
8.0: History of Gaming

The good old days?

Way back in what many older gamers think of as “the good old days”, playing computer games was brand new and though it seems silly these days, the mere fact that we could control pixels on our screens was a revelation. Classic games like Pong, Space Invaders, Defender, and Galaxians packed the arcades with eager gamers and blazed a trail which countless thousands of games were to follow. A whole new entertainment medium was born.

The bad news was that though the players were having a ball, most of them could never hope to create their own computer games. So difficult was it to program the early arcade machines and the first home computers that budding coders could succeed only by dedicating thousands of hours of study and effort to learning almost incomprehensible machine level languages. Eventually, the word “programmer” became synonymous with the image of a “crunch-head” sitting at his screen long into the small hours staring at unending streams of gobbledegook which only a few could decipher.

For a home user to break into the world of games programming, he or she would have to lock themselves away with a pile of manuals and one of the few crude coding tools then available, re-emerging only after an exhausting struggle with their intransigent digital sparring partner. Only the most enthusiastic survived, and the vast bulk of computer users were left to dabble in much less powerful and scarcely more friendly high level languages such as Basic.

As 8-bit machines gave way to 16-bit and eventually 32-bit processors, the task became even harder. New demands on sound and graphics, hugely complicated C compilers and even more complex Assembler programming left the rest of us more and more out in the cold. If you wanted to paint a landscape, take a photograph, write a book, or enjoy just about any other creative pursuit, you could have a go with the minimum of fuss, regardless of your training or expertise. Programming, however, was surrounded by a tall hedge of very thorny problems.

Klik & Play changes all that. In a stroke, this revolutionary package sweeps away the barriers between home users and the programming world, laying open to everyone the power of Windows and the opportunity to put your ideas for your perfect game into practice and onto the screen. Klik & Play represents a new generation of programming software because it removes the need to learn to program and gives you the chance to see your graphics and hear your music and sound effects in action. Quite literally, all you have to do is Klik and play.

What's the catch?

There isn't one! Have you ever drawn a picture using one of the PC's/Macintosh's many paint packages, or sampled a few favourite sounds using your sound card? Yes? Want to put them in a game? You can do it in minutes! During testing, Klik & Play was used to create complete games in hours, sometimes even during long haul transatlantic flights, and you can do it too.

Put simply, Klik & Play is the first package ever to offer a level playing field for the non programmer. If you can picture a game in your head, you can make it happen on your PC/Macintosh. If you have an idea for a fun education game for your children, they could be playing it tomorrow. Imagination is the only limit, because Klik & Play supplies the rest.

Game design

The best way to get started with Klik & Play is to work your way through our tutorials, then dive in and have fun. You'll make mistakes to begin with, but by asking yourself "what if ... ?" questions, then answering them for yourself, you'll learn how to create your own effects and your own style of gameplay. There are just three simple rules to follow:

1. Don't be afraid to make mistakes - they can teach you more than anything else.
2. Don't worry if your first effort at a game is truly awful - you'll be surprised how quickly you get better at it.
3. Have fun!

Once you've become familiar with the way Klik & Play works and you've found out just how easy the package is to use, it's time to sit down and begin your first project. Starting a game from scratch with no idea how it will look at the end is great fun, but for your first proper project you should try to follow the same design path taken by every major software house.

STEP 1: The Big Idea

This is the most important stage in any game's design. The idea you start with will shape the way the game develops and how it will finally appear, so take some time out to sit down and think about it.

Inspiration can come from existing games which you might have thought had a great theme but could have been better, or from just about any source you like. How about a game about baking a cake in the middle of a busy domestic day without letting the baby crawl up those step ladders the painters left behind? What about a dark cyberpunk adventure game in the Beneath a Steel Sky style, or a detective game based on classic films such as The Maltese Falcon? You can use films, TV, books, or day to day situations as your muse, always safe in the knowledge that with Klik & Play you can not only wish for such a game, but deliver the goods as well.

STEP 2: Decide on a game style

The idea you come up with will sometimes determine the style of game you will produce, but you can change this at any time. A racing game with your own subtle twists will have to be created in the racing style, but a game about baking a cake can be a platform game, a Monkey Island-style point and Klik adventure, or a shoot-'em-up.

At this stage you should try to see in your mind just what the game will entail and what general elements it might involve. Let's call our example idea Cake-tastrophe (I know it stinks, but that's the fun of it). We'll have to base it in a house, and a house has more than one room, so we know we'll need several levels or locations. We also

know that you can move from one part of a house to another without having to shoot an end of level guardian, so shoot-'em-up style is out, and as platform games usually have level goals before you can proceed, they're out too. No cars or spaceships are involved (not in my house at any rate), so we seem to be left with the point and Klik style.

As Cake-tastrophe will probably appeal to younger children as well, it should be educational but fun, so the point and Klik style fits well, allowing for gentle exploration interspersed with bouts of frantic action. We have a game, let's proceed to create it.

STEP 3: The Storyboard

A storyboard can be anything you like, from a written list of what you want to happen in the game to a full blown set of drawings, but you should always make one. At this stage in the design of a game, ideas of all kinds will be flying around in your head and you'll probably already be thinking about some of the more detailed elements of the action. This is fine, but for now just write the detailed stuff down somewhere and concentrate on the general plot.

You have to decide how many players you will need, what the game's general goals are - in our case to bake a cake without burning the house down or letting the baby pour paint all over the carpet - and how the plot will unfold. For our example, we'll start in the kitchen, a location ripe for comic exploitation, then perhaps add a living room, bathroom, garden, and the like. All of these locations have their own temptations for baby and their own domestic disasters waiting to happen.

For an edutainment game, we would want to highlight the dangers of ironing boards and electrical power sockets, and for the action side of things we can anticipate a few hair raising moments as our player tries to retrieve the baby from a broom cupboard before the cake mixture burns to the bottom of the oven. Adventure elements can be introduced as our player gradually finds the ingredients needed for a chocolate cake scattered around the kitchen cupboards, and so on and on.

STEP 4: Sound and graphics

For most games, you will find at least some of your graphics and sound can be grabbed straight from Klik & Play's libraries of backdrops, sprites, and sound samples. To add your own touch, however, and create that original look unique to Cake-tastrophe, you'll have to roll up your sleeves and get creative.

The modern games player is used to being spoiled in this department, and many a good game with a superb idea behind it can founder at the first impressions stage when your audio-visuals fail to meet expectations. If you are a dab hand at drawing, the graphics side of things will be easier for you, but even the artistically challenged among us can create beautiful games.

You could involve an artistic friend, or just invest in an inexpensive hand scanner. Our domestic game could even feature graphics and sound from your own house. All you have to do is photograph the locations, scan them in, and either use them as they are or base your own drawings on them. Sound can be sampled using your sound card, so washing machines, blenders, vacuum cleaners, and even baby

noises can be sampled directly from real life and used in the game.

Take a lot of time on this stage of design and try to get the sound and vision just right.

STEP 5: Gameplay

Creating a boring game is a waste of time, as is creating a game which is too easy or too difficult. Sit back, think about your audience, and try to fit gameplay to the correct level for them.

An edutainment game will require gameplay which involves anything from pattern matching to numeracy skills, general knowledge, question-based puzzles, and the rest, all of which have to be more or less right for your audience. If you are designing a game for your own children, this should be easier, but you may have to ask a friend to test the game on their kids so that your own don't know it inside out by the time it's finished.

Action games which call on quick reactions will have to play at about the right speed with a fine balance of danger over opportunity, and adventure games will need a good plot, puzzles pitched at the right level, and a perhaps a touch of relevant humour. There are many elements which go together to make good gameplay, and it is vital that you find a good balance.

Probably the best way to fine tune your gameplay is at the testing stage (see under "Collaboration" below), but playing some of the better games of the same type you wish to produce is as good a guide as you'll get.

STEP 6: Klik & Play

You have an idea, a game style, a plot, and the sound and graphics to match. It's time to fire up Klik & Play and put them all together in a game for your children, your friends, or the best seller charts. The steps outlined above may seem a bit long winded, but the time and effort you spend before actually using Klik & Play will shine through in the quality of the final game.

Getting down to it

Let's take a quick stroll through the creation of our imaginary game, Cake-tastrophe, and examine on the way some of the factors you'll need to take into account in any of your own projects.

Our first location is the kitchen, so we'll need a kitchen backdrop image. We'll also need a player object, a baby, and a variety of obstacles and active objects. The baby will have to be an animated sprite, and as this will be the focus of much of the game, it should be as well drawn as possible. We'll also need several animations attached to the baby for crawling, climbing stairs or ladders, sitting, crying, smiling, and so on.

The player can be a male or female character, or you could borrow the Roger Rabbit or Sleepwalker idea of having a cartoon animal look after our youngster. The sprite itself can be a simple walking animation from the Klik & Play libraries, but if you're

really adventurous, you could have a friend photograph you in three or four walking positions, then scan the photos (if you have the money, a video camera and grabber is even better), and either create your own animation from these in Klik & Play's animation editor, or use one of the PC's/Macintosh's more expensive art packages to "tween" the images for a quick and easy animation.

What we've just looked at is the fabled "rotoscoping" technique of basing game animation's on real life people, and if it's your game, there's no reason why you shouldn't star in it!

Once the basic graphic elements are present, you'll soon realise that you have to distinguish between active and inactive objects. The backdrop should usually be inactive, definitely not an obstacle, or nothing will move across it due to always being in collision with it. This, however, presents the problem that you can't then click on a door in the backdrop and have the player move to another room.

In most cases it is enough just to use the event editor to check for when the pointer is within a specified area of the screen, but if your backdrop scrolls in any way, this is impossible. To get around this, you could cut a hole in the backdrop where the door is, save the door image as a brush, and load it up again as an active object, perhaps even as an animated door which opens and closes as you click. This distinction between objects which are used purely for graphical effect and those which have an active part in the game is very important, and you should always keep it in mind.

Your player also needs to know the difference between active and inactive objects, and if you want to avoid having to click everywhere just to find out which objects can be used, you'll have to use a simple trick used by countless graphical adventures. The event editor lets you test for when the mouse pointer is over a particular object, so why not have the name of the object appear at the bottom of the screen when the mouse is over that object? This is a simple but effective trick and one which will improve the game's playability.

As you add active objects, try to write down on paper all the things you want them to do, such as what happens when they leave the playfield, or collide with the various obstacles in the scene, and don't add more until you've decide what the first one will do. If you skip this procedure, you'll end up jumping back and forward between the level editor and the event editor adding collisions and other actions willy-nilly.

Testing times

Another feature of active objects which you should try to plan on paper is the use of each object's three built in alterable values, which you can think of as variables if you've ever come across the term. By changing the value held in A, B, or C, it is possible to test for all sorts of situations, and the use of Klik & Play's timer objects gives you almost infinite variety.

For example, our cake object must be made to appear as soon as we have put all the ingredients in a mixing bowl, and it should change graphically as time goes on to represent the baking process. For the first test, simply add one to a counter for each ingredient safely deposited in the bowl until the proper number had been reached. Testing for this number is easy, and you can tell Klik & Play to make the cake mixture

visible as soon as it is reached.

Once the mixture is in the oven, you can start a timer to run in real time, thus adding a race against the clock to our game, and as each of the baking stages is reached, change the mixture sprite to show a gradually evolving cake. If you want to add a bit more, test for the last minute of baking time, and when this expires add some smoke coming from the oven which gradually increases as time goes on.

Uses for these numbers, and tests you can perform on them, are almost limitless. A wargame might contain sprites with three alterable values - attack, defence, and manoeuvrability - which can be used to test an object's attack against another's defences or whether it can move where you want it to. What should be clear is that even in a simple game like ours there could be dozens of counters and alterable values in use at any one time, and keeping track of them on paper will help avoid confusion.

One last tip on using values and counters, but one of the most important of all, is the use of prime numbers. For those of you who were asleep in maths lessons at school, a prime number is one which can only be divided equally by itself and the number one. Some examples of prime numbers are 3, 5, 7, and 11, and their most useful function is that, when added together, they always make an even number which no two other prime numbers could add up to.

If you use only prime numbers in a particular alterable value, it's easy to figure out which numbers have been added together. For example, if you use numbers to denote objects which are put inside a sack, the sack object can have one of its alterable values set to 16, and you know that the numbers 5 and 11 were used to reach that figure. If these numbers represent a sandwich and a length of rope respectively, you can then tell that the sack contains these two objects, a fairly complex test which you've accomplished using only one alterable value.

Scores on the doors

Scoring is one of the most important elements in any game as it forms both the impetus to do better and the reward for a player's efforts. Klik & Play has a special score object which can be added to your main game screen very easily, but there are many other ways of giving the player his or her rewards.

The standard score object is great for games which involve shooting, but if your player's progress depends more on completing certain tasks, a little thought can go a long way and really make the player feel as if something has been accomplished. Combining the two is even better.

In Cake-tastrophe, score could be accumulated for ingredients collected and the successful baking of the cake, but at other stages in the action, bonuses should be used to add a little variety. For example, if the baby heads towards the ironing table and the player manages to stop him or change his direction, you could have a screen pop up to denote the successful mission, highlight the dangers of leaving irons on boards when they're not being used, and award the player a domestic safety certificate.

By showing these awards in the player's inventory or at the bottom of the screen and making possession of certificates a prerequisite for progress, you can add variety to your scoring system, push the player on towards greater things, and make the reward something worth waiting for all in one easy action. A single test through the event editor is all it needs to set up this sequence of events, but the final result will be much more impressive.

Surprise, surprise!

The element of surprise, if used intelligently and sparingly, can add some real fizz to a game. Our Cake-tastrophe game is developing along lines which, though well thought out, would nevertheless appear a little too linear in actual play. It is easy and tempting to have every element of the game governed by logical rules or a strict timetable, but players will quickly tire of this sort of one track gameplay. Even Space Invaders has a surprise element in that you can never tell which alien is going to shoot next or when the next flying saucer will appear.

Surprise can be anything the player can't anticipate, and if spiced with a random element, it can make a game shine. For example we could set up a condition whereby there was a 25 per cent chance every three minutes of the telephone ringing, or Pudsey the cat running through the kitchen and colliding with a random object. This sort of thing can be set up using counters under the event editor and can give the game more variety and less predictability.

Use these random elements sparingly so that the player doesn't feel that too much is out of his or her control, but do use them, and if possible turn them into opportunities for a quick bonus. You could add to a player's score when they answer the telephone, but though this can seem a bit generous, it isn't if the phone rings at a bad moment and the player has to make a snap decision between answering the phone and shooing the cat away from the sleeping baby. Do you go for the points and risk the cat wakening baby, or do you play safe?

Forcing a player to make these sort of decisions on an unpredictable basis, then rewarding good judgement with bonus scores adds a lot to a game's playability.

Collaboration

It might seem strange that though we've just provided the perfect tool for you to create your own private dream game, we positively encourage you to involve other people, but the benefits of collaboration are innumerable.

At the design stage, the opinion of a fellow games player can help give you an objective view of your idea and the way you plan to put it into practice. So-called "brainstorming" sessions when you sit down with a friend or two and just shout ideas out and write them down without worrying how good or bad they are can open new avenues of thought and lead you in new directions.

During game creation, it is always a good idea to have someone on hand to test your designs, artwork, or gameplay ideas just in case you're the only person in the world who finds them interesting or funny, and when the game is ready for de-bugging you should always have at least one other person play the game from start to finish. They

are bound to try to do things - or want to do things - that you haven't anticipated, and can usually find weaknesses that you didn't know were there.

A team of three people, the other two perhaps specialising in graphics and music, is best, but even if you can't find anyone interested enough to put in some of their own ideas, you should at least have other people try the game before it is unleashed on the general public or sent to a software house.

If you have access to a modem and the CompuServe service, or a bulletin board with Internet e-mail facilities, you can upload your game to the Klik & Play area on CompuServe where you can invite other Klik & Play users to take a look and provide some feedback. This could also be a source of inspiration and the swapping of ideas, tips on getting the most from Klik & Play, and the latest software updates.

One invaluable tip before sending your game to anyone you don't know is to seal the game in a padded envelope and post it to yourself, a relative, or a solicitor. So long as the post mark bears a legible date and the envelope remains unopened this constitutes proof of your copyright and can protect you against the sharks of this world.

Here's one we made earlier

Below are a few suggestions for the sort of games you might want to create with Klik & Play. Each is based around one of the standard game genres, but we've tried to choose an unusual theme to show you how the original creative spark - that ingredient which only you can supply - makes all the difference.

Game type: Platform

Best suited to: Any action game in which you have to go up, down, or sideways

Theme: Ladder climbing game based on Parliament and your gradual progression through the ranks. Rewards can be promotion to the Cabinet, fact finding tours of exotic locations, knighthood's and so on. Penalties can include transferral to a less glamorous department, loss of chauffeur-driven car, de-selection, and so on.

Game elements: Leaping over desks, collecting paper clips and files, avoiding aggressive interviewers, finding babies to kiss.

Game type: Shoot-'em-up

Best suited to: Any situation where you - er - shoot things

Theme: Hamlet. Yes, Hamlet, the Danish bloke. Steer your hero through his madness, avoiding the slings and arrows of his arch enemy, Outrageous Fortune. Use each act of Shakespeare's play as a level, and break each down into the more dramatic scenes. With Rosencranz and Guildenstern as baddies, you'll always have to watch your back!

Game elements: Slings and arrows, skulls, sword fights, you name it.

Game type: Wargame

Best suited to: Guess what?

Theme: You are General Percy Thrower, ace gardener and scourge of weeds, but you face your greatest ever threat - Commandante Thistle and his hordes of flower-strangling crack troops. The weeds will come at you from the air, underground, and in the fur of seemingly innocuous animals. From parachuting seeds to massed phalanxes of heavily armoured wild irises, you'll have to develop cunning strategies to out-fox the wily weeds and save your precious flower beds from extinction.

Game elements: On one side, a bewildering array of deadly weeds, all with their own highly developed methods of attack. On the other, a small quantity of weed killer and a limited amount of cash to buy the various pieces of equipment needed to fight the good fight.

Game type: Point and Klik

Best suited to: Graphical adventures, edutainment

Theme: In the sewers, no-one can hear you scream... You are the sanitation department's top trouble shooter, and only you can save the city from the sudden collapse of its waste disposal system. You have only 24 hours before the city goes into toxic overload, and there are miles and miles of sewer. Is this just a catastrophic coincidence, or are there criminal elements at work below the busy streets?

Game elements: Gloomy graphics, tension at every sewer junction, big rats.

Game type: Race and chase

Best suited to: High speed action

Theme: Pilot your remote exploration buggy across a pitted lunar landscape in search of rich mineral resources, stranded starship crews, alien artifacts, and Sigourney Weaver. Player two has a buggy too, so you have to be quick, and you have to earn enough money to soup up your own buggy, equipping it with all manner of specialised equipment.

Game elements: Physical obstacles such as yawning chasms, attacks by unknown aliens, competition with the other player, economics.

These are just a few of the games and game types you can create with Klik & Play, and it's up to you to decide whether they'd make a decent game. What they should demonstrate is that you can make a computer game from almost any situation, whether from life, a movie, or your own imagination, and have great fun in the process.

Speed, speed, speed

One of the most difficult elements of gameplay to judge while developing a game is speed, which can be limited both by the power of your machine and the game itself.

There's no point in creating a game on a DX2 66MHz machine with a fast graphics card if it's going to be played by people with 386 or vanilla 486SX PCs. The likely

outcome is that the game will be too slow on their machines. On the other hand, if you create an action game on a 386 it may run so fast on a DX2 that it will be unplayable. Try to stay somewhere in the middle, and if you have your doubts, take the game along to a friend's house or a computer club and check it on another machine.

In addition, it doesn't make much sense to create a game which utilises Truecolour graphics, because on most machines a game like this will run very slowly and use a lot of memory. Even games utilising the 800 by 600 resolution could come a cropper, because many monitors are less than completely happy with this resolution. You might not want to play safe, and if you feel that your idea demands a higher quality display, by all means go ahead, but remember to make any non-standard requirements clear when you upload the game or send it to a shareware library.

If sending a game to a software house, the standard 640 by 480 resolution in 256 colours is best, as commercial publishers will usually want to stick with something that they know works on the majority of modern Windows PC's/Macintosh's.

Try to keep memory requirements as low as possible by doubling up on samples (using the same sample for more than one event), careful use of graphics for the best effect with the smallest files, and using only as many active objects as you absolutely need. Active objects use up more memory than counters or non-active graphics, so keep this in mind during design.

Finally, don't forget that we are eager to look at any games you might have finished, so send them to Europress Software at the following address:

**Europa House
Adlington Park
Macclesfield
Cheshire
SK10 4NP**

If you give us permission, we'll put them on the Klik & Play web site area, from where users from all over the world will be able to download them. This means that you don't need a modem to share your game with those who do. If you want to visit the Europress web site use this address:

<http://www.europress.co.uk>