

## Knight Lore and the third dimension

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I still remember those walks to the school during the mid-eighties and that giant poster hanging inside a well-known bank. In there you could read about a wonderful computer, shiny as a diamond below the rainbow: the Sinclair ZX Spectrum 48k. To be honest I didn't care about the conditions or the bank services. I just wanted to get in touch with the "Speccy". Toned in black, with four different colors at its right side, it bewitched me from the very beginning. That computer wasn't ergonomic at all (rubber and tiny keys with dozens of functions labeled on them) but that wasn't important for me.

Those were the times of the 8 bits machines. Sir Clive Sinclair's "Speccy" competed against several wonders such as the Amstrad, Commodore or MSX masterpieces. That had to be tough! Especially if we take into consideration that it wasn't armed with the best hardware available... but it won the battle during the first years, beginning in 1982.

"Ultimate Play The Game", also called "Ashby Computers & Graphics Ltd. (ACG)", was founded in 1982 by Tim and Chris Stamper. They produced several well known titles such as "Jetpac", where we could see some of the first inertia effects within a videogame, while controlling a funny astronaut. The "Stamper brothers" were also responsible of "Sabre Wulf", which sold more than 300,000 copies during 1984, followed by "Underwulde" and "Knight Lore". In those "ancient virtual worlds" the player could control a curious explorer, "Sabreman", a delirious character that had an innate ability: to get into trouble. Let me say that these games were distributed in Spain by "ERBE Software", for the sake of curiosity and "locality". Their average cost was "2900 pesetas" ( $\approx$ \$20-25).

Let me focus on "Knight Lore". In there we have some sort of entity that casts a spell on "Sabreman". He gets converted into what is literally said to be a "werewolf". "Sabreman" will try to mitigate this curse by visiting the castle of "Knight Lore" and finding "Melkhior", the magician. The sorcerer will enlighten him although it can take forty days of corresponding nights. In order to remove the curse, "Sabreman" will have to prepare a complex potion made of different elements. It was not a very original story although it had a very novel layout for those times and I liked it because of being epic and obscure at the same time.

Compared to “Sabre Wulf” and “Underwurlde”, “Knight Lore” used a different and “brilliant” technology: a new projection implementation for the “virtual” camera. The first pair of titles used what is known as an orthographical projection. It can be implemented as a lateral view of the whole scene (sometimes referred as “two and a half dimensions”). But in “Knight Lore” they innovated by introducing a 3D projection effect. To be precise, an axonometric isometric representation quite unexpected in those times if we take into account that the “Speccy”’s RAM capacity orbited around 48 Kbytes.

It was... special... because it looked... tri-dimensional!. An incredible effect (we shouldn’t forget that everything was built on the basis of a set of sprites) that captivated me to the point of becoming a 3D Computer Graphics professor and researcher. No doubt on that. I never thought that adding “the Z coordinate” to our virtual worlds would provoke such a different appeal on the screen. This effect was also programmed for very successful titles like “Zaxxon”, developed by SEGA in 1982 as a coin-op game.

“Ultimate Play The Game” invented a name for the technique: “Filmation”. It was tremendously exploited (maybe too much?). We could see it in several games such as “Alien 8”, “Gunfright”, “Pentagram”, the fourth title of the “Sabreman” saga, and the magnificent “Bubbler”. Other studios took advantage of it and used it in some of their games. To mention some, “The Great Escape”, “Batman” and “Head Over Heels”, published by “Ocean” between 1986 and 1987, or the splendid “Fairlight” from “EDGE Games”, created in 1985 by using some of the components of a powerful design package (“The Artist”).

“Knight Lore” rated 94% out of 100% in the 12th edition of the Crash magazine (January 1985). The author of the review emphasized its excellent use of color plus its incredible 3D effects and a magnificent use of sound (93% Use of the computer, 97% Graphics, 97% Gameplay, 90% Learning Curve, 96% Addiction level and 93% Quality/price ratio).

Let me recommend a book before analyzing the game in deep. I’m talking about Jesse Schell’s “The Art of Game Design: A book of Lenses” where we can learn to orbit around “the four axes”: Technology, Story, Aesthetics and Mechanics.

Now let’s imagine that we begin our journey through the rooms of the “Knight Lore” castle with “Sabreman”...

#### Technology

I have mentioned the “Filmation” technique. We all do know how it looks like. Several strategy games such as “Civilization”, “Age of the

Empires" or "Commandos" (BTW a Spanish title) make an extensive use of isometric views. But back in the mid-eighties, and for a limited machine such as a "Speccy", that was an innovative and glorious experience. Hidden spaces and hollows would emerge spontaneously within every room in the castle, making it more fun to search for objects and clues, for true challenges. That new technology brought more complexity, an emerging gameplay and a lot of innovative situations. It was so special to discover that a synthetic scene could have real corners and therefore a bunch of secrets beyond them.

The "Speccy" was gifted with a text resolution of 32 columns by 24 rows (256 × 192 pixels). Its color palette consisted on 15 tonalities (black plus seven colors with two levels of bright each). Unfortunately there was a problem: the "attribute clash" effect. A flickering effect that couldn't be avoided due to the mixing of colors. In order to avoid this effect, the "Stamper Brothers" decided to use a unique and distinct color for each of the rooms in "Knight Lore". The effect was particularly annoying when characters and/or objects would intersect. It could be very disappointing to loose control while traversing a room for instance, because of feeling blind and then being unable to avoid an enemy or to jump to a particular location.

On the side of the collision detection and response, I'd like to mention a curious fact: the "Sliding-through-the-doors" possibility. Pure "Usability" within the game. The game engine would "guide us" when reaching a door, easing its access. It wasn't mandatory to hit the exact coordinate in order to cross a door. The engine would "know our intentions" and we would easily slide through it. An interesting technology implementation delivering a tremendous ease of control.

One could play "Knight Lore" with the help of a joystick or with the keyboard. I must admit that using the latter was particularly difficult for me. The "Speccy" didn't have cursor keys as a MSX station would. But that wasn't the main reason. The tricky part was to rotate first and to walk after while trying to find the correct direction within an isometric scenario with a monochrome screen (no lights, no shades). That was tough and "dysfunctional" for my brain I guess. For a while, I would hit all the walls in a room before getting to touch what I really wanted. It could be that I wasn't really gifted for that game. At least at the beginning. Fortunately it wasn't enough to discourage me from playing it.

I shouldn't forget to mention the physical effects associated to every jump. Perfect parabolic shots with different degrees of strength (vertical

altitude) depending on the moment of the “day”, and in any of the four poles. Remember that “Knight Lore” was a finite experience lasting forty days with its nights. “Sabreman” was stronger and agile as a cheetah when being a werewolf (at night). One would love to play with the “wolf” because of feeling superb and superior to the rest of creatures under the shades.

The soundtrack consisted of a collection of beeps that I still love. When listening to them, I feel like traveling back on time. “Knight Lore” had a collection of different sound effects for different behaviors such as walking, jumping, transforming (again, “Sabreman” is an explorer during the day and a wolf at night) or loosing (a life) plus when moving objects or being caught in traps such as vertical sliding fences or falling spiked balls. Isn’t it tough to visit an enchanted castle without any guidance at all?

Does anyone remember that in those computers we had to use a cassette for loading a game? It was the only option available before cartridges, the fastest way because of being a direct hardware extension of the computer’s memory. When loading a game with a cassette you had time to leave for a while and enjoy a couple of sandwiches and a juice before even “smelling” the “redefining keys” screen. There were some titles where it was necessary to load several times, level after level. For instance “SEGA’s Out Run”, so faithful to the original coin-op game. Fortunately it wasn’t the case of “Knight Lore”: one load for the entire experience made of tones of rooms inside a vast castle. It paid the effort to wait.

#### Story

The game’s preamble cited this:

“THE MIST TUNES

THE WIZARD’S OLDER NOW THAN ALL  
HIS HELP YOU SEEK WITHIN THIS WALL  
FOR FORTY DAYS YOUR QUEST MAY LAST  
LOCATE THE POTION, MAKE IT FAST  
THIS HIDEOUS SPELL UPON YOUR SOUL  
TO LOSE ITS HOLD MUST BE YOUR GOAL  
BEWARE, THE TRAPS FROM HERE BEGIN  
THE CAULDRON TELLS WHAT MUST GO IN  
TO BREAK THE CURSE AND MAKE THE SPELL  
TO SAVE YOURSELF AND MAKE YOU WELL.”

The story of “Knight Lore” was consistent and impeccably set although not especially relevant. Our guest character “Sabreman” has been

cursed. He will convert into a werewolf every night and then he needs a very special potion to overcome this. "Melkhior", the sorcerer, can assist him with the help of a boiler in which to prepare the potion by adding the necessary ingredients (up to fourteen and not always starting with the same although always following the same sequence). Those toppings can be found within the castle. It is unfortunately fraught with dangers and enemies. It was therefore a story plagued with some significance. Lots of unnatural elements that worked as strong connectors with the youth audience, particularly attentive to the magical-mystical theme. Do not forget that the eighties would be one of the greatest decades of growth and development for the RPGs. I still remember that excitement. Partly due to the fact that I would fight strange creatures and enemies although I was also looking for some discovery and exploration.

Here we are with "Knight Lore's" monomyth as defined by Joseph Campbell. We have a hero ("Sabreman") who lives in an ordinary and usual world. But he likes to explore. For some reason he decides to approach all sorts of adventures and adverse situations ("Ultimate" would launch several episodes for the saga). He travels alone, emphasizing its perseverance and bravery, and manages to survive (hence he depends on the skills of the player) to hundreds of enemies and traps. At the end "Sabreman" is gifted (when the player masters and finishes the game) and healed because of the potion that "Melkhior" helps to prepare. I was a kid and I loved to be a hero for a while. To be honest I don't think it would be different today.

Following Richard Bartle's taxonomy, "Knight Lore" is a game for explorers. As he suggests:

"Players try to find out as much as they can about the virtual world. Although initially this means mapping its topology, later it advances to experimentation with its physics...".

That is a perfect definition of "Knight Lore's" gameplay scheme. We have a vast map that we'll know within a while. Once we master this part, we can start figuring out on how to overcome the obstacles and the traps by using our physical skills.

Following the eight types of diversion defined by Marc "MAHK" LeBlanc plus the context of that time (mid-eighties), I would define "Knight Lore" as a fancy and full-of-sensations experience where our hero advanced in time and space by facing innumerable obstacles throughout a vast and unknown land. Yes, that was a pure epical structure that I was honored to follow.

Aside from that thread that exploration is, "Knight Lore" belongs to a series "of stories" and therefore has a clear internal or "endogenous" value. "Ultimate" 's fans always wanted to know about "Sabreman" 's trajectory in the future. In fact, after "Knight Lore" the studio released "Pentagram", as mentioned before. "Sabreman" lived within a small universe in which countless stories happened, some of them coinciding with the titles created by "Ultimate". We didn't see a lot of characters within those. If we refer to "Knight Lore", we have "Sabreman" with his two-fold soul (explorer at day and wolf at night), "Melkhior", the sorcerer as the guardian of the cauldron, and a host of enemies. The latter static and dynamic, and vastly spread all across the full size of the castle. To mention some: warriors that patrol, ghosts that chase, magical floating balls, spheres filled with deadly spikes, sliding doors, enchanted fires, platforms that disappear, etc.

#### Aesthetics

By the time that "Knight Lore" was released I was 11 years old and I thought that "Sabreman" was a 3D character that I could even touch and feel. Now I know that he wasn't. He was a conveniently-oriented sprite. Similar to what we call an impostor or a billboard. This is a well-known technique that allows programmers to deal with situations where there is a lack of memory. It happens with small devices such as mobile phones or portable consoles. Wasn't it fantastic, to have such an impression? And it was just a sprite... but conveniently rotated as I already said.

All the rooms in the game were monochrome although their tonality could change depending on every particular location. Nevertheless, all the assets (characters, furniture and objects) were well defined and easily distinguishable. There was some information to be displayed, occupying approximately the 65-75% of the entire screen: the inventory consisting of up to three objects that could be carried at the same time plus the remaining lives ("Sabreman" started with four), the current day (from 1 to 40) and the cycle (Sun, Moon, Sun and so on) determining whether he was a man or a beast. Different acting depending on what "you were", good memory skills in order to remember the order of the rooms and the objects needed and some extra pressure because of the remaining time. Well I must admit that I was addicted to that game.

There was a "Knight Lore" version for the NES platform. I found a curious comment about it that I'd like to share:

"You would have thought that with its more advanced hardware the NES version would be better than the Spectrum version, but the Spectrum version looks so much better (albeit, in monochrome)".

My explanation? I think that the "Speccy" had its own "soul". It wasn't the worst and neither the best of the machines but it was just different. I belonged to the league of "believers" loving it "as it was".

An interesting point. There was no change in the shading when switching from day to night or vice versa, no apparent change to the color scheme or palette. It had some sense if we take into account that we were inside a lugubrious castle, resistant to the lighting variations that may occur outside. I don't remember if I paid attention to that when I was 11 but now I see that it was coherent. The "traumatic" transformation of "Sabreman" was hard to follow. He seemed to be suffering while mutating from an explorer to a werewolf. Well, I definitely understand him. I feel empathy for him. He wasn't able to move while doing so and then, he was at his enemy's mercy. And believe me if I say that he wasn't precisely surrounded by lots of friends within that castle.

The potion that would "unchain" "Sabreman" depended on a vast collection of ingredients and objects. In fact the objects could have other uses such as helping us to overcome some obstacles. To mention some, a vast dissemination of bottles, diamonds, crystal balls, cups, boots, bowls and even jars with poisonous potions inside. I remember using all of them for performing better when jumping for instance.

The map was rich, populated by a variety of designs and interiors within more than 80 rooms. Those included dangerous places where you faced big challenges, enemies and puzzles along with several empty corridors (connectors). The latter were used to rest for a while so you could think about your next strategy. The potion had to be prepared inside "the cauldron room". It was possible to visit it when "Sabreman" was an explorer, in order to deposit objects. Not as a werewolf though, because "Melkhior" would attack us. We all need to follow the rules... and if we don't we'll learn them by the hard way. That was the "motto" inside that room.

As I have previously noted, loading a game for 15 minutes could be terribly "painful". Fortunately, "Knight Lore" was presented with a beautiful "digital painting" on the screen while the process was taking place. It showed "Melkhior" creating magic spells by using strange beverages from a few bottles laying on the floor, while moving his hands and invoking, filling it all with oddish colored smokes. There was a bicolor (red and yellow) frame surrounding everything. I was always fascinated by its strokes, perfectly symmetrical and, to some extent, mystical; an elaborate piece that followed the inner laws of mathematics and geometry. This would be a constant in the titles of "Ultimate" and it

would make anyone feel eager to play. This element leads me to the artwork presented in the cassette layout.

The cover of the cassette showed a card with the same frame, as mentioned before, but depicted with red shades. It had several elements. Among those, three gargoyles facing different directions (the one in the front with a jewel as its right eye), some stars and a perfectly integrated "headline" with the name of the game. Pure fantasy delivered to tones of thirsty minds like mine.

#### Mechanics

"Ultimate" presented a clear goal: removing "Sabreman"'s curse with the help of "Melkhior" the sorcerer. The player was rewarded with four lives at the beginning of the experience. These could be lost because of the contact with the enemies and obstacles. One could explore the castle during forty days in order to find not only objects for the inventory but some extra lives. "Sabreman" had to find all the ingredients and prepare the magic potion that would "relief" his pain. It was fun because it wasn't impossible to achieve although it would take some patience. Nothing that an explorer (as the type of player), not a "killer" (again, the type of player), couldn't do.

The "Knight Lore" castle was vast. It consisted of more than eighty rooms that had to be memorized or written down, if that was possible at all. That was a lot of stuff!. The player had to avoid looping and looping again through all of them with no predefined route in mind. You needed some strategy in order to survive within the time period available. There was a unique difficulty level and one could earn points depending on how fast the goals were achieved, the amount of objects found and the percentage of adventure completed. There was no comparison between scores, no ranking and no "Hall of Fame". Then the first motivation was to get closer to the end by visiting and discovering new rooms and objects while solving little puzzles. Those were basically related to "physical" skills when jumping for instance. Easy-to-understand but difficult-to-materialize little challenges. A clear "Learning-by-doing" experience based on repetition. No tutorial provided.

One would begin by trying to find the "cauldron" room. That thing was scary! Not because of being an "ugly" asset but yet mysterious and occult, powerful and unexpected. In there the player could see the first item "on the list" of ingredients, blinking on the top of the cauldron. In fact, that first encounter with the adventure would serve as an implicit tutorial because it forced the player to visit some rooms while using the set of actions available. Yes, that is what several nowadays educational

methodologies call “learning by doing”, “experiential approaches” and “problem-based learning” (shouldn’t we listen to games before teaching into our classes?). The difficulty level was high at the beginning because of a lack of expertise and the limitations regarding the shading of the scenes (one color for the whole set and a low resolution for the screen). It could be confusing to distinguish different objects in there. Even to evaluate distances and positions, especially if being attacked by an enemy, was complicated. Nevertheless one would get used to it if being persistent enough.

Was it bad “to be cursed”? Well not at all. While it is true that we couldn’t enter the cauldron room if being a werewolf because “Melkhior” would try to exterminate us as quick as possible, we were absolutely powerful in terms of “physical power”. We could run instead of walk. We could perform really well when jumping. One mission right after the other, always following that cycle: go and see what the magic cauldron “desires” next → try to find it while staying alive → once you find it, store it → go back to the “cauldron” room in one piece → leave it there ... → and continue until the very end!. One must fight in many battles to win a war.

The cauldron would not always ask for the same object when starting a new game although the sequence was constant (diamond, potion, boot, cup, bowl, bottle, crystal ball, cup again, bottle again, diamond again, crystal ball again, potion again, boot again and bowl again). It is clear that the “Stamper brothers” tried to ensure replayability here. We would say that the game presented a constant difficulty level, not really increased through time. We could visit rooms that would never change and we would traverse them in different order depending on the objects that we had to collect. The inventory was limited and we couldn’t carry more than three objects at the same time. All we knew was the information regarding “the next one” and so, it was “impossible” to know if the rest of the inventory would be useful or not. The player wasn’t supposed to know the sequence from beforehand. An interesting and emerging gameplay feature was the possibility to store lots of objects in one of the corridors next to the cauldron room and use them accordingly. In fact the objects had a double functionality: serving as an ingredient and helping “Sabreman” or the “werewolf” to overcome several obstacles by allowing the character to jump “higher”, for instance, as we stated before. A tricky situation would arise when climbing on an object for jumping from there but needing to carry it at the same time! The player had to

learn on how to jump and take the object back to the inventory afterwards. It involved pressing two keys and it wasn't obvious at all.

I think that it kept me engaged because it was a continuous learning experience. Every time I would think that "I was done" with it, I would find a new room, a different one, with a different "architectural" structure... or a bunch of new creatures mainly attracted by my presence. How does it sound to be that popular? Well if only not everyone was trying to "erase" you from earth.

After all the perilous situations, missions and encounters with several tones of enemies, the player was ready to finish with the last item: the fourteenth one. Every deposit would deliver a reward: a little explosion, full of noise effects and flickering transformations. The very last one was special. One would be literally eaten by eight tiny tornados surrounding the cauldron. After that, this message was shown:

"THE POTION CASTS  
ITS MAGIC STRONG  
ALL EVIL MUST BEWARE  
THE SPELL HAS BROKEN  
YOU ARE FREE  
GO FORTH TO MIREMARE"

One minute. Two minutes. Three minutes. Silence. Did I really finish the game? Am I right? That was like feeling the taste of a well-done job. You put some effort on it and you get rewarded. We, human beings, are not that complicated to satisfy, aren't we?.

The learning curve followed a classical approach: the hook (the curse) and then several local goals (fourteen objects to collect while dangerous situations happen) and a global goal (satisfying the cauldron and being free again). The rooms within the castle were designed either as "easy" or "difficult" locations. The flow at the experience could suffer from that because of the order, when collecting the objects. These were randomly located every time a new game would start, forcing the user to visit different rooms and then, a variety of difficulty levels not necessarily following a "logical" approach on the player's experience. Nothing that couldn't be solved by playing again and again. And we all know that kids love to repeat what they like. So did I.

As a conclusion, "Knight Lore" was an adventure game for highly skilled explorers where the player was presented with a vast and impeccably decorated scenario. A long and cooperative experience between "Sabreman" and the "werewolf" where both hands (avoid enemies and

obstacles) and head (memorize rooms) were important. Pure freedom of movement, tones of different assets and many details made this game a "joy for the senses", especially taking into account the hardware limitations of the little marvel that the "Speccy" was. I still store a couple of them in one of my shelving units and there's no dust in there.

#### References

"Knight Lore" at the Wikipedia: [http://en.wikipedia.org/wiki/Knight\\_Lore](http://en.wikipedia.org/wiki/Knight_Lore)

"Knight Lore" 's map and items: <http://www.porotal.org/knightlore>

The Sinclair Infoseek resource for "Knight Lore": <http://www.worldofspectrum.org/infoseek.cgi?regexp=Knight+Lore>

"Knight Lore", a MSX2 Remake: <http://www.youtube.com/watch?v=mL2wwosBxbs>

"Knight Lore", a PC Remake: <http://retrospec.sgn.net/screenshots.php?link=kl>

"Knight Lore" for the Famicom Disk System: [http://www.youtube.com/watch?v=9g7rMly1\\_8I&NR=1](http://www.youtube.com/watch?v=9g7rMly1_8I&NR=1)

A "Knight Lore" Walkthrough: <http://video.google.com/video-play?docid=-7243884507023050970#>

Directions on how to play "Knight Lore": <http://www.nvg.ntnu.no/sinclair/instructions/kghtlore.html>

"Knight Lore" in Moby Games: <http://www.mobygames.com/game/zx-spectrum/knight-lore>

Crash, The Online Edition, on "Knight Lore": <http://www.crashonline.org.uk/12/knghtlr.htm>

Fuse - the Free Unix Spectrum Emulator: <http://sourceforge.net/projects/fuse-emulator/>

The Crash Magazine: [http://en.wikipedia.org/wiki/Crash\\_\(magazine\)](http://en.wikipedia.org/wiki/Crash_(magazine))

The list of Le Blanc's pleasures for the gamer: <http://8kindsoffun.com/>

Richard Bartle's taxonomy for the player's types: <http://www.mud.co.uk/richard/hclds.htm>

The concept of "Flow": [http://en.wikipedia.org/wiki/Flow\\_\(psychology\)](http://en.wikipedia.org/wiki/Flow_(psychology))

The Monomyth by Joseph Campbell: <http://en.wikipedia.org/wiki/Monomyth>

JOSEPH CAMPBELL (1949). The Hero with a Thousand Faces. New World Library.

DREW DAVIDSON et al. (2008). Beyond Fun: Serious Games and Media. ETC Press.

JESSE SCHELL (2008). The Art of Game Design: A Book of Lenses. Morgan Kaufmann. <http://artofgamedesign.com/>