

# Robin Marx

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[marx.robin@gmail.com](mailto:marx.robin@gmail.com) • +32 (0)497 72 86 94  
[programmingisart.be](http://programmingisart.be) • [linkedin.com/in/rmarx](https://www.linkedin.com/in/rmarx)

## PORTFOLIO

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### LuGus Studios demo reel (2012 - 2013)

[https://www.youtube.com/watch?v=N11\\_mYeRb3c](https://www.youtube.com/watch?v=N11_mYeRb3c)

- Includes Augmented Reality demos, other projects listed below
- My contribution: Lead developer on all shown projects (Unity3D C#)

### LugusAPI

<https://github.com/LuGusStudios/LugusAPI>

- Open source Unity3D utilities
- My contribution: Overall architecture and design, main implementation of most modules

### Jim Mobile (Spank the Pony)

<https://www.youtube.com/watch?v=nSc3TSrleBM>

- Innovative interface: users ride mechanical horses to a digital finish
- My contribution: All programming, including UDP-based interface with PLC-controlled horses

### Project A.S.S.

<https://www.youtube.com/watch?v=a6r1REPaCXE>

- Massively Multiplayer Augmented Reality Game :  
cameras on the stage detect smartphones of users in the audience as input for a game
- My contribution: Image processing, gameplay, public speaking :)

### Runes of Brennos

[www.runes-game.com](http://www.runes-game.com)

<https://www.youtube.com/watch?v=ZBFyP1ZUtt8>

- Gesture controlled magic game, created for the Leap Motion controller ([www.leapmotion.com](http://www.leapmotion.com))
- My contribution: Leap motion interface, gesture recognition (based on my Bachelor thesis), main gameplay/gameflow

### Kika and Bob

<http://kikabob2.submarine.nl/games/All>

- 26 unique minigames to match 26 animated tv-episodes, individual for web, later bundled into one iOS app
- My contribution: Technical architecture/build + resource pipeline, gameplay prototyping, gameplay programming for three game types, game design. My biggest and most challenging project to date.

### Bo Vindt Alles

[https://www.youtube.com/watch?v=7dxrOo\\_dT78](https://www.youtube.com/watch?v=7dxrOo_dT78)

<https://www.youtube.com/watch?v=Q4tutGnI3ks>

- Children's game with real-time waterpaint effect and painting animations
- My contribution: Basic painting and shader setup, low-level performance optimizations, gameplay + event systems, project architecture

### Troadés Digital Signage

(ongoing project)

- Digital Signage player: gets media content (video, images, text) from CMS and shows it in Unity3D environment
- My contribution: porting of existing windows project to OS X, Android and iOS. Performance optimizations, memory leak fixes, project refactoring.

### **iBall** (university project)

<http://aquilis.be/iball>

- Bluetooth Arduino with sensors inside volleyball, connected to smartphone as tangible user interface (processing, Java, .Net)
- My contribution: sensor signal parsing, android app development, Arduino programming

### **AGe (Art Generator)** (university project)

<http://aquilis.be/fpga-project-age>

- Hardware-based particle systems (Verilog)
- My contribution: RAM-management, high-level drawing routines/particle system

### **Visitor** (university project)

<http://aquilis.be/visitor>

- Custom game engine (Ogre + FMod + PhysX + LUA) (C++)
- My contribution: Low-level Component/Entity model, LUA integration, gameplay/gameflow programming

### **Master Thesis** (university project)

Dynamic bandwidth scalability for large-scale networked environments

[http://programmingisart.be/MarxRobin\\_BandwidthScalability\\_20102011\\_Print\\_FinalRevision.pdf](http://programmingisart.be/MarxRobin_BandwidthScalability_20102011_Print_FinalRevision.pdf)

- Comparative study of algorithms for bandwidth management
- Implementation of algorithms for bandwidth management through Area-of-Interest control in a 3-tier MMO-server setup (C++)
- Various simulation and test setups for cloud-based deployment (Linux)

### **Bachelor Thesis** (university project)

2D and 3D Gesture recognition

<https://www.youtube.com/watch?v=TnE5ME8Ex3w>

<https://www.youtube.com/watch?v=S6MsRLa3FFM>

- Comparative study and overview of various example-based Gesture recognition algorithms
- Implementation of aMiGoLib: C++ library for gesture recognition. Four different interchangeable algorithms, multi-stroke, custom 3D extension. Later transferred to C#.