DAY ONE

Name _____ Date _____ Block _____

Read the article “GameMaker History” and answer the following question.

Write 3 paragraphs outlining the history of GameMaker software.

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GameMaker

GameMaker (originally **Animo** and later **Game Maker** until 2011) is a series of cross-platform game engines created by Mark Overmars in 1999 and developed by YoYo Games since 2007. The latest iteration is GameMaker Studio 2, released in 2017.

GameMaker accommodates the creation of cross-platform and multi-genre video games using a custom drag-and-drop visual programming language or a scripting language known as Game Maker Language, which can be used to develop more advanced games that could not be created just by using the drag and drop features. GameMaker was originally designed to allow novice computer programmers to be able to make computer games without much programming knowledge by use of these actions. Recent versions of software also focus on appealing to advanced developers.[1]

Overview

GameMaker is primarily intended for making games with 2D graphics, allowing out-of-box use of raster graphics, vector graphics (via SWF),[2] and 2D skeletal animations (via Esoteric Software's Spine)[3][4] along with a large standard library for drawing graphics and 2D primitives.[5] While the software allows for limited use of 3D graphics, this is in form of vertex buffer[6] and matrix functions, and as such not intended for novice users.

The engine uses Direct3D on Windows, UWP, and Xbox One; OpenGL on macOS and Linux; OpenGL ES on Android and iOS, WebGL or 2d canvas on HTML5, and proprietary APIs on consoles.

The engine's primary element is an IDE with built-in editors for raster graphics, level design, scripting, paths, and shaders (GLSL or HLSL).[7] Additional functionality can be implemented in software's scripting language or platform-specific native extensions.[8] In GameMaker Studio 2, you can choose whether to export the game as an NSIS installer, or a .zip file containing the game, the data.win file, and any files added under the "Included Files" tab in the editor.[9]

Supported platforms

GameMaker supports building for Microsoft Windows, macOS, Ubuntu, HTML5, Android, iOS, Amazon Fire TV, Android TV, Raspberry Pi,[10] Microsoft UWP, PlayStation 4, Nintendo Switch[11] and Xbox One;[12][13][14] support for PlayStation 5 and Xbox Series X|S was announced in February 2021[15]

In past, GameMaker supported building for Windows Phone (deprecated in favor of UWP), Tizen, PlayStation 3, and PlayStation Vita (not supported in GMS2 "largely for business reasons").[16]

PlayStation Portable support was demonstrated in May 2010,[17] but never made publicly available (with only a small selection of titles using it).[18]

Between 2007 and 2011, YoYo Games maintained a custom web player plugin for GameMaker games[19] before releasing it as open-source mid-2011[20] and finally deprecating in favor of HTML5 export.

Prior to August 2021, users had to obtain a single-purchase license for one of five different platforms, excluding consoles, depending on the target platform they wanted to publish on (such as desktop or mobile). An annual license was required to publish for consoles, which was also contained in an all-encompassing annual Ultimate license that covered all supported platforms. Yoyo Games announced a change to the licensing approach in August 2021, allowing GameMaker to be used for free to learn, and eliminating the single-purchase options. Instead, it simplified the license scheme to only two tiers, one that supported publishing on all non-console platforms, and a higher

tier that added in console platform publishing support at a lower rate than the prior Ultimate license. These changes were aided by the financial investment of Opera into YoYo Games to help reduce costs for GameMaker users.[21]

Drag and Drop

Drag and Drop (DnD) is GameMaker's visual scripting tool.

DnD allows developers to perform common tasks (like instantiating objects, calling functions, or working with files and data structures) without having to write a single line of code. It remains to be largely aimed at novice users.[22]

While historically DnD remained fairly limited in what can be comfortably done with it,[23][24] GameMaker Studio 2 had seen an overhaul to the system, allowing more tasks to be done with DnD, and having it translate directly to code[25] (with an in-IDE preview for users interested in migrating to code).

GameMaker Language

GameMaker Language is GameMaker's scripting language. It is an imperative, dynamically typed language commonly likened to JavaScript and C-like languages.[26][27][28]

The language's default mode of operation on native platforms is via a stack machine; it can also be source-to-source compiled to C++ via LLVM for higher performance.[29] On HTML5, GML is source-to-source compiled to JavaScript with optimizations and minification applied in non-debug builds.[30]

History

GameMaker was originally developed by Mark Overmars. The program was first released on 15 November 1999 under the name of Animo (at the time, it was just a graphics tool with limited visual scripting capabilities).[31] The first versions of the program were being developed in Delphi.[32]

Subsequent releases saw the name changed to Game Maker and software moving towards more general-purpose 2D game development.

Versions 5.0 and below have been freeware; version 5.1 introduced an optional registration fee; version 5.3 (January 2004) introduced a number of new features for registered users, including particle systems, networking, and possibility to extend games using DLLs.[33]

Version 6.0 (October 2004) introduced limited functionality for use of 3D graphics, as well as migrating the runtime's drawing pipeline from VCL to DirectX.[34]

Growing public interest led Overmars to seek help in expanding the program, which led to partnership with YoYo Games in 2007.[35] From this point onward, development was handled by YoYo Games while Overmars retained a position as one of company's directors.[36] Version 7.0 was the first to emerge under this partnership.

The first macOS compatible version of program was released in 2009,[37] allowing games to be made for two operating systems with minimal changes.

Version 8.1 (April 2011) sees the name changed to GameMaker (lacking a space) to avoid any confusion[38] with the 1991 software *Game-Maker*. This version also had the runtime rewritten in C++ to address performance concerns[39][*failed verification*][*contradictory*] with previous versions.

September 2011 sees the initial release of "GameMaker: HTML5" - a new version of software with capability to export games for web browsers along with desktop.[40]

GameMaker: Studio entered public beta in March 2012[40] and enjoyed a full release in May 2012.[41] Initial supported platforms included Windows, Mac, HTML5, Android, and iOS. Additional platforms and features were introduced over the years following;[42][43][44][45] Late 2012 there was an accident with anti-piracy measures misfiring for some legitimate users.[46]

In February 2015, GameMaker was acquired by Playtech together with YoYo Games. Announcement reassured that GameMaker will be further improved and states plans to appeal to broader demographic, including more advanced developers.[1][47]

November 2016 saw the initial release of GameMaker Studio 2 beta,[48] with full release in March 2017.[49] This version spots a completely redesigned IDE (rewritten in C#[50]) and a number of new editor and runtime features.

In August 2020, major update 2.3 was released, bringing a host of new features to IDE, runtime, and the scripting language.[51]

In January 2021, YoYo Games was sold to Opera Software for roughly 10 million USD. The development team of GameMaker remains the same, and has not caused any major development changes to GameMaker Studio.[52][53][54]

In August 2021, YoYo Games announced that they are changing their licenses and will offer a free version of the GameMaker engine.[55]

Name _____ Date _____ Block _____

Read the article “9 Game Design Tools” and answer the following questions.

Name and DESCRIBE the nine (9) tools discussed in this article.

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9 game design tools

10/08/2021by MihaiGame Design

I've always been a fan of finding the latest and best tools for supporting my game design workflow. While these tools only *help* me execute my designs, the right tech can support creativity and speed up my process, which ultimately impacts the quality of the outcome (the game).

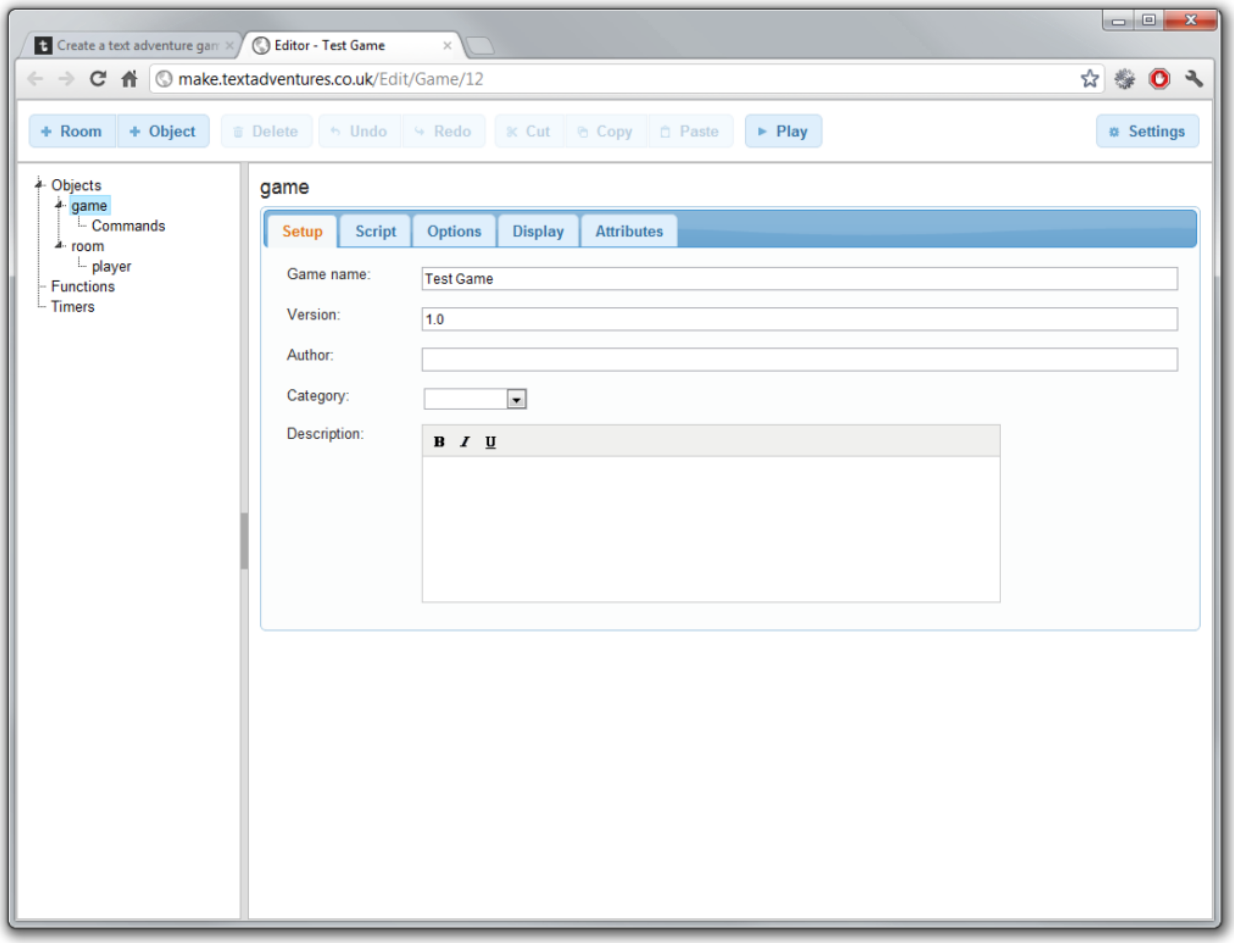
That's actually how I came across the first version of Machinations, back in its Flash days (by Joris Dormans – co-founder – at the University of Amsterdam, 2012). I was constantly frustrated by outdated GDDs, endless-scrolling spreadsheets, having my phone flooded with pictures of systems and mechanics drawn on whiteboards, or trying to explain the dynamics of a game concept based on static diagrams (and witnessing myself and teammates failing to understand randomness). I thought to myself: "there must be a better way, and if there's not, I need to build it". So in 2014, I literally just googled "game design tools" and here we are today, building machinations.io.

Finding the right tool is a struggle, between Google searches, peer recommendations, and sometimes ads. While I'm confident that Machinations is *the* game design tool (and dedicated my career and life to making it happen), that can become the single source of truth for your game's design, you should know your options.

I haven't really ordered the list in any particular way, except perhaps difficulty of picking them up? That's because **the tool you choose depends a lot on your context**:

- The game you're building: genre, monetization model, meta, or platform
- Your skills as a game designer but also your coding skills, as most options, are inherently game engines rather than dedicated tools for game design
- The job you want the tool do: balancing your parameters, sorting the narratives, gameplay flow, prototyping

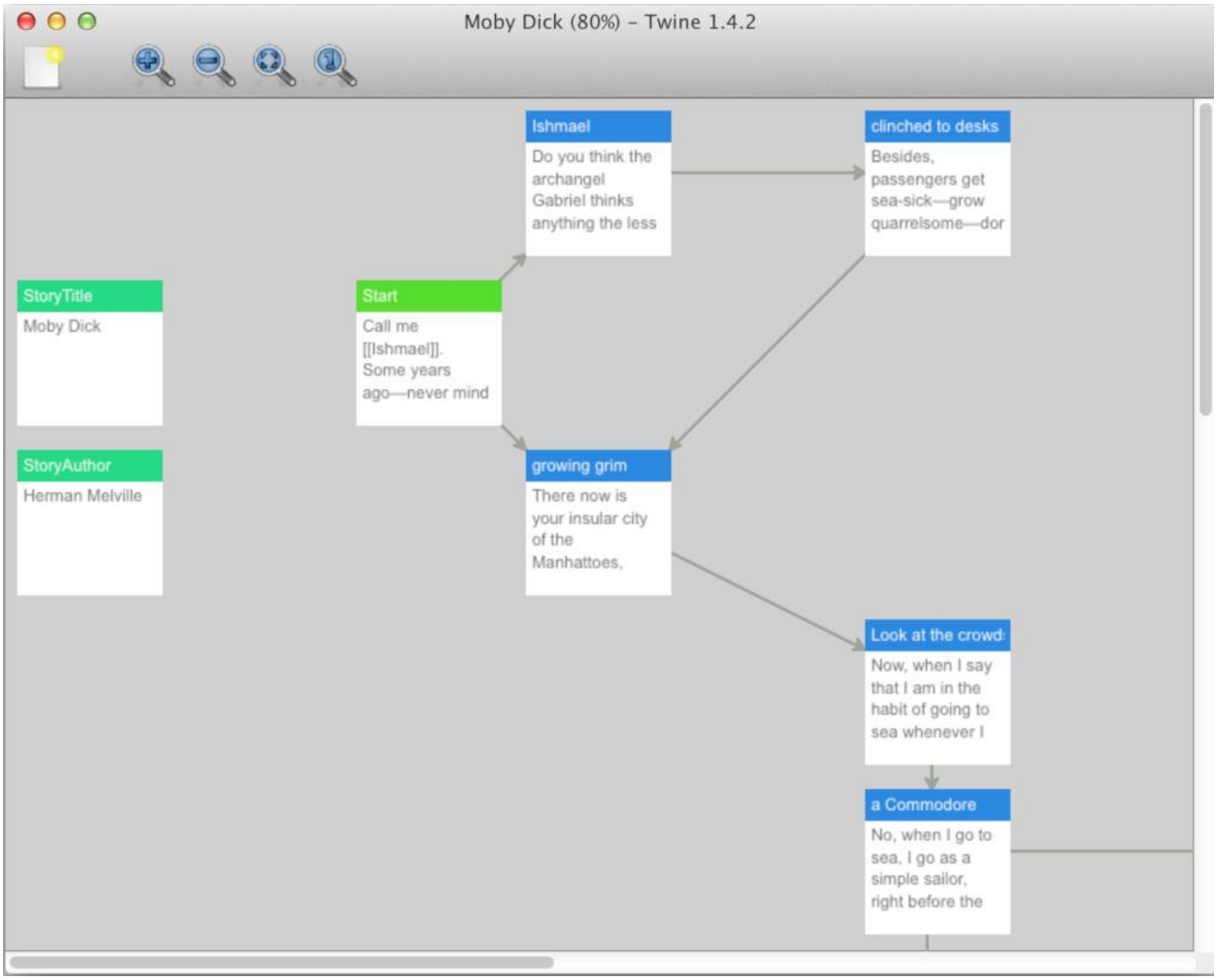
Quest



If you're building a text-based adventure, Quest is a free, browser-based software that can help you put together the next Zork or Planetfall. Seems easy-to-learn and easy-to-use and with plenty of examples.

I'd probably recommend it if you're at the start of your game design career. Starting with a very simple game lets you nail down the basics of narrative storytelling and pacing. Don't go down my route of starting up with an HTML5 SoLoMo MMORPG <cries a bit on the inside>.

Twine

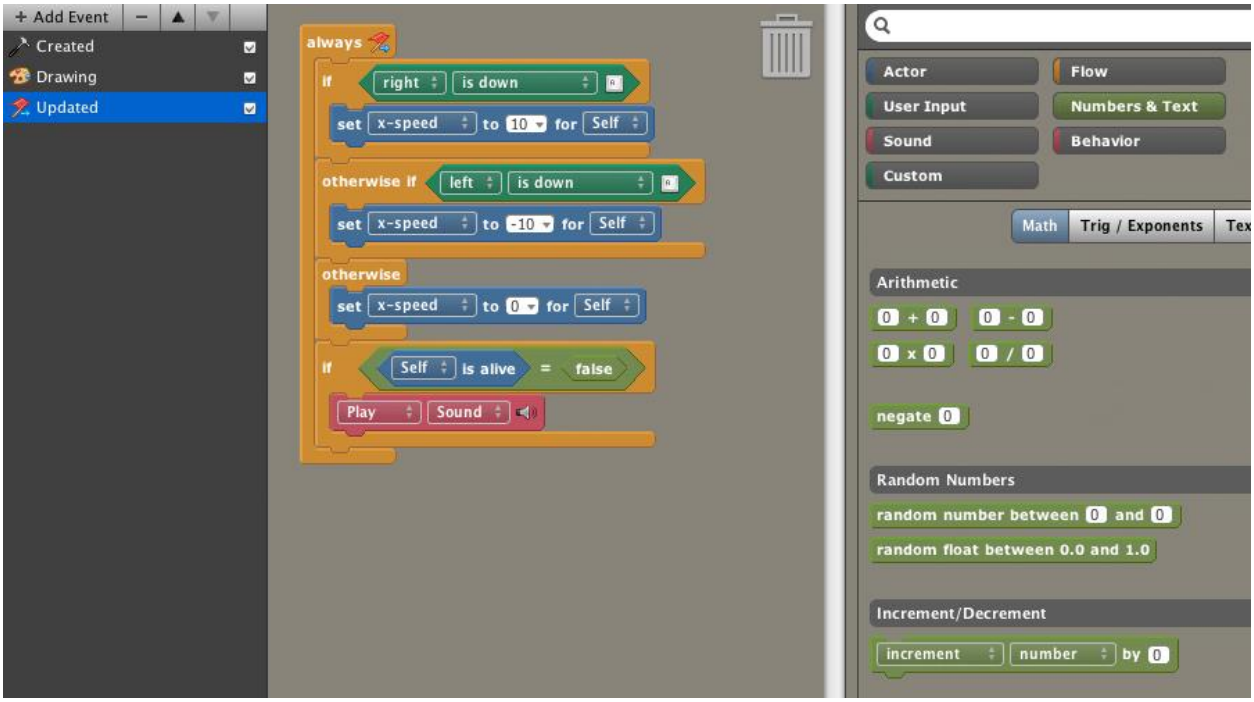


Similar to Quest, Twine is a text-based adventure creator. Unlike Quest, it publishes your games in HTML, making it far easier to share your game with others and get useful design feedback.

While starting with text-based adventure games might seem like it's very 1970s, and you'd rather be working on the next Skyrim or a Cyberpunk 2077 that runs, starting simple is a good way to work on the skills needed to create the kind of immersive nonlinear narratives that make your game stand out from the crowds.

As with Quest, Twine is entirely free, making both of them great game design tools for beginner designers.

Stencyl



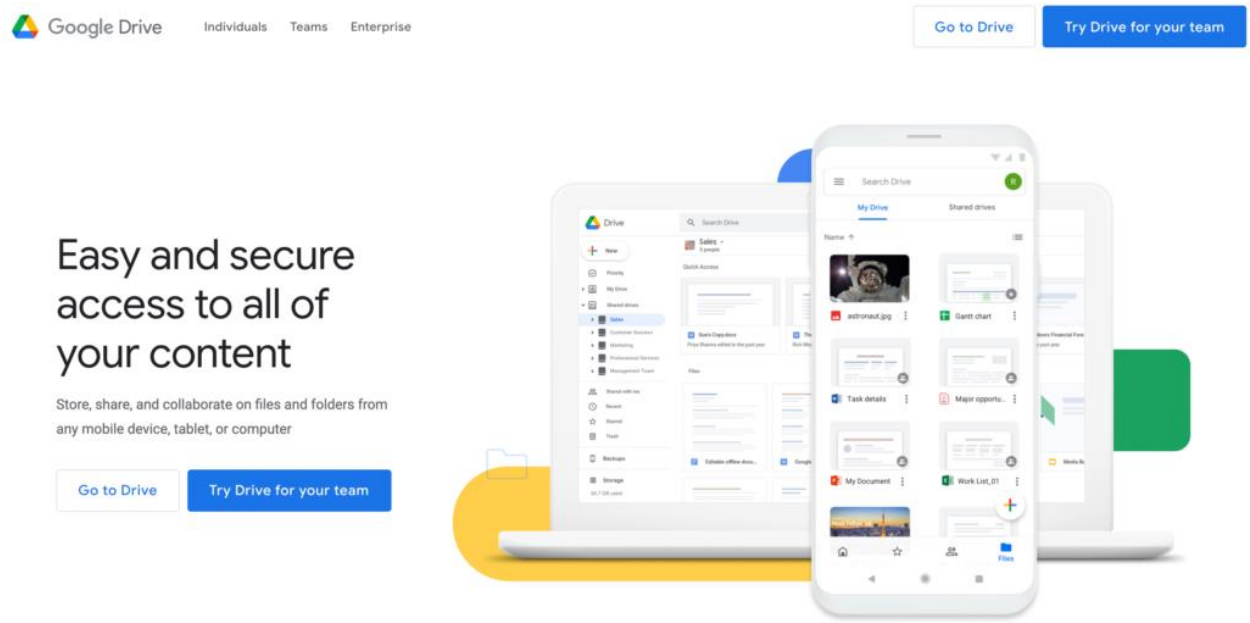
Stencyl gives you a chance to start making games with actual graphics, without being able to code. The Stencyl game engine uses a drag and drop interface that is, for the most part, relatively easy to use.

If in parallel to your game design skills you're also looking to learn how to code, Stencyl lets you use your newfound knowledge and skills to augment the Stencyl game engine with some code of your own.

You'll also be able to upload your own graphics into the engine and then edit them to suit your needs.

Stencyl comes in three versions, with three different price points. There's a free option that only lets you create web-based games; there's the $99 per year version which allows you to publish to web and desktop, and the $199 a year version that lets you create games for desktop, web, Android, and iOS.

Google Drive



I've seen a lot of studios relying on Google suite for GDDs, storyboards, character design, level design, game economy design spreadsheets because it's collaborative.

Sharing data in real-time may help with keeping everything up to date at all times, as long as your team is very judicious about how they organize information and updating everything, everywhere.

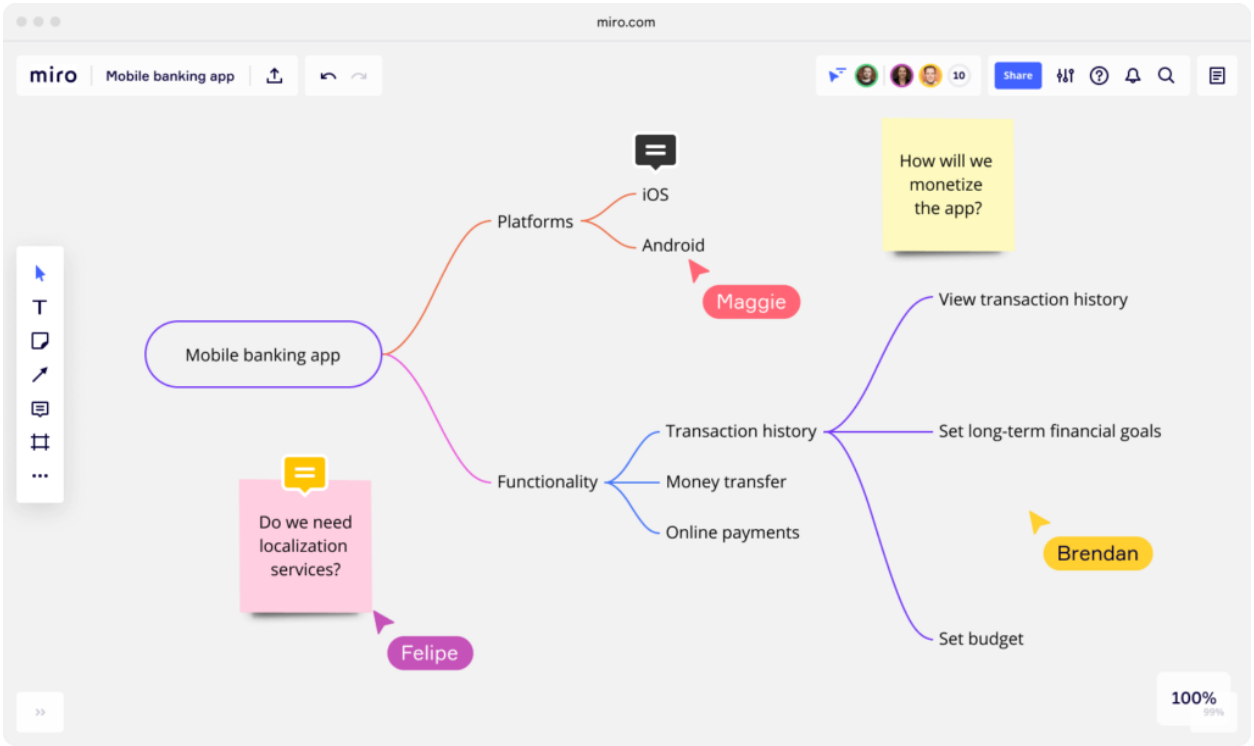
I must point out that putting random chances in a spreadsheet (or Google Sheet for that matter) does not mean you're actually forecasting outcomes. You put a % in there, it's always gonna be treated as a static division. If you want to truly understand odds, please nerd out now and read about Monte Carlo.

Articy Draft



Articy Draft helps with the storytelling side of things. It’s a suite of tools for making storyboards, design documents, and more that lets you preserve your ideas as they evolve. This tool is especially important for RPG games when variants become plenty.

Miro



Miro is an online whiteboard and visual collaboration platform. It allows you to collaborate on ideas in real-time and present your ideas in an organized way. The technology has been used a lot by Silicon Valley startups but is available for anyone and everyone to use and it's lately creeping into all sorts of verticals and enterprises.

In-game design, whiteboard and visual collaboration platforms can help your team stay on the same page without having to send endless emails back and forth or risk losing work by not being clear on who is doing what.

I'm personally a big fan of their UI/UX and that somewhat shows in our current UI execution ☺

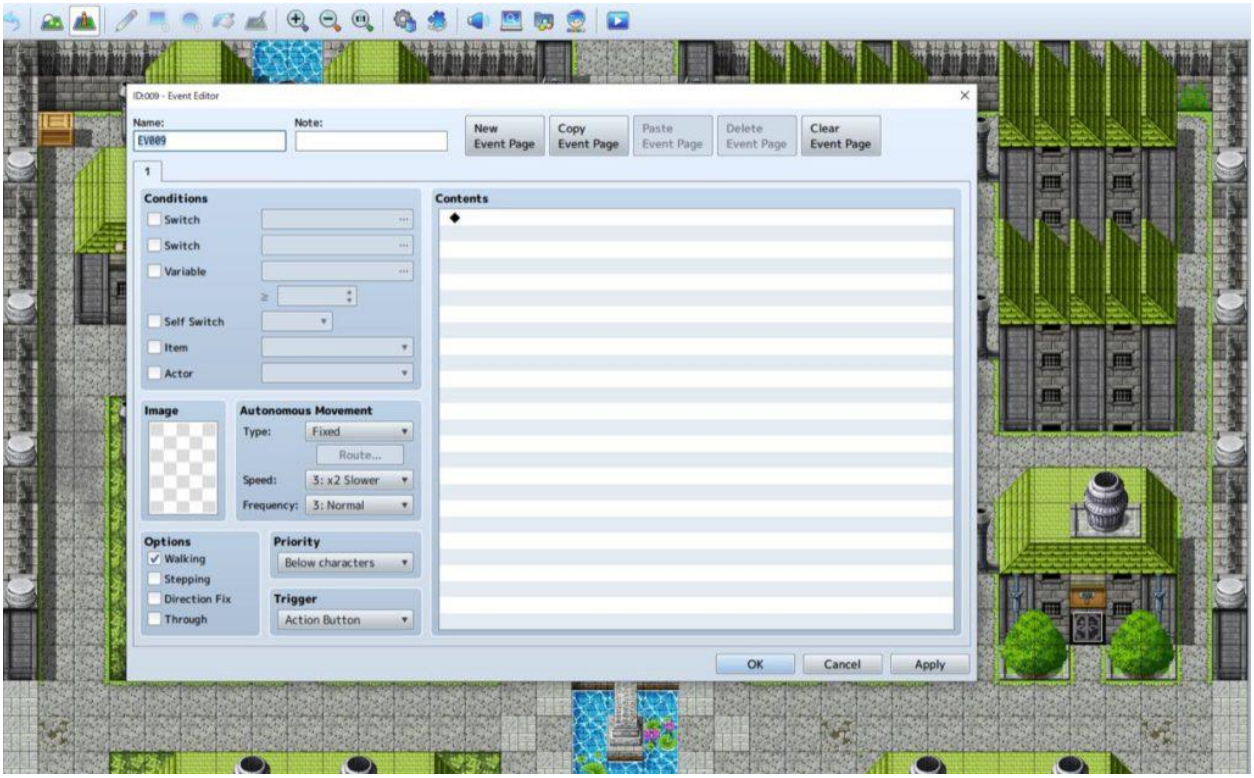
Construct 3



Construct 3 is a game creator with the same drag and drop capabilities as Stencyl but a wider range of coding capabilities. Pricing-wise, it can range from 18.29$/month for a personal license to 34.56$/seat/month for a business license.

One of the best things about Construct is the community, with a showcase page that features up-and-coming games and a range of helpful resources.

RPG Maker

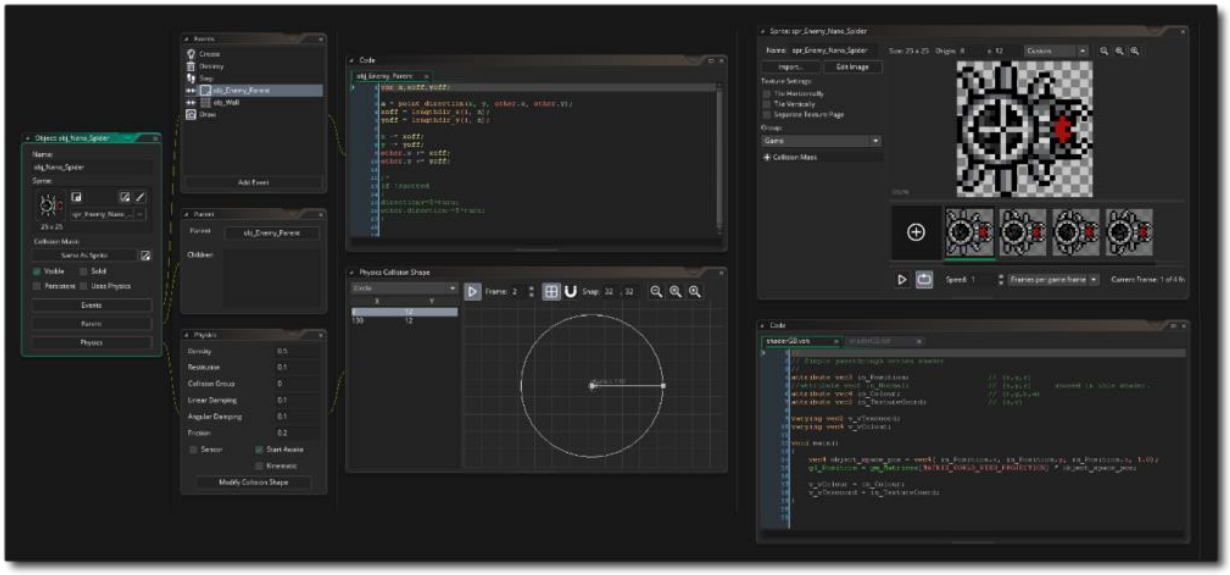


The name tells you pretty much everything you need to know about RPG Maker. A drag and drop game creator focused on RPGs, the basic version is pretty feature-lite, but the $69.99 RPG Maker VX Ace does come with a full set of tools, assets, and even some pretty good music.

If you're inspired by Final Fantasy and want to dip your toe into making your own RPG, then RPG Maker is a great place to start.

Perfect for character stats, progressions and all sorts of curves.

Game Maker



The most powerful drag and drop game creator, Game Maker, has a free version to get you started, but the real benefits start to come in when you purchase the Studio Version for $150.

The interface is somewhat “easy to use”, the range of editing tools is easy to understand, and the platform is surprisingly powerful.

There is a range of export options you have to pay for, or you can go for the $800 dollar Studio Master Collection to get everything at once.

Bottom Line

I could, of course, also mention Unity and Unreal, but for these, you’ll seriously need to amp up your coding skills. They’re not pick-up-and-go tools for game designers who aren’t looking to power up as a developer.

And now, for the shameless self-promotion moment you knew was coming: if none of these tools seem to solve the issues you googled this list for, try out Machinations for free. This is a tool specifically built for game design (google please index this, it’s not KW stuffing, pinky promise).

It will support you in your everyday work as a game designer from preproduction all the way through live ops. It allows you to simulate the systems you design before a single line of code is written, and validate your assumptions with data. It accounts for emergence and supercharges your process with science, not guesswork. **Our community members have picked it up in average 4.1 hours** (actual survey in November 2020 across 20k participants). The awesome part is that we have a community of tens of thousands (28k when writing this) of game designers that share their diagrams, plus hundreds of templates to kickstart your journey, and regular webinars.

DAY THREE

Name _____ Date _____ Block _____

Read the article “Tips for Starting Your Game Development or Design Career” and answer the following questions.

Name and DESCRIBE the four (4) tips discussed in this article.

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Tips for Starting Your Game Development or Design Career

There are a number of ways individuals interested in game design or development can increase the likelihood of landing one of these coveted jobs.

1. Lay the groundwork with a related degree.

According to Seif El-Nasr, most employers in the video game industry do not place a lot of weight on specific college degrees. What's more important is that you can demonstrate you're able to do the work.

But while it may be *possible* for you to teach yourself the basics of design or coding, these things are certainly easier to learn in the structured setting of a degree program, where you can lean on professors, peers, and coursework to help you grow your skills.

For that reason, video game developers and designers often earn an undergraduate or graduate degree in computer science. Degrees that offer specializations or concentrations specific to video game design can also help give future applicants a leg up on the competition by allowing them to develop skills specific to the career they're pursuing.

2. Build a portfolio of projects you can show prospective employers.

More important than a specific degree, Seif El-Nasr says, is that applicants can demonstrate proficiency in programming or design. The best way to do this, she says, is to build a portfolio of projects that prospective employers can evaluate.

Whether your portfolio consists of projects done out of personal interest, as a part of degree coursework, or for commercial gain doesn't really matter. What matters is the quality of the product, and also the diversity in the portfolio. For example, demonstrating the ability to code, troubleshoot, and debug in different languages, or design in multiple mediums and artistic styles may help to differentiate job applicants.

Of course, students will often use their undergraduate and graduate studies as a means to an end in creating a portfolio of finished projects that can be shown to future employers. Degrees like those offered by Northeastern University, which prioritize experiential, hands-on learning, can be especially helpful in this regard.

3. Leverage industry connections to get your foot in the door.

As with any career, the best way to break into an industry is to leverage your network and connections. Knowing someone who works at, or has worked at, a specific company means that you may be able to land an interview or earn a well-respected recommendation.

Because professional networks usually grow out of work experience, this can be difficult for many recent college graduates who have not yet worked in the industry. For this reason, choosing a degree program with experiential learning opportunities specifically tailored to video game development or design can open many doors for graduates. In addition to allowing students to build experience and a portfolio of projects, it comes with a built-in network of faculty and peers.

These degree programs are typically staffed by faculty who have worked in the industry, meaning that they have industry contacts that students can leverage when they are applying for jobs. Classmates who go on to work at various companies may also become important contacts later in your career.

4. Consider entering video game design or development competitions.

Taking part in industry competitions focused on video game design or development is another way that applicants can stand out from the crowd, Seif El-Nasr says.

The first is that competing gives applicants the incentive to finish and fine-tune the projects in their portfolio; after all, you can't compete without a finished project to submit. But beyond this, participating in competitions offers applicants a way of getting in front of potential future employers and is an important part of building a professional network.

"In addition to demonstrating passion and initiative, participating in a competition will also allow you to show the ability to take criticism and hopefully incorporate it into a stronger end project," Seif El-Nasr says. "This is an important part of working on a team, and a skill that hiring managers look for."

DAY FOUR

Name _____ Date _____ Block _____

Read the article “8 Trends that Define the Future of Information Technology” and answer the following questions.

Name and DESCRIBE the eight (8) trends discussed in this article.

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8 Trends that Define the Future of Information Technology

In the near future, companies will be looking for ways to cut expenses, automate processes, and provide a great user experience. Let’s explore IT trends that will rule the future in more detail.

Advertisement

1. Automation

Automation will prevail in the future of IT. It aims to reduce manual work and improve business efficiency. Data science is the key sphere that is predicted to benefit from automation the most. Data science automation with machine learning and artificial intelligence will allow scientists to make better data analysis.

Moreover, it’s predicted that automated machines will replace almost half of the global workforce in the years to come.

So, we’ll definitely see some advancements in this direction too.

2. Data Security

The latest trends in information technology clearly show that data security will continue to be in the spotlight of attention. Keeping business data and the data of customers secure will be among the biggest future IT trends and requirements.

Advertisement

Thus, companies will need to find new ways to ensure data security without huge investments.

3. Data Privacy

General Data Protection Regulation and California’s Consumer Privacy Act sparked new advancements in the sphere of data privacy. Such acts regulate what information businesses can collect, store, and share with third parties.

The future of information technology will be closely interwound with data, driving the need for advanced automated solutions that ensure regulations and legislation compliance.

Advertisement

4. Big Data & Analytics

Another one of the latest trends in information technology is big data and analytics. Big data analytics uncovers hidden patterns, correlations, and provides other important insights, for example, on customer behavior, etc.

There is no doubt that organizations will rely on big data analytics to harness their business data and use it to explore new opportunities. Big data can be used to reduce costs, make better and faster data-driven decisions, provide clients with the products and services they need, and so on.

5. Software Architecture

The new information technology world is turning from monolithic to microservice architecture. For example, MLSDev states that **mobile app development services** will mostly rely on microservice architecture.

Advertisement

Companies will move from monolithic architectures to those that can be used and reused both inside and outside organizations.

6. Social Media

Top information technology trends also include the growth in the importance of social media. They will continue to gain traction both among businesses and customers.

Even now, social media sharing accounts for 54% of the information that consumers use while making a buying decision. Almost 78% of people say that social media posts by brands influence their buying decision.

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7. User Experience

User experience will play a leading role in the future of information and communication technologies.

Aside from business efficiency, a bigger emphasis will be placed on the experience a company provides and how users interact with its services. This will require a complex approach and a shift to customer-centric business organizations with smooth and simple UX.

8. Cloud Computing

Evolution and trends in information systems will change focus from simple infrastructure solutions to cloud computing. Software-as-a-service (SaaS) and platform-as-a-service (PaaS) solutions will become the future of IT.

Advertisement

Such solutions will help businesses get better functionality and flexibility in their operations at a reduced cost.

DAY FIVE

Name _____ Date _____ Block _____

Read the article “7 Sneaky Ways Hackers Can Get Your Password” and answer the following questions.

Name and DESCRIBE the seven (7) tricks that can be used to steal your FB password.

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What are the four tips described in the article for protecting your password?

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7 Sneaky Ways Hackers Can Get Your Facebook Password

By **Jennifer Seaton** | Reviewed by **Justin Stoltzfus**
Published: February 4, 2021 | Last updated: August 31, 2021

KEY TAKEAWAYS

On Facebook, not everything is as it seems. No matter how many friends you have, enemies may be lurking there as well.



Source: Tomajestic/Dreamstime

Facebook can be a great way to stay in contact with friends and family. But it can also make you more vulnerable. Your account likely has a ton of personal data and connections that could benefit a hacker. The more you understand about how a hacker can access your password, the savvier you will be at keeping it safe.

Advertisement

Here are seven sneaky ways hackers can access your password and what you can do to stop them.

Suspicious Emails

You have probably heard many times by now not to open suspicious emails. This is still true today. But fake emails have become much more sophisticated than in the past. Fake emails might appear to be from Facebook and have all the formatting and logos you expect in a legitimate email. It can be very difficult to determine if an email is fake.

There are a multitude of ways a hacker can use a suspicious email to gain access to your Facebook account. The best way to avoid this is to delete the email and do not click on anything in the email. It is best to not even open suspicious emails.

If Facebook has to reach you, they can do so from your Facebook account. If you get an email from "Facebook", instead of opening the email, log into your account to see if you have a notification there. Do not trust any emails that ask for account information, request money, or threaten to suspend your account.

Phishing

The purpose of many fake emails is phishing. Phishing is when someone asks for personal information that they can use to gain access to your account. A common way to phish is to trick someone to sign in on a fake site.

Some hackers will go through the trouble of creating a fake website that looks the same as Facebook. But, you can avoid this trap. It is always best to go to Facebook rather than click on a link. If you do use a link, carefully read the email address. Does it look correct, or is Facebook misspelled? Finally, check for the secure icon in the web address before signing in.

Advertisement

Fake Facebook Buttons

You might know not to trust links, but don't forget that "like" and "share" buttons act like links. Clicking on one of these buttons on a fake site might lead you to a fake login page designed to steal your information.

To avoid this, sign in to your Facebook account from a new tab in your browser. Your browser will keep you logged in on other tabs. Now, any likes or shares will go directly to Facebook. If you still get a prompt to login, it's a good indicator that the button was fake.

Password Spraying

Coming up with a password is hard. It can be tempting to use something like "123456789". Of course, that is a bad idea; it is too easy to guess. But many people do use similar easy passwords. Because of this, many hackers employ password spraying. This is when they guess a password by using the most common passwords.

It is hard to remember a random alphanumeric sequence. So, more people use words, which limits the number of potential passwords available. When creating a password, it is best to use a unique phrase, replace some of the letters with numbers, and vary the capitalization. And definitely avoid any variation of the word "password", including pa$$word123.

Plain Password Grabbing

Once you come up with a good password, make sure you only use it for your Facebook account. If you use the same password everywhere, you leave yourself vulnerable to Plain Password Grabbing. This is when a hacker attacks a more vulnerable and less secure site. Some sites do not properly encrypt passwords. In that case, a hacker can then use the email and password saved in the database to try to access other sites like Facebook.

If you have a lot of accounts that require passwords, consider using a password manager. Often, they will generate strong passwords for you too.

Keylogging

Keylogging is a more advanced hacking technique. It requires installing a program on your device to track everything that you type. This can give hackers far more information than just your Facebook login information. They could even get credit card information using this method.

But, because a hacker needs to install a keylogging program on your device, it is a little easier to protect yourself against this sort of attack. Generally, hackers hide these programs in other software. To stay safe, do not download anything from an untrusted source. Your computer's security software can detect these programs, but you might want to get anti-malware software for your smartphone. Make sure to keep your security software up to date too.

Unsecured Networks

Even if you have the best passwords, and are using the most secure computer, it won't help if the network you are using is not secure. Public Wi-Fi is often unsecured. Unsecure networks allow hackers to snoop through all the data that you send and received from webpages while on that network.

Instead of using free Wi-Fi to access Facebook on the go, sign in using mobile data. It will ensure that your data is more secure. Or consider getting a virtual private network (VPN). Many VPN providers will encrypt your data, which will protect it even if you are connecting to the internet on an unsecured network.

Facebook Security in a Nutshell

Our growing dependence on the internet means that we need to be a little more careful online. All the security information out there can be a little overwhelming. But it all boils down to a couple of simple tips. Use unique passwords for all your accounts. Do not click on any links that you do not trust (even if it looks like they are from Facebook). Do not download anything unless you are certain if it is safe. Do not enter sensitive information on public computers or across public Wi-Fi. If in doubt, error on the side of caution.