Why does the moon change size when you snipe it?

The artists gave me a texture for the moon in III. I placed the moon in the sky, made sure it was visible at night and that it was a reasonable size.

A few days later 4 artists were at my desk asking me to change the size of the moon.

"No problem" I said.

It turned out they couldn't decide what the size of the moon should be. 2 of them wanted it smaller to be more realistic. The other 2 wanted it larger to be more cinematic.

This went on a bit and I suggested to make the size of the moon changeable in the game. This way they could decide in their own time and let me know the conclusion. Since I was working on the sniper rifle, I made it so that the moon toggled through 3 sizes (small, medium, large) as the player sniped it.

The artists never got back to me so I just left it in. It was still there in SA.

gta3 network game?

Since gta and gta2 had a LAN (network) game, we felt gta3 should have one too.

I spent around a month implementing the network game. At this point there was a basic death match. Players could drag each other out of cars and players could kill each other. When a player died, the killer would get a point and the deceased would respawn throughout the city. (Not at the hospital, to avoid camping)

It all worked but it was glitchy.

We evaluated and it was clear there still was a lot to do.

We would need more interesting game modes using scripts. We would have to tackle bandwidth & matchmaking issues.

The network game was also going to generate an avalanche of new bugs.

At this point we were running out of time and decided to scrap the idea.

For Vice we actually hired 2 programmers to work on a network game. Again it didn't work out. Mostly because there wasn't enough time between gta3 and Vice.

It didn't make sense to introduce a network game in SA as it was likely the last title of the hardware cycle. We implemented a coop mode instead.

With IV the time was finally right for a network game and with 4 programmers and a similar number of level designers the project got off the ground.

Why so many cars of the same type?

Memory in the Playstation2 was limited. This is why we could only have a limited number of vehicles in memory at the same time. I think there was only room for about 7 of them.

This meant the game could load a selection of 7 vehicles out of the total of around 80. It seems this would result in enough variety. So how come it seems sometimes there were only 2 models being used?

Often the game was simply forced to load certain vehicles.

For instance; if the player has a 6 star wanted level, the game would load the fbi car and the helicopter.

There may still be police cars and swat vans around from when the player had a lower wanted level.

If there are any injured pedestrians, the game had to load the ambulance.

Before you know it, the game only has 1 or 2 models left for regular civilian cars.

Even without the wanted level, the game was often forced to load certain car models.

A mission script could request a number of vehicles.

The player could collect a number of different vehicles and place them close together. The good news here is that garages remove vehicles when they close so that the memory would be freed.

How does the weather work?

Every in-game hour, the next weather type is picked from a table. The table is 40 (or maybe 34, can't quite remember) entries long. If it is raining now, it will be raining again in 40 in-game hours.

The visual effects for the weather type will transition over the hour.

For instance:

At 2:00 it would be 100% sunny.

At 2:15 it would be 75% sunny and 25% overcast

At 2:30 it would be 50/50

etc

The table frequently has the same weather type for several hours so the weather isn't always in-flux.

There are script commands to override the weather type. This allows the level designers to force the weather type for a particular mission or cut-scene.

Streaming

The hardest technical challenge to solve during the development of gta3 was the streaming. Streaming involves loading and un-loading models as the player moves over the map. The streaming was coded by Adam Fowler.

When we started out with gta3 the hope was that the entire map would fit in memory. The map would simply be loaded at the start of the game.

Memory was limited on the PS2 and the artists were forced to reduce the texture sizes and to re-use textures everywhere. This resulted in the city looking bland. They eventually asked Adam whether he could develop a streaming system.

The idea of streaming is to load the map only around the player. As the player moves, the models for nearby models are loaded from the CD into memory and buildings that are now far away are removed.

Streaming is also used for vehicle models, pedestrian models, sound effects, music and scripts but the map posed the greatest difficulty as this involved more data than everything else combined.

Unfortunately the CD was quite slow in loading the models. The loading speed depends on the location of the models on the CD (the track). Models that are close together are loaded quickly but models that are far away are slow. (This is because the CD needs to accelerate/decelerate as the head moves to a different track). This is causing a lot of the sounds coming from the CD drive when playing gta.

Adam spent a lot of time ingenuously moving the models around on the CD. The idea was to place models close together in the CD if they were also close together in the world.

Even after all these optimizations, streaming was still not fast enough. You can literally think of it as a race between the player travelling and the streaming loading the models. At times the player would be too fast and the world just wasn't there yet. These problems seemed to get worse with older CDs.

If we couldn't speed the streaming up any further, we had no option but to slow the player down.

In Portland (first island in gta3) there used to be a big strip running all along the island. This was a worst case scenario. The player could go fast and there were loads of buildings to load. The streaming couldn't cope here. Eventually the artists had to change the layout and basically put a building on top of the strip. The player had to go around which would slow him down allowing the streaming to catch up.

Over time we identified other areas where the streaming was not coping and we would set up zones here. Within these zones we increased the drag (air resistance) on the vehicles a little. Maybe 5 or 10%. It was hardly noticeable but it helped.

The trouble with cheats

(Warning: techy)

The cheats in the trilogy were activated by simply typing a sequence of characters.

On PC the sequence would be something like

ILOVESCOTLAND to make it rain or

GUNSGUNSGUNS to give the player loads of weapons.

The game remembers the last 20 or so keypresses and every time a new key is pressed, these keypresses are compared with the cheats. If there is a match, the cheat will activate.

The straightforward way of doing this would be to compare the string "ILOVESCOTLAND" with the string of keypresses. This approach would mean that the strings for the cheats would be in memory as readable text. Any hacker could easily find the cheats and they would all be discovered on the day of release.

This is why I used 'hash codes' to store the cheats. A hash code is a number that is calculated from a string. As an example; a simple hash algorithm could add up the ASCII values of each character of the string.

The hash code for ILOVESCOTLAND would be 983.

For GUNSGUNSGUNS it would be 951.

This is just an example. The actual Hash algorithm used is more complicated.

The game would also calculate the Hash code for the last 20 or so keypresses and compare the numbers.

The good news is that it is harder to hack the cheat because the code only stores the number (ie 983) and not the full string (ILOVESCOTLAND). This part worked because the cheats were not hacked. (They were eventually discovered by people trying random input until a cheat happened)

The bad news is that different strings can result in the same hash code.

This is why initially when cheats were discovered people found random strings (ie HDLMAAXOPK) and not the string I had set up (ie ILOVESCOTLAND)

This also meant the cheats triggered more often than I had planned. This caused cheats to sometimes happen unintentionally. This has actually happened during peoples' speed runs. These speed runs had to be aborted as the rules are clear. No cheats.

Distractions: Agent & Z

Making games is hard word and after a while you really want a change.

After Vice City there was a sense within North that it would be nice to do something else. Something that wasn't gta.

Some of the artists wanted to do a zombie survival game. Programmers like fantasy. Artists like zombies. Not sure why that is.

We pursued the zombie idea for a while. Working title for the game was Z (Pronounced Zed not Zee).

The idea was to use the Vice code as is. The game was to take place on a windswept foggy Scottish island. The player would be under constant attack from zombies. The player would need to use vehicles to get around but vehicles would need fuel. Acquiring the fuel would be a big part of the game.

I can't quite remember how long we worked on Z. Maybe a month or so.

The idea seemed depressing and quickly ran out of steam. Even the people who originally coined the idea lost faith. We dropped the idea and got on with San Andreas.

After San Andreas we REALLY wanted to do something that wasn't gta. Rockstar San Diego were working on a James Bond style game. Leslie Benzies was keen to do something along those lines. We did a demo doing some spy stuff in San Andreas. I think there was a hang glider and a car turning into a submarine or something.

It impressed R*SD and NY and we started working on it. The idea was that the team in North would roughly be split down the middle. Half of us would work on the next gta (4) and the other half on Agent.

Internally the project was known as Jimmy. It was a James Bond game and Jimmy is the Scottish version of James.

The game was to be set in the 70s, be more linear than gta with a number of locations. There was a French Mediterranean city, A Swiss ski resort, Cairo and at the end there would be a big shootout with lasers in space.

Classic James Bond. The vibe was very cool.

We really got going on this one and worked on it for over a year. I remember working on a downhill skiing chase scene with guns for instance.

The game wasn't progressing as well as we'd hoped. It was inevitable that eventually the whole company would have to get behind gta4. We tried to cut the game down in an attempt the get the bulk of it done before the inevitable call from NY would come. We cut out an entire level (I think Cairo) and maybe even the space section.

It became clear that Jimmy was going to be too much of a distraction for us and we ditched it. I think it was handed over to another company within R* but never got completed.

1999 The beginnings of gta3

Between when I joined dma-design in 1995 and 1999 there were several titles in development.

Gta & gta2

Body Harvest for the N64

Space Station Silicon Valley for the N64

Tanktics

Covert which became Wild Metal Country

Attack which was canceled

Clanwars which was canceled

In 1999 the company went through a series of changes. It had been sold to Gremlin earlier. Gremlin sold dma-design to BMG. BMG sold dma-design to Take2-Interactive. Take2 set up the label 'Rockstar Games' and place dma-design underneath it.

Dma-design (based in Dundee, Scotland) opened a satellite studio in Edinburgh.

Members of two teams that had just finished their games (Body Harvest and Silicon Valley) were given the option to move to Edinburgh. The majority went.

Months later the main office in Dundee was closed altogether.

At this point there were 2 teams sitting in Edinburgh but no projects to work on. There was no direction from Rockstar New York so everybody started working on their own pet projects. Leslie Benzies and Aaron Garbut worked on a Godzilla game. (There were rumours that David Jones could get the rights to it)

I myself worked on a racing game with spheres for a bit.

At some point Leslie and Aaron thought it made sense to start working on a new gta game. The idea was to simply take gta into 3D. The idea seemed a winner and most of the old Silicon Valley team (including me) joined them.

The members of the other team (Body Harvest) came up with their own game idea which ended up being Manhunt.

There briefly was another gta offshoot being developed by the original gta team. The game was internally known as gta2.5. It was 2.5 for two reasons:

It came after gta 2.

The perspective was 2.5 dimensional. This is what developers call isometric. It is basically the 'Sim City' perspective. It is more 3d than the old top down but not quite full 3d.

gta2.5 was set in Miami. I've never seen it run as it died when the Dundee office was closed.

Bugs bugs bugs

During gta3 the game was buggy during most of its development. This happened because we started the game from scratch and also used a new rendering engine (RenderWare) that was also not all that mature at the time.

Through most of development, it was rare to play through a mission without a crash happening. The frame rate was below 10 for most of the time and the map was full of holes.

Later we developed a bug database but during gta3, the testers would simply print out every bug. Every programmer, level designer and artist had a physical pile of sheets on their desk. If you felt the bug was more easily fixed by someone else you would simply put it on that persons pile.

The collision in a game is usually different from the visual polygons. This is because collision detection is relatively slow. A building with 10,000 visual polygons may have only 1,000 collision polygons. As a consequence, the map may have holes that you cannot see. This is what's going on when you fall through the map.

This makes it very hard for the testers to test the collision on the map. During gta4, the testers found it particularly hard as characters could fall through the map depending on their animations and there was no way they could touch every bit on the map.

This is why they asked for a rag doll gun. Alexander Roger created a special gun that instead of bullets would fire rag doll characters. The testers could go round the map and fire rag dolls at every building and hill side.

The testers are the unsung heroes here. Whenever they would find a bug they would try to replicate it several times. They would try again with different vehicles or different weapons. They would produce a detailed report to be sent to the artists, coders and level designers. It must have been very boring. I'm still not sure how they stayed sane and awake.

If I remember correctly, we had around 70,000 bugs for SA. For IV it was almost double

Whenever a change is made, there is a real chance a bug is introduced. Sometimes there wasn't much time between a change being made and a release to be sent to New York. The testers used to do speed runs to make sure at least no bugs were introduced that would stop the game from being finished. For gta3 they took 1 hour and 20 minutes. Pretty good considering the record today is only just under 1 hour.

Development of Gta3 (1999-2001)

The first prototype of gta3 ran on a Dreamcast. We all had Dreamcasts and all played Phantasy Star Online. This didn't last long as the Dreamcast lost out to Playstation 2 and we switched.

Rockstar New York had only just been founded. As the people in New York had to get set up and get to grips with a lot of games, they hadn't given us any projects to work on. We had started on gta3 because that seemed like a good idea. It wasn't until months later they gave us the green light.

R*NY were pretty hands off during gta3. They managed the voice actors and did all the commercial stuff. They made suggestions though and towards the end they were involved with Quality Control.

Our team was made up of the core of the Space Station Silicon Valley team in addition to new hires. Only 2 people on Gta3 were also on the original games (Ian McQue and Alan Campbell)

The game took 2.5 years to develop. Even with games being a lot less complicated in those days, that's still pretty quick for a game built from scratch (we didn't use any code/assets from gta2). There are a few reasons for this:

- The design was clear from the start. The Gta1 team started with a racing game. They evolved that into a pizza delivery theme. Then they redesigned it for the player to be a cop. Then they settled on the player being a criminal. We didn't have to do any of this. The design was obvious (gta1 in 3D) and we could focus on the missions from day 1.

- Rockstar New York didn't interfere much. They were happy to let us design and build the game. NY dealt with the business and marketing. When a developer and publisher have different ideas it can make things difficult.

- R*NY were happy to let us hire the people we needed.

- Most people on the team had worked together and most had at least one commercial game under their belt. This was rare in those days when the industry was still in its infancy.

The way of working was organic. People would come up with ideas for missions and we would just try them. If they were fun, they were in. The story was only secondary. In fact, the plot involving Catalina trying to kill Claude at the start of the game was added pretty late.

Leslie Benzies (the producer) plastered a wall in the boardroom with post-it notes. They were yellow, green and pink for missions, contacts and locations. Missions were moved around all the time and often handed from one contact point to another. Only once the voice acting was done, were these things set in stone. You sometimes come across locations on the map that are more detailed than you would expect. Chances are there was a contact here that got moved at some point.

For most of development, the game was in a sorry state. It crashed frequently, the frame rate was terrible and the map was full of holes. It was only in the last 5 months or so that everything came together and the game became playable.

Working on gta3 was a lot of fun. Every day there was something new going in. A new mission, radio station, car, ped, building or whatever. Things were added at a good rate.

Although everybody worked hard, I don't remember many people doing crazy hours. On the rare occasions that I was in over the weekend, there were usually only one or two others. Even during crunch time, most people left the office around 9 or 10. I personally think it is difficult to concentrate on work for more than 8 hours a day. It's better to limit your time in the office but make sure you spend that time well, rather than dragging it out.

Did I think the game was going to do as well as it did? It always looked like it had the potential, but there are so many things that can go wrong. We didn't know we had made something special towards late on in development. Even then we had a poor showing at E3. Nobody seemed interested in it. To see it sell well and continue to sell (it was a slow starter) was an amazing reward.

Development of Vice City (2002)

There was a 6 weeks gap between finishing gta3 and the release. This was needed for burning the cd and distribution. In those days you couldn't patch so there was no point hanging around. The company gave the team some time off and most people took some extra time also.

After the release, we started on Vice City. It was RockStar New York's idea to set the game in the 80s in Miami. Originally it was supposed to be a mission pack to gta3. Only once gta3 did as well as it did and Vice City started to look sufficiently different from gta3 was the decision made to make it a standalone game. This was quite far into the project. (maybe 6 months or so)

We did the PC conversion of gta3 ourselves. This took the programmers about 6 months. In the mean time the artists and level designers were able to get straight onto Vice City. This worked well as there aren't that many code changes from gta3 to Vice whereas it did involve building a whole new city and new missions. The artists and level designers used the gta3 code base for a while until the programmers were available to make code changes.

The company paid for an all expenses paid trip to Miami for the whole team. We stayed in a hotel on Miami Beach and it was a total blast. The artists brought their camera and some of them went around collection textures. Some of them spent the week in the bar next to the hotel. I caught a Dolphins and Miami Heat game.

I remember working on Vice being more stressful than gta3. There was a tight deadline (1 year) and high expectations. In addition there there was the pc conversion of gta3 in the same year. However, during this year it became clear how successful gta3 was and we got award after award. Everybody just powered through on adrenaline but it became clear that we needed a bit more of a gap for the next game.

The way of working was mostly the same as gta3. It was all about the missions. The story was pretty thin. NY were determined to up the level of voice acting and they hired loads of celebrities. To get Ray Liotta to voice the main character was huge. In those days actors still considered games a step down from movies. Liotta was prefect for the part.

It was amazing to see how the feeling of the game changed completely with just some minor changes. The weather was more sunny, the frontend was neony, the city looked more southern and the 80s music. It transformed the game.

The development of Gta & Gta 2 (1994 - 1999)

 I joined the company (then dma-design) in 1995. I worked on a game called 'Space Station Silicon Valley' (SV) for the Nintendo 64. At the time we worked in a larger open office that housed 4 teams. SV, Tanktics, the test department and Gta. The company was very open, there was even a thing called Friday afternoon R&D where you were encouraged to talk to other teams to cross pollinate ideas.

So I was able to follow the development of gta1&2 fairly closely.

By the time I got there, the game had already gone through a number of changes. The game originally started from a tech demo made by Mike Dailly. It was a top down view with 3d buildings on top. This was before 3D cards and it was hard to get 3D to run at a decent frame rate. Mike's demo used code similar to Doom to draw the 3D effect. The downside of this code was that the camera could not tilt. The upside was that the game ran on a pc without hardware acceleration at a good frame rate.

The team took this engine and developed the game around it. Initially it was a racing game called 'Race n Chase'. Then they changed it to a pizza delivery theme. After this they turned the player into a cop. Then they settled on the idea of the player being a criminal. All of these changes had already happened by the time I got there.

The team at dma-design wrote the game on PC. The PlayStation version was handled by an external company called Visual Science, ran by Russel Kay. Russel Kay had been one of the original developers on Lemmings but left dma-design to set up Visual Science.

The PC has loads more memory (32M in those days) than a PlayStation (2M). The PC has a faster processor and more graphics memory. As a result the game had to be cut down to fit on the PS. Whenever the team at dma-design saw a new PlayStation version they were always disappointed.

The PC version would use 256 colours for the textures. I remember one particular time when all of the textures for the PS version had been cut down to 16 colours. When the artists saw the results there was cursing. There was no choice though. Difficult choices had to be made to get the game to run on a PS.

I think the PS version didn't have trains (this was because of time constrains) and a level had to be cut. I could be wrong on this.

Gta never looked like it was going to be as successful as it was. There were higher hopes for 'Body Harvest' and other games. In fact, initially the game didn't sell that well. It was only after some controversy around the violent nature of the game arose that sales picked up.

Allegedly, there had been a meeting at the publisher (BMG-Interactive) to decide whether it was even worth releasing the game at all. This was just months prior to the actual release.

Gta was successful because of its wildly innovative gameplay, the living breathing world and the controversy. The team started on gta2 immediately. (Fun fact; the game was called GBH until a deal with the publisher was finalized)

Gta had been a little rushed and the team were keen to fix more bugs and add more polish. Especially the lighting system needed improvement. The lighting in gta2 looks a lot nicer. Gta2 was set in the near future which required a lot of changes particularly with weapons.

The team also introduced a whole new respect system. The development of gta2 took 2 years and the game came out in 1999.

Although Gta2 is much more solid and better looking than the original, it didn't really deliver in terms of sales.

The Gta team had loads of outspoken characters on it. Most teams were quietly getting on with stuff but this wasn't the way at gta. There were arguments and tempers would flare at times. Maybe colourful people were what was needed to think it was a good idea to make the player a criminal.

The development of Manhunt (1999 - 2003)

In 1999 two teams moved from Dundee (dma-design) to Edinburgh. The team that had made Space Station Silicon Valley went on to make gta3.

The team that previously made 'Body Harvest' for the Nintendo 64 went on to work on Manhunt.

I was not directly involved with the game until the very end but here are some observations:

The design was mostly done by the team itself. The dark undertone was there from the start.

Initially there were some very ambitious ideas for the AI. The hunters were to be organized in groups of 4. The hunters would have a leader (sergeant) and the leaders would communicate with each other. The player would have a radio and be able to follow the conversations. If a hunter spotted the player, or something out-of-place, he would report this to his superior. Then the superior would make a decision on the course of action and give orders to his men as well as inform the other hunter groups. The AI could, for example, do a sweep of the room where the player was detected.

The level designers would only have to set up the hunters and their command structure. Then it would be a game of cat and mouse between the player and the hunters.

Unfortunately this never quite materialized. After 2 years, the programmer pushing the idea (and writing the AI) left the company and the idea was abandoned.

The game as it eventually shipped, contains a watered down version of these ideas. The player still has a radio and can still hear conversations, but it is scripted now and much of the hunter ai is too.

For a long time Manhunt used a first person perspective. This was at a time when many games were first person and 3rd person hadn't become the default yet. Manhunt in 1st person was a bit more immersive but moving around was a lot harder. It was hard to latch onto ladders for instance and when going up ladders you had no idea what was happening behind you. You could lean left/right with the shoulder buttons allowing you to look around corners. (Is that still there? not sure).

Quite late on during development, Leslie Benzies made the decision to switch to 3rd person. Everything got better.

Manhunt used Renderware (just like gta3) but they rendered their level using Binary Space Partitioning Trees (BSP). This is a great technique for indoor levels as it reduces the amount of overdraw (Rooms behind walls being rendered even though they're not visible). A problem with BSP's is that they take a long time to generate. Often the level artists had to let their computers process their level overnight. If there was only a tiny hole in the geometry anywhere, the BSP would be ruined and they would have to do it again.

During development there were quite a few design changes and technical problems. This made it hard for everyone but particularly the level designers. They didn't have a stable game to work with. For a long time the game would freeze for a second, every time a new hunter was created. This meant all hunters had to be created at the start of the level which isn't ideal.

It felt like Manhunt was stuck in development hell and it was hard going for the team. They kept at it though and eventually powered through to the other end of the tunnel.

For the last 2 months or so, half a dozen people from the gta team joined Manhunt to fix bugs and optimize. I also ported some of the visual fx I was working on at gta. That's why Manhunt has the same papers lying around everywhere, similar lens flares & pickups.

It was clear from the start that Manhunt was aiming for an 18/Mature certificate. Since this was the case, Rockstar New York was keen to emphasize and explore the dark themes.

The game was called Manhunt right from the start. At some point R*NY decided it sounded too much like a dating thing. The team and NY tried new names for several months but nothing better came up and it was back to the original name.

The game came together exceptionally well. The team had designed and implemented an atmospheric gem. It still has loads of fans today.

After Manhunt was done, the teams were merged. The Manhunters jumped from the chaos & stress of finishing their game, right into the chaos & stress of finishing SA.

Development of San Andreas (2003-2004)

Vice City was a mad dash to get done in time. Everybody was worn down and it was clear another one year game was not an option. In addition; it was obvious that Vice City hadn't innovated that much and another 're-skin' wasn't going to fly. This is why San Andreas got 2 years of development time.

Our confidence as a team was sky-high and with the longer development cycle we felt we could be ambitious with the new features for SA. And ambitious we were.

Gta1 had 3 cities and we wanted to do the same. There was one particular meeting that I still have nightmares about. In R*N we would usually make the big game decisions with 5 people. We had a meeting where 3 people wanted the cities to be on different maps. This would save memory as the models for the skylines of the cities wouldn't need to be in memory at the same time. Gta1 had 3 cities on different maps. The player would take planes/buses/trains to travel between maps.

I wanted the cities to be on the same map as it is important to be able to drive between cities. Even if this meant we'd have to find some memory elsewhere. The 5th guy wasn't there that day. I wasn't able to convince the others. It was super frustrating as it seemed we were about to make a massive mistake.

The following day we had another meeting. The 5th guy agreed with me and was much more persuasive than me. He talked them round and the cities ended up on the same map. Disaster averted.

(I am often spectacularly wrong. For a while I wanted gta3 to be topdown. I implemented the topdown camera and argued for it to be the default)

Usually when Leslie Benzies had a strong opinion on something, that would be just what we did. He seemed to have the best judgement.

We took the code from Vice City as the foundation for SA. Many things were improved but no structural improvements were needed.

The RPG elements caused real problems. If the player ate too much, CJ would be too fat to climb certain walls or run fast. This made certain missions impossible. QA had to catch all these cases.

When the player got hungry, his stomach would rumble. Players started going onto Mount Chiliad to look for big foot (one particularly persistent rumour). Many players thought they could hear big foot not realizing it was their rumbling stomach.

So why did we include so many features? I particularly remember sitting in a meeting where we decided to include stealth in the game. We didn't need it as we had so many new features already. Nobody was particularly passionate about it but we did it anyway. We made things unnecessarily hard for ourselves as we were struggling to get on top of the bugs at the end. Ambition and overconfidence.

The 3 cities with the country side in between, almost killed the map artists. gtaIII and Vice had maps of 4x4km and even then there was loads of water. The SA map was 6x6 and densely packed.

New York was particularly active with research. They came with large lists of things that the various gangs in LA do. They insisted different gangs would have different walk animations. Apparently a recognizable gang walk is a thing.

The team kept growing as we hired more people. On top of this, the Manhunt team joined halfway through. That was a massive help. At the end of SA we had about 80 developers plus the test department in Edinburgh. New York also had testers and production people.

For most of the time development was manageable. Certainly less stressful than Vice City. To finish it off a good stretch of crunch was required. The company got a chef to provide a good meal for those working late. That really helped.

On the day of release, stores opened at midnight. It was a cold, rainy night but I went to have a look anyway at one of the big stores in Edinburgh. (Virgin on Princess Street). I didn't expect it to be too busy but there was a line of 50 meters or so. I bumped into 2 artists from the office doing the same thing. We were standing there looking at all these people being so excited. People got their game and hurried straight home to play the game we'd made, all through the night. It was magical.

That's the thing about making games. You're just working away in an office and it's hard to gage the excitement of players out there. Especially before the internet, you just didn't have that feedback.

Sorry you missed it.

Today (22 Nov 2023) I got an email from R*North.

Apparently some of the OG's there are upset by my blog. I genuinely didn't think anyone would mind me talking about 20 year old games but I was wrong. Something about ruining the Rockstar mystique or something.

Anyway,

This blog isn't important enough to me to piss off my former colleagues in Edinburgh so I'm winding it down.

I'll maybe just leave a few articles with anecdotes that don't affect anyone but me.

I would love for Rockstar to open up about development of the trilogy themselves, but it doesn't look like that's going to happen anytime soon.

Maybe I'll try again in a decade or two.

Till then, Obbe.