Systems,
36th IEEE Software Engineering Workshop 2016
Managing Big Clones to Ease Evolution: Linux Kernel Example

OTHER PROFESSIONAL EXPERIENCE

ART (Adaptive Reuse Technique)

An open-source **programming language and compiler** which allows developers to **manage software variability and write reusable code** in general. ART can be pictured as an advanced form of macros that replaces the need for many Variability Management Techniques with a single well-thought out mechanism that is **simple, powerful and fully automated**. ART is used for academic and business purposes as well. A few examples: ART is used for **generating and maintaining Android test codes**, generating **SVG graphics based on XML descriptions**, generating **RTF documents based on predefined templates**, and generating **complete web portal code** as well. For more information visit **art-processor.org**.

SwipeTap

An **Android input method** developed to improve access to mobile devices for **the elderly and people with disability.** The application is designed to simplify hand movement and **help in typing with lower precision**. It provides **text-to-speech, word prediction features** and simple built-in text editor with all features being accessible **with gestures without** the need of locating **buttons** on the screen.
The application **won 2nd prize in Startup Asia Singapore hackathon**. For more information visit **www.swipe-tap.com.** Currently the application is in testing phase on Google Play.

Food from the Heart SCC Portal

Food from the Heart (FFTH) is a **non-profit voluntary food distribution programme** in Singapore. FFTH supplies food and emotional nourishment to **over 23,000 beneficiaries**. Currently, there are **28 FFTH self-collection centres** (SCC) island-wide, which **help to support more than 4,000 needy beneficiaries** by providing bread and non-perishable food items.
The project's objective is creating a web portal to address increasing operational need for FFTH to have better visibility, **tracking and management of collections** happening in various Self Collection Centres. The system provides **real-time visibility of donations distributed** and collected in various Self Collection Centres, prevent duplicate collections being made, and provide necessary data for decision-making. The portal **provides the ability to manage self-collection centres, operators, and beneficiaries, to plan distributions and track issuing of packages** by **scanning** beneficiary ID cards **with mobile phone.**
The system was implemented in C# ASP.NET using MVC 5 with Entity Framework, Identity Framework, and MSSQL database. The SCC Portal is **currently in use by FFTH**.