

December 2020 Edition



BIG ON GRAPHICS

Web-Based Retro Game Development Magazine

GAMES PROGRAMMING

Tips, Tutorials, Examples, Snippets, Pitfalls, Discussions and News

MAGAZINE

Virtual Reality Browser Games

(How to get started?)

Optimising JavaScript

(Why is your code running so slow?)

Mini Game 100 Lines of Code

(Getting started writing retro games)

Reindeer Game

Three.js

(Visualizing 3D Geometry)

Two programs to help you learn games programming

SANTA!
I LEFT COOKIES
FOR YOU
THE
LAST
YEAR.
LOVE,
BOB

*Merry Christmas
From All Of Us*

Inspiring Creativity



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Kenwright

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EDITOR-IN-CHIEF, GAMES PROGRAMMING MAGAZINE Kenwright



BIG ON GRAPHICS

Welcome to **Games Programming**: a magazine of a new kind. With its broad scope bridging (yet not limited to) web-based game development, taking into account software engineering, artificial intelligence, applications and hardware technologies, the magazine is dedicated to educating, challenging and questioning rather than to simply agreeing and repeating existing media. The magazine aims to stimulate debate and and raise questions for thought. This combined with educational material to help you understand how online games work, how they function, the limitations, benefits and trends (taking a look under the bonnet) - including Indie, Javascript, three-dimensional, visualization, experimental and homebrew topics. Recently, web-based technologies have become an essential tool in nearly every walk of life - mobile, visualization, computation, entertainment, movie industry and most importantly for games.

There are currently a number of organisations and research programs around the world that explicitly or implicitly focus on games. Yet, despite impressive successes and growing interest in the graphics domain, wide gaps continue to separate different approaches from each other necessary to rise and address some of the biggest challenges of our age. While disjointed technical communities may speak different languages and pursue independent goals, at least they're pushing the limits of what a game can do. In this situation, the mission of the magazine is to foster a wider understanding of the unifying web-based topics and highlight interesting areas for concern. In doing this, the magazine will provide insights for important questions. e.g.: which is the best software solutions, optimizations for real-time environments? What are the aesthetic and computational limitations for state of the art CGI models (in a browser)? How to give human-like emotional feeling and creativity visually to a game? Both mature and new cutting edge web-based gaming projects are welcomed by the magazine, provided they have a strong topic of interest and aligns with the magazines theme (opinion reviews, ad-hoc approaches, mathematical concepts simplified for readers and so on).

Without a doubt, a lot of has happens in video games in recent years, some things have been really, really amazing and deserve recognition for their worth and value they have made to the industry. Of course, video games is a multidisciplinary subject, and can really make a difference to the world. Unfortunately, a lot of discoveries and advancements don't always make a substantial impact, usually because they are hidden away in the game (never to be seen) or are difficult to accept (not to mention old-school ways of thinking, people get stuck in certain ways/old approaches). The magazine hopes to share information and help explain some of the jargon and headaches circling the web-based gaming world.

Video games, specifically, web-based games, makes most aspire to push the limits of what the browser can do - to stimulates our creativity and imagination. You might not agree, or you might say it's a bias, but how can you not love the web-based development and video games. While the topic is challenging on many levels, the mathematics, software engineering and the artistic component, the rewards at the end are worth the effort. However, unlike some subjects, video games and web-technologies **are constantly changing and evolving (stay on your toes and you must also evolve and adapt)**. This means there are always exciting advancements ahead!

This magazine is not for financial gain, it's done for the passion of the subject. The love of code, mathematics and how they come together to create a banquet for the eyes to entertain and have fun.

THE INDEPENDENT GUIDE Games Programming Magazine (Web-Based Games) is an independent guide to technologies in and around computer games for the web. Our mission is to explore, question, explain and review video games and web-technologies (software and hardware). Importantly, the purpose of the magazine is to remain objective and relay a variety of interesting information from facts.

CONTACTING EDITORS We welcome comments from readers. Email your comments to the editor-in-chief. We welcome articles and illustrations, however, before submitting manuscripts or material, please get in touch to discuss your proposal

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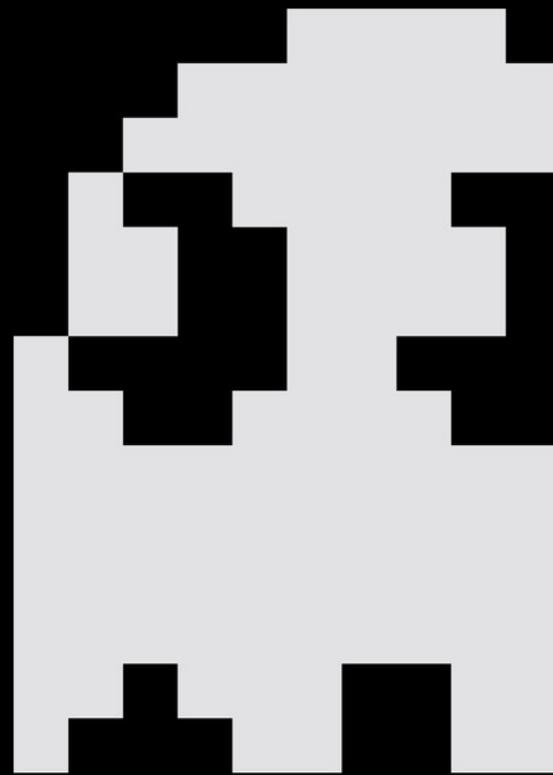
**Programs to help you master
web-based programming**





Retro Web-Based Game Programming

There are over a million retro computer and game enthusiasts who are absolutely fanatical about retro games - the beauty, elegance and innovative nature. Retro Web-Based Games Programming seeks to expose, teach, and demonstrate programming techniques with the goal of providing you with a strong programming foundation on which to build your own retro web-based games. Teaching you the fundamental principles of game programming is both rewarding and fun - you should not to be intimidated by modern triple-A games because even the most complex modern games are based on repetition of simple tasks. In fact, modern game programming concepts are probably easier to understand due to the large number of resources and libraries available to you. The book is written in clear and simple language, but most importantly, does not require you to be tech savvy, yet you'll learn all the technical aspects of programming your own retro games.



Retro Web-Based Game Programming

Retro Game Programming for the Web provides a beginners guide to getting started developing games and interactive web-based applications. The book focuses on the practical aspects with code samples and projects to get you started. The book has been formatted and designed with sample listings and support material, so whether or not you are currently an expert in web development, actively working with an existing framework, or completely in the dark about this mysterious topic, this book has something for you. If you're an experienced developer, you'll find this book a light refresher to the subject, and if you're deciding whether or not to delve into web-based games, this book may help you make that significant decision.

