

# Kay Bothfeld

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<https://www.scio.de>

*After many years working with java and JEE I switched my focus in 2010 to Unity3D game engine. Since then I specialised on C# for platform independent app development (Mono, Xamarin-Forms) and 3D software like plant construction, marketing and game development.*

*As I run my own company for a very long time, I am looking for freelancer based contracts but **not for permanent positions**, thanks.*

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## Technical Skills

**Likes:** unity3d c# sql macosx windows .net mobile

**Dislikes:** java-ee

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## Experience

**CEO / Consultant** – SCIO System-Consulting GmbH & Co. KG  
unity3d, iphone, core-motion, git, xcode, objective-c

May 1999 → Current

Founder, CEO and consultant for projects based on Unity3D, C#, .NET and web technology.

Inhouse development of RRRunner.

Running our multilingual web site [www.scio.de](http://www.scio.de) which started in 2011 under Joomla. In Dec 2017 I migrated the content to WordPress.

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**(Freelancer) Software Developer** – CAXperts GmbH  
sql, unity3d, c#, .net

Feb 2016 → Nov 2017

Unity3D/C# development for Universal Plant Viewer (App for displaying huge 3D construction plant models running on Win, iOS and Android).

Tasks:

- UI Widgets based spreadsheets and tree views for displaying large amounts of data
- Design and implementation of core routing system for outlining pipelines, HVAC systems,...
- PoC web service for connecting mobile Unity3D clients to SQL Server.
- Commenting system connectivity for ReviewInsight
- Sketching: Add custom elements to model and provide basic manipulations like scaling, rotating, coloring.
- Migration from web plugin to full Unity3D app.

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**(Freelancer) Software Developer** – Promotion Software GmbH  
unity3d, c#, visual-studio

Jul 2015 → Jan 2016

Unity3D/C# app development for a clash of clans like multiplayer game in a team of developers, creatives and game designers (about 15 members).

- UI development
- Performance analysis
- Client side chat functionality
- User and group management
- Logging system improvements

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**(Freelancer) Software Developer** – empea GmbH  
unity3d, c#, git, vuforia

Sep 2014 → Jul 2015

Unity3D development for AR app LeYo!

- Performance analysis and tuning of the AR app LeYo! 1.0
- Code and design review of the existing app
- Complete rewrite of the app, coding in C# using Unity3D game engine with Vuforia for AR
- Development of supporting tools for authoring the content
- Technical infrastructure setup like git and Jira.

Unity3D/C# development of a 3D tactical sailing game app.

- Architecture and code review
- Heavy redesign and refactoring of existing code
- Source control (git) introduced
- UI for multilanguage with NGUI

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**Research & Development** – SCIO System-Consulting GmbH & Co. KG  
objective-c, ios, xcode, gyroscope, accelerometer, core-motion

Feb 2010 → Mar 2012

Everything from the basic idea to implementation.

**m3SysLib** is a library written in Objective-C. Its goal is to provide an algorithm that detects several rotation and translation gestures out of the accelerometer and gyroscope signals available on iPhone 4 and newer. As there is no absolute reference system available on mobile devices compared to solutions like Microsoft's Kinect ©, the challenge was to manage relative sensor signals bound to drift and error propagation.

Some of the programming paradigms used:

- Numeric computation
- AI learning algorithms
- Genetic algorithms
- Ranking strategies

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**Research & Development** – SCIO System-Consulting GmbH & Co. KG  
objective-c, ios, xcode

Apr 2010 → Aug 2011

Everything from the basic idea to implementation.

**m3SysClient** is a native iPhone app for research purposes. It is used for:

- Displaying direct sensor data graphs like accelerations, rotation rates, etc.
- Displaying intermediate data graphs of m3SysLib for detecting motion gestures
- Visualisation of the results using a 3D object e.g. a rotation gesture around X axis leads to a 90° rotation of the sample object

It is written in Objective-C using interface builder for standard views and native OpenGL for displaying graphs and the sample 3D object

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**(Freelancer) Software Developer** – Heidelberger Druckmaschinen AG  
sql, oracle, sql-server, scripting

Sep 2009 → Jun 2010

Concept and implementation of the database migration as part of the replacement of an intranet application.

- Concept for
  - physical migration of data from Oracle to MS SQL Server
  - logical data migration because of completely different table structure in the target database
  - tool based data quality validation
- SQL scripting to extract data of a Java/J2EE based application stored in Oracle 10g
- MS SQL Server Data Migration Assistant (SSMA)

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**(Freelancer) Software Developer** – Heidelberger Druckmaschinen AG  
java, java-ee, sql, oracle, atg

May 2004 → Sep 2009

Maintenance and enhancement of several legacy systems based on ATG Dynamo as senior developer.

- Java backend development
- JSP development and GUI design
- SQL and PL/SQL scripting
- ATG online shop library integration
- Data retrieval from backend systems like proprietary documentation systems, SAP, etc.
- Verity K2 search engine integration
- Deployment support
- Report generation with Jasper Reports
- Requirements analysis and communication to business department
- Support and mentoring of trainees and students working on their bachelor theses
- Evaluation of JBoss suite for ATG application server migration

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**(Freelancer) Software Developer** – Several companies  
java, c++, c, java-ee, vba, shell, html, sql, oracle

Oct 1995 → Apr 2004

Software development using several languages.

Please request full profile via email.

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## Education

**Technik-Informatiker** – CDI Frankfurt  
software-development, c, sql, unix

1990 → 1991

Graduated as best of this year having 95% in average during 24 exams including:

- C programming
  - UNIX scripting
  - SQL
  - FORTRAN
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**Physik-Vordiplom** – TU Darmstadt  
physics

1983 → 1988

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## Projects & Interests

**Stack Overflow** – <https://stackoverflow.com/users/437283/kay>

Sep 2010 → Current

Written 264 answers. Active in accelerometer, unity3d, blender, c#, ios and 4 other tags.

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**git-pre-commit-hook-unity-assets** – <https://github.com/kayy/git-pre-commit-hook-unity-assets>  
bash, git

Oct 2013 → Oct 2013

Pre-commit hook script for Unity to check that every folder that just has marked to be ignored in .gitignore has an entry for its meta file to be ignored too.

Idea, concept and implementation.

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**BundleVersionChecker** – <https://github.com/kayy/BundleVersionChecker>  
c#, unity3d

Sep 2013 → Sep 2013

Smart workaround to get Unity's bundle version information from PlayerSettings.bundleVersion in your source code by automatic code generation from a Unity editor class.

Idea, concept and implementation

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**FlipAnimation** – <https://github.com/kayy/FlipAnimation>  
python, blender

Mar 2013 → Mar 2013

FlipAnimation add-on for Blender Idea, concept and implementation of Blender add-on to perform *Paste Mirrored Pose* conveniently on a series of animation frames.

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**IdleTimerManager** – <https://github.com/kayy/IdleTimerManager>  
objective-c

Feb 2013 → Feb 2013

Handles disabling and reenabling the idle timer within those iPhone apps that do not need touch input e.g. accelerometer based games. When running the app includes longer intervals without touch input activity, the system might turn off the screen during the game.

Idea, concept and implementation.

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**iPodHandlerPlugin** – <https://github.com/kayy/iPodHandlerPlugin>  
objective-c

Feb 2013 → Feb 2013

Small plugin for Unity game engine to detect if iPod player is playing. A Unity GameObject can register itself as callback listener to get notified on every status change.

Idea, concept and implementation.

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**RagdollCodeGenerator** – <https://github.com/kayy/RagdollCodeGenerator>  
c#, unity3d

Nov 2011 → Nov 2011

RagdollCodeGenerator

Idea, concept and implementation.

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## Public Artifacts

**YouTube Trailer: RRRRunner for iPhone** – <https://youtu.be/INDW3r622bo>

Nov 2013

Direct link to YouTube game trailer

RRRunner (App Store link) is a casual 3D platform game for iPhone. To play RRRunner you only need to use tilting and swivelling motions. That means there is no touch input at all during game play!

**Accessing Bundle Version in Unity iOS Runtime (3) - SCIO Development Blog** – <http://www.scio.de/en/blog-a-news/scio-development-blog-en/entry/accessing-bundle-version-in-unity-ios-runtime-3> Sep 2013

Describes how to use BundleVersionChecker a Unity plugin to get the bundle version and and version history from PlayerSettings at runtime in an iOS or Android app

**Analysing Performance in Unity3D iOS Apps - SCIO Development Blog** – <http://www.scio.de/en/blog-a-news/scio-development-blog-en/entry/analysing-performance-in-unity3d-ios-apps> Feb 2013

iPhone Performance Analysis And Tuning for Unity3D. Describes using profilers, strategies and hints to tweak iOS player settings.

**High Poly To Low Poly: Decimating And Baking in Blender - SCIO Development Blog** – <http://www.scio.de/en/blog-a-news/scio-development-blog-en/entry/decimating-high-poly-to-low-poly-and-baking-in-blender> Nov 2011

Some considerations about the process of high-poly to low-poly decimating in Blender 2.5. Hints for troubleshooting when baking textures and normal maps.

## Apps & Software

**LeYo!** – <https://itunes.apple.com/de/app/leyo/id931985209>  
unity3d, c#, vuforia

Feb 2015

AR app that reveals additional content for learning and gaming in combination with a special children books series

**Tacking Battle** – <https://itunes.apple.com/us/app/tacking-battle/id906696694?mt=8>  
unity3d, c#

Sep 2014

3D sailing app where to play against an AI competitor to cross the finishing line first.

**„RRRunner“ für iPhone, iPod touch und iPad im App Store von iTunes** – <https://itunes.apple.com/de/app/rrrunner/id649274821?mt=8>  
unity3d, ios, objective-c

Nov 2013

Lesen Sie Rezensionen, zeigen Sie Kundenbewertungen und Bildschirmfotos an und erfahren Sie mehr zu „RRRunner“ im App Store. Laden Sie „RRRunner“ auf Ihr iPhone, iPad und Ihren...

Everything (see above)

## Others

**1st Place at AR/VR Deutsche-Telekom Hackathon 2015** – Hackathon

Jun 2015

Hackathon about VR/AR (aka mixed reality) sponsored by Deutsche Telekom, Sony and Samsung in Bonn, Germany

## Readings

**3D Math Primer for Graphics and Game Development (Wordware Game Math Library)** – Fletcher Dunn –

<http://www.amazon.com/Primer-Graphics-Development-Wordware-Library/dp/1556229119%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D20>

**Design Patterns: Elements of Reusable Object-Oriented Software** – Erich Gamma, Richard Helm, Ralph Johnson, John M. Vlissides – <http://www.amazon.com/Design-Patterns-Elements-Reusable-Object-Oriented/dp/0201633612%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D20>

**Refactoring: Improving the Design of Existing Code** – Martin Fowler, Kent Beck, John Brant, William Opdyke, Don Roberts – <http://www.amazon.com/Refactoring-Improving-Design-Existing-Code/dp/0201485672%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D202>

**The Pragmatic Programmer: From Journeyman to Master** – Andrew Hunt, David Thomas –

<http://www.amazon.com/Pragmatic-Programmer-Journeyman-Master/dp/020161622X%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D202>

**SQL Design Patterns** – Vadim/ Bureson, Donald K. Tropashko – <http://www.amazon.com/Design-Patterns-Bureson-Donald-Tropashko/dp/B001EK67KC%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D202>

**XSLT Cookbook: Solutions and Examples for XML and XSLT Developers, 2nd Edition** – Sal Mangano –

<http://www.amazon.com/XSLT-Cookbook-Solutions-Examples-Developers/dp/0596009747%3FSubscriptionId%3DAKIAIIBINOD46VC3JCLQ%26tag%3Dws%26linkCode%3Dxm2%26camp%3D202>

## Tools

**First Computer:** Atari 400

**Favorite Editor:** Visual Studio (Windows and Mac), Resharper, TextMate, Notepad++, Eclipse, vi, Xcode, ...