# Codeless Game Construction Using Construct 2 & 3



## **Building Browser Game Prototypes**

Codeless Game Construction using Construct2 & Construct3

## Stephen Gose

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## For my students

- @ Culpeper Public Schools, Culpeper, VA;
  - @ ITT Technical Institute, Tempe, AZ;
- @ Early Career Academy, Tempe, AZ; and
- @ University of Advancing Technology (UAT), Tempe, AZ

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## **Preface**

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Supporting website: https://makingbrowsergames.com/

#### **Forewords**

by Terry Paton: — "Copying or imitating is an awesome way to learn how to do something, traditional artists have done it for centuries. This practice was generally considered a tribute, not a forgery, — If you want to get better at something, then try to do it like those who've already mastered it. Look at the choices they have made and consider why they made those decisions, often important things are hidden in subtlety and the only way we learn those subtleties is by creating the same thing. The balance here is "stealing" versus "inspiration". "Ripping off" ideas from someone else in a way that harms their hard work as compared to producing something that was "inspired by" their work. If you plan on publicly releasing something, I recommend you should inject some of your own vision into any game you make, take a concept but then extend or change it to create something of your own."

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#### **Disclosures**

• I refer to "Construct 2" under the **moniker of "C2"** and **Construct 3** as **"C3"** to distinguish it as a clear demarcation between the versions.

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- All the information, contained within, is for the convenience of its readers. It is accurate, as can be reasonably verified, at the time of original publication. However, this content may not reflect migrating application improvements nor industry recommendations after the original publication date for ECMA-262 (aka (also known as) "JavaScript", ES5, ES6, ES7, ES8, ES9, or ... ES14?!) or for any updated versions of this JavaScript Gaming Framework.
- All websites listed herein are accurate at the time of publication but may change in the future or cease to exist. It is best to research these "dead websites" links in "The WayBack Machine". The listing of website references and resources does not imply my endorsement of any site's entire contents.

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#### CONSTRUCT 2 — End-of-Life

July 1st, 2020, Construct 2 reached the "end-of-life" product cycle (e.g.: "taken off sale") and was no longer available for new purchases. On July 1st, 2021, Construct 2 was fully retired. This means that:

- No further Construct 2 releases are made.
- No official Construct 2 support will be provided except for email support regarding **any historical payment or license issues.**No further official NW. js updates will be issued for Construct 2.
- · All existing valid Construct 2 licenses will continue to work indefinitely. You will still be able to use the full features of Construct 2 if you've purchased it in the past - it is only continuing support and updates that will stop. Bear in mind though that if changes in other software (e.g.: *Safari browser*) impact Construct 2 features to stop working, no further updates will be forthcoming. • *The online manual and tutorials will remain available.*
- The Construct2-related forums will remain accessible (but will be collapsed into a sub-category in the main forum list).

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## **Workbook Content**

This tutorial workbook is written in a fun, friendly, conversational style with example project(s) and numerous open-ended exercises that **encourage you** to include your bespoke artwork assets and features. When you finish this workbook, you should have *your very own finished bespoke game — not just a mirror copy of mine —* provided that you follow the exercises and guidelines. It's not exclusive to only the Construct Gaming Framework family; this content can *apply to any JS Gaming Framework*.

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Preface V

#### > About this Workbook

This workbook *is a guide* to "Construct Gaming Framework", and an intermediate-level guide to "PHP Server-side game development", WebSockets, efficient "JavaScript programming fundamentals", and game design's "best practices". I assume you (the gentle reader) already know some of these technologies. If not, then a few hours FREELY spent on "W3Schools" can quickly remedy any deficiency and earn valuable certifications. The workshop instructor's packaged edition includes PowerPoint slides with lecture references available only from LeanPub.com.

This edition reveals different production methods which I call the *Game Design System*<sup>™</sup> — in which, we'll create *Game Recipes*<sup>™</sup> for specific "Game Mechanics". This workbook provides simple-to-follow worksheets, step-by-step instructions, and a straightforward approach to building specific Game Mechanics *from Construct components* using my *Game Design System*<sup>™</sup> methods discussed in the supporting "Code-less Game Construction" series.

Expert game developers understand the "Don't Repeat Yourself" (D.R.Y.) concept, yet few have taken a step back to the "10,000-foot view" on their own game production pipelines. We'll do that aerial view in this book at first, and then, as we follow this game's development, we'll "nose dive head-first" directly into those controlling events that breathe life into this "Game Mechanics". I believe you will be surprised how quickly, and easily, we can build games using the Game Design System™ and its Game Recipes™. But more importantly, how quickly you can "construct" an entire gaming series.

#### > How to Read & Use this workbook:

Start by reading — or skimming through — the *Introduction Section*, so that together, we are speaking the same "game references" and terminologies. Then, select the Construct version that interests you and begin your bespoke game project development. C3 can load and run any C2 project with only a few extreme exceptions concerning plugins. *I don't use any plugins other than those native to Construct.* You could begin your game studio products using C2, start selling your product line, and then once revenues are coming in, subscribe to C3.

Here are the topics in this edition:

- Game creation for this Game Mechanics in both Construct2 (C2) and Construct3 (C3).
- How to integrate these "Game Mechanics" with other "Gaming Genres" for example, "Hidden Objects", "Tower Defense", and varied Combat Systems!

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• Deploy games as either a "Content Management System" (CMS), a "Progressive Web Application" (PWA), or a "Single Web-Page Application" (SWPA) for any device.

- Analyze the current market demand for this specific Game Mechanics and Game Genre, where and how to deploy it.
- Automatically generate various game board environment themes.
- Instructor Guides and teaching resources are available for workshops in the Teacher's edition with online course content.
- Where to find and Access **several online courses** included with this book.
- Coding Style Appendix: sections dedicated to interested Senior Programming Engineers and the rationale on why and how migration away from classical OOP to OLOO compositions is important.
- "The Deeper Dive" sections for interested Software Engineers concerning Construct Gaming Framework.
- Each *Part* contains several sub-sections. The workbook starts with an "Introduction Overview" into the goals, game ludology, and generation tools. In a matter of minutes, you will have a working game prototype for this Game's Mechanics. All that remains to do is to add your own artwork and additional game features; after a few days, you'll have a completed game ready to deploy to any "apps" store.
- You'll find detailed working examples, with dozens of illustrations and many concepts you can freely apply to your own gaming projects.
- All the source code is externally linked and annotated with enhanced explanations.

## > Viewing the eBook:

This book includes programming code that is optimally viewed *in single-column landscape mode*, and you should adjust the font size to a comfortable setting.

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#### > External Links

I've "gone to great lengths" to make this book "skim-friendly" — even for my International customers by emphasizing important concepts in bold font type. I have provided links to (American) "English Jargon phrases" that will help translate this content directly into your native language. I use "Notes", "Tips", "Warning", and "Best Practices" icons to encapsulate those ancillary topics for your further education from other experts in the gaming industry.

The Internet is a living, dynamic information resource *that doubles every 35 days!* There are **several reasons** this book **points to external content** ... because —

- 1. It provides you with the "research path" I took to present and develop my ideas. It takes all the guesswork out of it and conserves your research time and efforts. It saves you 100s of hours of your personal time searching for supporting facts and opinions.
- It avoids copyright infringements and provides the required acknowledgments to all those "Open-source authors" for their contributions and use of their resources under "these various licenses and EULA."
- 3. It provides external authors the opportunity *to recant (or update) their published content*. Technology is a fast-moving target, and what was once "cutting edge" soon becomes obsolete. For example, the use of "window.onload" was recanted by its originator back in 2014 as an unsafe method for launching browser applications.
- 4. Finally, and most importantly, it **reduces your initial purchase price** from the reams of "padded source code content" while keeping your investment in this book's information "fresh" don't make me embarrass those authors who do this and sell their books filled with 90% source code double-spaced in an unrelated programming language with few annotations! This book would be double the size and triple the price if I had embedded all of the source code as other authors do.

You'll find your **Bonus content, source code, and references** —

- in the footnotes links.
- external reference links, and in the various linked files which are available directly from my supporting website — without needed registration nor logon and thus keeping your personal information safe!
- **OR** from the latest edition updates found in your **LeanPub.com personal library** (assuming that you purchased this copy as a LeanPub patron).

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All the source code is provided as Construct project files and **"pure"** JavaScript (JS) — it doesn't use any additional "abstraction layers" such as "TypeScript", "CoffeeScript", or "JQuery" for obvious reasons.

I assume that many readers will want to use this book to quickly build their **bespoke** game projects. So, I've included reference examples to other similar game examples, gaming engines, frameworks, **GUI game kits**, indie developers, authors, their "opensource" contributions, articles, books, **artwork**, application tools, and their wisdom. You'll soon discover why I do this ...

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## Your newly obtained skills ...

By the end of this workbook, you'll have integrated into your own **bespoke** game design:

- Built "future-proof" and flexible game architecture.
- Used the *Game Design System*™ to create *Game Recipes*™ from the Construct tools.
- Adopted processes for software project management using "agile development".
- Imported resources and game assets;
- Displayed, animated, and moved sprite objects on various scene layouts and layers;
- Incorporated "sound effects" (abbreviated as sfx or "ChipTones") and theme music across various game scenes;
- Deployed "heads-up display" (HUD) on game scenes both inside and outside the canvas;
- Used customized web fonts;
- Incorporated multiple user interfaces (touch, multi-touch, accelerometer, mouse, and keyboard);
- Created and managed various Game Phases for CMS, SPWA, & PWA;
- Managed permanent game artwork, and assets across this game series;
- Optimized your games for various user *IoT gaming devices*;
- Integrated several 3rd-party scripts and services.

## **More Resources**

"Game Recipe™" Courses (purchased separately on specific Gaming Mechanics) using the Game Design System™ management method and concepts. These courses enhance your skills and are available from my educational websites hosted by LeanPub.com or Training By Blackboard, Books, and Browsers.

You can earn your *Game Development Certifications* from *my online courses*, *or (my personal favorite!) Zenva*; to enhance your resume. See the growing catalog of courses for *college credit*, *home-schooling*, *or personal skills development* at *Training by Blackboard*, *Books & Browsers* 

Preface X

## **Programming Courses**

See the growing catalog of courses for **college credit**, **home-schooling**, **or personal skills development** at **Training by Blackboard**, **Books & Browsers** 

- Using JavaScript OLOO in game development Abandon OOP for Composition Game Development.
- **Codeless Game Design Workshop** Game Development Course using Construct 2 & 3 Gaming Frameworks. Instructor presentation materials included.

#### > References Used

This workbook is a derivative work and transpiled from a single chapter of a larger collection of 16+ Game Mechanics and 19 sub-genres from the original **Phaser JS Gaming Framework** found on **https://leanpub.com/pgskc/.** It is also available as a single chapter in the upcoming "**Construct Game Starter Kit Collection**". You'll also discover how similar Flash AS2/3 code is to JavaScript.

- *Construct Game Starter Kit Collection* in pdf or epub from **LeanPub.com** and "hardback editions" from Amazon
- Construct2 Official Online Manual
- C2 Addon SDK Online Documentation
- Construct2 JavaScript SDK Documentation
- Construct3 Online Manual
- C3 Addon SDK Online Documentation

Game Prototyping 1

# 1. Game Prototyping

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

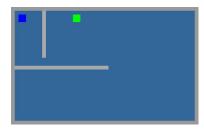
## 1.1 Prototyping Tools

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 1.2 How to Choose?

# 2. Building Our Game Prototype

A Game Development method to quickly create and test game ideas.



**Game Prototype Sample** 

Have you ever had an idea about a new game? But dealing with how to start programming such a project, selecting its components, data structures, and the logic flow is a daunting task if you've *never* had any experience with any of those things before — *AND if truth be told, even for those seasoned game developers too!* You want to *test your idea before* committing any time, energy, and possibly money to only those brilliant "Minimum"

**Viable" gaming products (MVP)** instead of a ""DUD"!"! You need a tool to evaluate your game ideas quickly — you need a "Game Prototyping Tool™"!

As you know, "Construct" is a versatile JavaScript Gaming Framework. It's not just for creating games on your desktop browser or mobile devices. With Construct, you can bring any game genre to life, from 2D and "2.5D", to 3D "Action Adventures," platformers, Role-Playing Games (RPGs), Jigsaw puzzles, brain-teasers, the visual novel "Gamebooks", and so much more! All you need is your Browser pointing at the "Construct Online Application editor", an innovative game idea, and your imagination. Let's explore the endless possibilities of creating a gaming prototype using Construct.

Let's begin with a simple "top-down" game prototype with block artwork (easily substituted later!), a gamer's avatar, some treasure, a room with exterior and interior walls, and an opponent. These elements are found in any typical "Rogue-like" Role-Playing Game (RPG). When we're done, you'll have a simplistic game prototype that looks something like the illustration (above).

Making some minor adjustments, we'll use our game prototype for "3rd Person" and "Isometric" games as found in all platform genres, and even tweak the player's "camera view" into a "1st Person" game similar to "Warlord's Joust" (play it here)!

## (Quote from) "How to Succeed at Making One Game a Month"

#### #5. Make a No-Art Early Playable

The next major handy tip for this challenge is to make a playable **game on the first day.** No title screen, only one level, and just the primary gameplay mechanic. (ed.: we did this already using "Break Out" in the online workshop "Code-less Game Design Workshop"!)

It won't be great, it won't be finished, and it certainly won't look that great or be all that fun. That said, this step is your best weapon. Challenge yourself **to create a codebase that compiles and runs in the first few hours. Make it so that you can accept inputs, move around, animate something, and trigger some sounds. This prototype, lousy a game as it may be, is going to be your best friend.** 

**The sooner you can have a working early playable prototype, the more likely you are to succeed.** It will be your first "save point" — a resting plateau on the way to the top of the mountain that you can fall back on. **It represents a vision of the working game.** From here on you will be able to polish your game for as long as you like with the knowledge that you have something in hand that "works".

**No-art prototypes also have one other major advantage:** (Read his **entire article here**.)



1st Person — Warlord's Joust

Play this "First Person" Joust here!

So then, "What's a game prototype", you asked?

**Answer:** It is an operational gaming foundation that can:

- 1. Accept a player's inputs;
- 2. Move game elements and components;
- 3. Transitions between game phases and translates "game actions" into visual "Heads Up Display" (HUD) feedback or information; and lastly
- 4. Reacts to internal collisions.

#### 2.1 Construct Game Production



Creating new games by mixing 3 components!

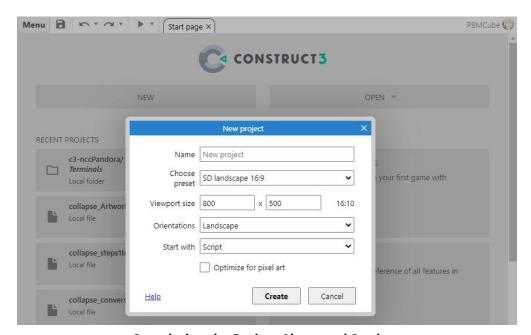
This starts our "step-by-step" Game Recipe<sup>TM</sup> that builds our "Construct3" (C3) game prototype (with your included artwork eventually!) — all of its logic, rules, and data structures (placed inside the "Event Sheets") become its "Game Mechanics" (GM). The User Interface (UI) is found inside the Scenes, Layouts, and Layers of Construct's "Game Framework Display Mechanisms" (GFDM). All you'll need is your own "Artwork Theme Component" and assets; however, use mine in the FREE downloads for now. You'll discover how quickly you can substitute "Artwork Themes" in Construct later in this tutorial.

Let's create a new game project in your Browser with just a single click. (I assume you've already read the "Beginner's Guide to Construct 3" about how to do that? If

not, take just a few minutes and review how to set up a new project, *OR continue reading this lesson*. Let's begin with a "Blank **New** Project" ...



**Example: Creating a New C3 Project** 



**Completing the Project About and Settings** 

## 2.2 "A Change of Scenery Helps Everything!"

Change the background color to anything you like! **To do that:** 

**Step #1** — Select the "Layer" tab in the right-hand "Projects Panel" and then select the "Background themes" layer (aka "BGThemes").

**Step #2** — Look at the left-hand panel "Layer Properties" and choose "Background Color". It is a drop-down box full of color swatches. Pick one.

## 2.3 "Lions and Tigers and Bears! OH MY!"

#### Creating an Avatar, Monster(s), Treasure(s), and Walls!

To create a gamer's "character representation" (aka "avatar"), we need to define a "sprite", and to do that, we must have an image. We could load an image from our hard drive — but that means we must either make our own sprite using our image editing program — if we have such — OR find some graphics we could "freely" use from the Internet (such as "Game-Icons.net", "CraftPix.net", OR "GameDevMarket.net").



**Tip: Game-Icons.net** provides a **FREE online graphics editor** to modify their **FREE icons.** If you're an artist, you should consider **selling** your artwork on **"CraftPix.net" OR "GameDevMarket.net".** 

**Step #3** — Drag four "wall" icons onto the "play area". **Re-size each to fit** the layout's Northern, Eastern, Southern, and Western boundaries. Next, let's add two interior walls and re-size them so our avatar can squeeze between them. (Doing all this helps us create a game environment for our avatar's reactions.)



We could also use the "Bound to Layout" behavior for avatars. BUT doing so *right now cripples our learning process* which is our primary focus.

**Step #4** — Place a monster icon and a treasure icon anywhere in the gaming area. Compare what you've accomplished in these examples:

- Construct2 Steps #3 & #4 example
- Construct3 Steps #3 & #4 example

## 2.4 "Yo Mama can't dance & Yo Daddy don't Rock 'n Roll!"

## Making our Avatar move, jiggle, and bump!

**Step #5** — Click your avatar icon in the right-hand "Projects Panel > Object Type Properties" folder; you'll see all the information about this avatar in the left-hand Panel called "Object Type Properties". **Click on the link "Add / Edit Behaviors".** A popup appears, then click "Add New". Another pop-up opens with all the possible things this sprite can do. Search for "8-Directions" — or type "8" in the search box at the top. Once you've found the "8-Directions" behavior, double-click it. This behavior becomes a part of our avatar's abilities.

**Test what we have so far!** At the top of our "**Construct2 editor**" is an arrow to play our game and a "bug symbol" for debugging things that don't work correctly. **In Construct3**, only the "play arrow as a drop-down" exists. Click either its play or debug option. The Browser will open. Use your **keyboard "arrow keys"** and watch your avatar's response. What did you discover? My avatar can walk through walls and monsters and escape the entire gaming area!! That's NOT what I WANTED ... **Let's fix that.** 

**Step #6** — Our avatar needs a few more behaviors. Let's first restrict it to the gameboard boundaries. Add another "New Behavior" called "Bound to layout"; our avatar stops at the gameboard edges. **BUT**, it's still walking **into** the walls. So, let's select the "wall" icon in the "**Project Panel** > **Object Types**", you'll notice that clicking here selects all the walls inside the gaming area. GREAT! Our walls need the "Solid" behavior. You know how to add a behavior, **RIGHT?** 



**Exercise:** Make your avatar run around the gaming arena and see what happens whenever it collides with a wall. Compare what you've accomplished to these lesson examples:

- Construct2 Steps #5 & #6 example
- Construct3 Steps #5 & #6 example

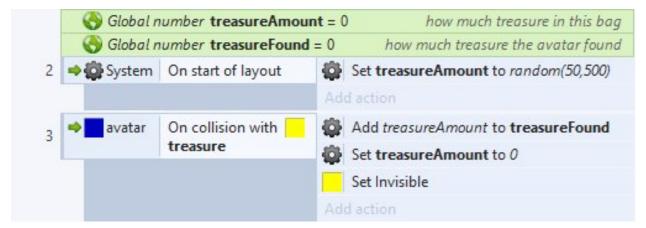
## 2.5 J Yo-Ho, Yo-Ho, a pirate's life for me! J

## Things that go bump in the night ...

It's time to create some "Game Mechanics" whenever our avatar bumps into a "treasure icon". Let's open "Event Sheet 1" and create a couple of global variables to hold the "amount of treasure discovered" and generate a "random amount" whenever this prototype starts.

**Step #7** — Right-click inside "Event Sheet 1" and "Add a global variable" for the "treasure amount" and another for "treasure found". (See the illustration below.)

**Step #8** — Click "Add Event". Select "System > On start of layout". Add an action to this event #2. Select "System > Set value". A pop-up will appear and you'll type the information below.



Variables & Events that hold and generate treasure

- **Global variables** hold the "amount of treasure generated", and the "amount found".
- **Event #2** When this prototype starts, a random amount of treasure from 50 to 500 coins is generated for this gaming session and stored in the "treasureAmount" variable.
- **Event #3** Whenever the avatar bumps into the treasure chest, we **add that amount** to its "treasure Found" variable and remove those coins from the "treasure Amount". If we don't do this, a clever gamer will repeatedly bump into the treasure chest and "earn(?)" a vast fortune! This is an crucial step because when we have more than one treasure chest, we want **to add each of them** to the avatar's "amount found". We also make this treasure chest disappear to show that it was discovered and prevent the avatar from "double dipping into the cookie jar". (If you catch my meaning?)

**Step #9** — This might be a good time to add a "*Heads Up Display" (HUD)* telling the gamer how much they discovered. A "HUD" could be a text object simply stating, "You found XXX coins".

- Construct2 Steps #7, #8, & #9 example
- · Construct3 Steps #7, #8, & #9 example

## 2.6 "None shall pass!"

#### Picking a fight!

**Step #10** — It's time to create some "Game Mechanics" whenever our avatar bumps into a "monster" icon. The monster needs the "Solid" behavior just like our walls. (Return to Step #6 if you've forgotten how to insert the "Solid" behavior.)

Now whenever our avatar bumps into a monster, it should stop — just like bumping into a wall. **But** we'll move to **a new layout** to manage our game's "Combat Phase"! Yes, we could keep combat on this same "Layout 1", but where's the fun in that?

**Step #11** — Click on "Layout 1" in the right-hand "Projects Panel" and then right-click "Layout 1". Then click "**Duplicate**". This will create everything found in Layout 1 as a new layout. I'm naming my new layout "Combat-Gridless" and will also create a new "Event Sheet" for it. I'm calling this new "Event Sheet" — "es\_combatGridless". Review this new Combat layout and ensure its "Event Sheet" is appropriately linked. I've removed all the interior walls and plan to have three styles (3) of combat — 1) a gridless; 2) a square checkerboard grid; and 3) a hexagonal grid. I also have a couple of tactical command buttons to help our gamers tell their avatar what to do.

This new layout has the **same problems** we encountered before — keeping the avatar inside its layout. However, to complicate things further in this Combat layout, I'm showing a "miniature **zoomed-out room"** with some Narration feedback text and a tactical combat menu. Can you correct those problems in this new Combat layout?? (Do you need help? Download the beginning and final examples below ...)

- Construct 2 Steps #10 & #11 Starting example
- Construct 2 Steps #10 & #11 Ending example
- Construct 3 Steps #10 & #11 Starting example
- Construct 3 Steps #10 & #11 Ending example

At this point, we have a completed "Construct Game Prototype" — our Frankenstein!



View this Video at https://youtu.be/3LN-2SGNSIU?si=x\_0hJd1evbG52n6e. **Giving your Creation LIFE!!** 

- Use the "Ending" example (above) as your "starting point" for any new game development project.
- Select a *game genre* (from the next chapter).
- Replace our "primitive block artwork" with your "professionally designed" artwork theme(s) or with those freely available from "Game-Icons.net", "Craft-Pix.net", OR "GameDevMarket.net".
- Insert your favorite gaming system rules as your *Game Mechanics* event sheet(s)
   These rules define what players can do in the game, its goal, and how their gameplay is modified and updated.
- Create a "Content Management System" (CMS) (aka a "Game Shell") around your core gameplay.



IF you have *an "Active Construct3 License"*, you could build these Sport games with this "*FREE asset artwork package*" — a "Football" style (American or European), a Basket Ball, or a Hockey game! (It contains assets for creating *top-down* basketball, football and hockey games! Included royalty-free with all "*active Construct plans*" for free). See all the other FREELY Available "*Bundled Assets here*"!

# 3. Game Genre Descriptions & Starter Kits

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

#### 3.1 Action Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.2 Adventure Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

#### 3.3 Casino Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

### 3.4 Educational Games

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.5 Fighting Games & Starter Kits:

#### 3.6 Platform Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.7 Puzzle Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.8 Racing Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.9 Rhythm / Music / Audio Games

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.10 Role Playing Game (RPG) & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.11 Shooter Games & Starter Kits

## 3.12 Simulations

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.13 Sports Games & Starter Kits

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.14 Strategy Games & Starter Kits:

This content is not available in the sample book. The book can be purchased on Leanpub at https://leanpub.com/cgc-c23-gameprototypes.

## 3.15 Tower Defense<sup>TM</sup>

# **Appendix: Game Design Overview**