Dean Matthew Kramer

E-mail: deankramer99@gmail.com Web: https://deansserver.co.uk/~dean

PROFILE

I am a Research Assistant in the Department for Computer Science at Middlesex University. I am a member of the Research Group on the Development of Intelligent Environments, and currently part of the European FP7 project named POSEIDON. Presently, I research in the fields of context-awareness which includes the development of an open-source mobile context reasoner, development tools to assist developers, and mobile applications for experimentation with end-users. I have research interests including *context-awareness, software product line engineering,* and *domain specific languages.* My doctoral studies involved research into dynamic software product lines for mobile devices, handling design-time and runtime software adaptation (incl. GUIs) using context-awareness. This involved the development of a runtime product line manager (incl. context acquisition engine), and developer tools. One of my extensions has since been included in a popular open-source software composition tool, *FeatureHouse,* part of *FeatureIDE*.

I am interested to being part of a vibrant, versatile team. I strive to be an active and productive member of any team, and aspire to grow and learn as a software engineer. I am a highly motivated, punctual, well-mannered and reliable employee. I can also work well alone, lead efforts, and handle subtasks. I can cope at meeting important work deadlines and always work to the best of my ability. I aim to produce high quality outputs, even when requiring personal time.

TECHNICAL EXPERTISE

Experience in languages including:
Markup Languages (XML, HTML5)
Query Languages (SQL, SPARQL, C-SPARQL).
Imperative Programming (C, PASCAL).
Object Oriented Programming (C++, Object Delphi, Java, PHP, Objective-C, PL/SQL, and Visual Basic).
Multi-Paradigm Languages (JavaScript)
Exposure to Functional Programming (Scheme).
Network and Distribution: HTTP, DNS, RPC, Restful Services, Protocol Buffers
Methodologies/Processes: Agile, XP, FDD, Spiral, SDLC, TDD, and Waterfall
Source code Management: CVS and Git.
Build Automation: ANT, GNU Autotools, Gradle, Maven (Central and JCenter),
Middleware technologies including J2EE/JavaEE, EJB, JMS and Web Services.
Linux/Unix systems with server management knowledge (Web/Mail Servers)
Modeling techniques using UML, Feature Modelling (Software Product Lines)
Comfortable to work in MS Windows, Apple Mac OS X, and Linux system environments.
Mobile App Development: Android, and iOS

PROFESSIONAL BODY MEMBERSHIPS

Association for Computing Machinery (ACM)
ACM Special Interest Group on Software Engineering (SIGSOFT)

PROFESSIONAL EXPERIENCE

Middlesex University **February 2014 – January 2016**

Research Assistant, EU FP7 POSEIDON Project (http://www.poseidon-project.org)

Research and development of tools/services to improve inclusion of people with Down's Syndrome using context-awareness. This included investigation on how the user group uses technology, and different techniques that can assist them in learning routes, and navigating long distances. In addition, I authored and co-authored project deliverables, and research papers.

Over the course of my employment, I developed:

- An Android software library named aContextLib for retrieving different sensor data from mobile phones, Bluetooth devices, and web services. The use of this library allows the user more quickly use these components with abstractions, and Java callbacks. This library is available from JCenter for quick integration in Android projects using Gradle. Source code is available from Github at: https://github.com/deankramer/aContextLib

- An Android centralised context reasoner to support context-aware user facing applications. This reasoner acquires different sensor and web service data and infers contextual situations using defined rules. This reasoner also logs contextual changes and sends back to a server based learning service using XMLRPC and Protocol Buffers. This has been distributed using Google Play at: https://play.google.com/store/apps/details?id=org.poseidon_project.context. Source code is available from Github at: https://github.com/deankramer/POSEIDON-Context

- A Modelio module to allow developers to help diagram and create context inference models and rules for our Android context reasoner. Using this tool, the developer can reduce boilerplate and reuse different rule fragments. Source code is available from Github at: https://github.com/deankramer/ContextModeller

- Additional input into a separate experiment, focussing on the effects of stress in software development. Developed a mobile application for measuring developer heartrate, and distributing/receiving self-assessment reports on their levels of stress. This has been distributed using Google Play at: https://play.google.com/store/apps/details?id=uk.ac.mdx.cs.ie.workstress. Source code is available from Github at: https://github.com/deankramer/WorkStress

University of West London **June 2008 - February 2010**

Mobile Applications Developer, on loan to Mammoth Graphics

- Develop the original version of a music quiz game for iPhone named “Lyrical Genius”
- Distributed on Apple Appstore.
- Can be found at: https://itunes.apple.com/us/app/lyrical-genius/id397442782?mt=8#

Research Assistant, Slenky Knowledge Connect Project

- Restructured architecture of a Social Networking site.
- Led development redesign using open source social platform, Elgg.
- Developed customer specific plugins to allow for better media sharing, and opportunity sharing between users.
- Integrated large media filter/transcoding systems with system.

Research Assistant, Tour de France Knowledge Connect Project

- Built an iPhone Application for the Tour de France 2009, with over 50,000 Installs
- Application had client-server connections, feeding data and information regarding the competition.
- Connection to live result feed from server to provide up-to-date standing data.
- Integrate the live result feed into online Vizky application for desktop based experience.
- Tight schedule of a total of 2 months for complete development.
- Worked with Mammoth Graphics and ITV

Research Assistant, Remora Project

- Worked in a distributed development with geographically distant colleagues.
- Developed content management system on top of open source social platform Elgg.
- Customised iPod Touch devices to run specialised software for offline mobile learning, with information saving and retrieval (prior to iOS SDK release).
- Developed RESTful services using PHP for integration with the social platform.

- User support during toolkit piloting.

Toby Carvery, *Carver / Senior Chef* **September 2004 – April 2008**

Mc Donalds Restaurants, *Team Member* **June 2003 – September 2004**

VOLUNTEERING WORK_____

Castle Point Citizens Advice Bureau **October 2006 – June 2008**

IT Support / Network Administrator

- Maintained, removed and added users to the Windows Server Active Directory when needed.
- Updated and deployed new software when this became available.
- Fixed client machines when needed, software and hardware problems.
- Gave general support to users when they needed help.

EDUCATION_____

2010 – 2014

University of West London

- PhD Computer Science
- Thesis Title: Unified GUI Adaptation in Dynamic Software Product Lines
- The primary aim of the thesis was to propose an approach that gives the developer the ability to develop dynamic GUIs using Dynamic Software Product Lines. This GUI can then adapt itself to different runtime contextual situations.
- Supervisors: Dr. Samia Oussena, Prof. Peter Komisarczuk, Prof. Tony Clark
- Examiners: Dr. Jaejoon Lee (Lancaster University), Dr. John Moore (University of West London)

Feb 2010 – June 2010

University of West London

- PGCert in Research
- This course is a compulsory course for any M.Phil/Ph.D students, and was completed between Feb and June 2010.
- **Modules:** Developing a Research Proposal, Research Methods (Accredited using RM from PGDiploma Computing)

2008 -2011

University of West London

- PGDiploma Computing (MSc without dissertation)
- **Modules:** Advanced Rich Media, Distributed Application Development, UML Component Modelling, Research Methods, Knowledge Management, Mobile Application Development.

2005 - 2008

University of West London

- BSc (Hons) Computing & Information Systems
- Second Class First Division (2:1).
- **Third Year**: Advanced Databases, Applied Software Engineering, Development Methodologies, Dissertation, Middleware Programming, IT Industry, Project Preparation.
- **Second Year**: Database Design and Management, Interfaces and HCI, Network Management, Object Oriented Modelling, Object Oriented Programming, Professional IT, User Requirements Specification.
- **First Year**: Analysing Information Systems, Computing Systems Fundamentals, Information & Numerical Analysis, Introduction to Internet Technologies, Professional IT, and Software Development.

2003 - 2005

SEEVIC College

A-levels in:

- Advanced Biology
- Advanced Chemistry
- Advanced Computing

1997 - 2003

Furtherwick Park School

- GCSEs in Business Studies, Double Science, French, Geography, Graphic Products, English language, English literature and Mathematics.

ACADEMIC ACIVITIES

University Student Representative 2005-2011

Conference and Journal Reviewer:

- Journal of Ambient Intelligence and Smart Environments
- The ACM SIGCHI Symposium on Engineering Interactive Computing Systems (2014)

Conference Program Committees

- 2016 International Workshop on Intelligent Environments Supporting Healthcare and Well-being (WISHWell'16)
- 12th International Conference on Intelligent Environments (IE16)
- The 2nd IEEE International Conference on Networked Embedded Systems for Enterprise Applications (NESEA'11)

FUNDING

Over the course of my studies, I have applied and been granted the following funding:

- Three years PhD Scholarship from the University of West London
- SIGSOFT Funding to publish and attend the International Conference on Software Engineering (ICSE) 2013
- SIGPLAN Funding to publish and attend the International Conference on Generative Programming, Concepts and Experiences 2013

PUBLICATIONS

Journal Papers

Kocurova, A., Oussena, S., Komisarczuk, P., Clark, T. and Kramer, D. (2012) Towards improved distributed collaborative workflow management for mobile devices. In Lecture Notes in Business Information Processing: Data-Driven Process Discovery and Analysis, 116, pp.1-20

Kramer, D., Clark, T., Oussena, S. (2011) Platform Independent, Higher Order, Statically Checked Mobile Applications. *In the International Journal of Design, Analysis and Tool for Circuits and Systems,* 2(1), pp.32-47

Conference and Workshop Papers

Covaci, A., Kramer, D., Augusto, JC (2015) Assessing Real World Imagery in Virtual Environments for People with Cognative Disabilities. *In the Proceedings of the 11th International Conference on Intelligent Environments (IE '15)*

Kramer, D., Covaci, A., Augusto, JC (2015) Developing Navigational Services for People with Down's Syndrome. *In the Proceedings of the 11th International Conference on Intelligent Environments (IE'15)*

Kramer, D., Augusto, JC, Clark, T. (2014) Context-Awareness to Increase Inclusion of People with DS in Society. *In the Proceedings of the AAAI-14 Workshop on Artificial Intelligence Applied to Assistive Technologies and Smart Environments.*

Kramer, D., Oussena, S., Komisarczuk, P., Clark, T. (2013) Document-Oriented GUIs in Dynamic Software Product Lines. *In the Proceedings of the 12th International Conference on Generative Programming: Concepts & Experiences (GPCE'13), IN, USA, October 2013*

Kramer, D., Sauer, C., Roth-Berghofer, T. (2013) Towards Explanation Generation using Feature Models in Software Product Lines. *In the Proceedings of the 9th Workshop on Knowledge Engineering and Software Engineering (KESE 2013) at the 36th German Conference on Artificial Intelligence.*

Kramer, D., Oussena, S., Clark, T., Komisarczuk, P. (2013) Graphical User Interfaces in Dynamic Software Product Lines. *In the Proceedings of the 4th International Workshop on Product Line Approaches in Software Engineering (PLEASE '13) at the 35th International Conference on Software Engineering (ICSE '13)*

Sauer, C., Kocurova, A., Kramer, D., Roth-Berghofer, T. (2012) Using canned explanations within a mobile context engine. *In the Proceedings of the 7th Workshop on Explanation-aware Computing (Exact 2012) at the 20th European Conference on Artificial Intelligence*

Kramer, D., Kocurova, A., Oussena, S., Clark, T., Komisarczuk, P. (2011) An extensible, self-contained, layered approach to context acquisition. *In the Proceedings of the 3nd International Workshop on Middleware for Pervasive Mobile and Embedded Computing, at Middleware 2012.*

Kramer, D., Clark, T., Oussena, S. (2010) MobDSL: A Domain Specific Language for multiple mobile platform deployment. In: *Proceedings of the Workshop on Design, Analysis and Tools for Integrated Circuits and Systems (DATICS) at the 1st IEEE International Conference on Network Embedded Systems for Enterprise Applications (NESEA 2010),* Suzhou, China (**BEST PAPER AWARD**)

Kramer, D. (2010) Using Product Lines to Manage Variability in Mobile Context-Aware Applications. *In Proceedings of 1st Doctoral Symposium at SLE,* 10th October 2010, Eindhoven, The Netherlands. CEUR-WS.org, ISSN 1613-0073, on-line http://ceur-ws.org/Vol-648/paper11.pdf

Zhang, P., Wills, G., Howard, Y., Oussena, S., Kramer, D., Barn, R. and Barn, B. (2009) An E-learning Support Toolkit for Social Work Students on Placement. In: IADIS e-Learning 2009, 17-20 June 2009, Algarve, Portugal. (In Press)