



ROBIN

**DZC10**

**Design for Games & Play I**  
**Game Design**

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## Description

At its core Robin is a story driven platform puzzle game. The player gets to know the main character Robin, an indian boy, who is send on a quest to find his spirit guardian. Because the father of the boy is the chief of his tribe he wants the boy to do exceptionally good to get a good spirit guardian. Unfortunately, this goes wrong and the boy is turned into the bird Robin. This is where the player begins his game. Equipped with bow and arrow the player has to complete small puzzles each level to get to know more of the story and eventually become a boy again.

To solve the levels the player has to use different types of arrows to avoid obstacles and overcome height differences in the levels and many other challenges. The difficulty however is that the player has a very limited amount of arrows, so that he is forced to use his arrows wisely. For example, a fire arrow is used to set boxes on fire that would otherwise block the exit or a grappling arrow can be used to reach higher platforms.

In addition levels also have a golden feather that the player can try to reach for an extra challenge and the fun of gathering collectables.

## Storyline

The game starts off with an introduction of our main character: a young boy of an Indian tribe. He reached the age where he has to take a fast in order to secure a Spirit Animal to be his guardian for life and give him the name that marks the start of his adulthood.

During this fast he is visited by several Spirit Animals. Each morning, after such a visit, he tells his father about the Spirit. But his father, who only wants the best for his son, does not let the boy accept these Spirits, for an even mightier Spirit Animal might come to visit.

On the seventh day, the father returns for his son, certain last night's visit would have been by one of the mightiest Spirit Animals. Alas, his boy is nowhere to be found. At this point the intro ends with a small bird, watching the father leave the place where the boy had his fast.

After the intro the player is told that the boy is now a bird. How he has become a bird is yet unknown. The boy/bird wants to follow his father. But as he cannot fly, he has never learned that as a boy, and walking takes too long, he needs to find other means to travel. The bow he still carries with him, which has magically been made small, offers a solution. As a bird, arrows are rigid enough to carry him. This way the bird can still reach places which he else never would have reached.

Reaching the village he shouts for his father, but no words come out. Instead the boy chirps, for he is still a bird. His father does not react to those sounds, but someone else does: the village's Witch Doctor. As an intermediate between human and spirits he can also speak with animals. The Witch Doctor tries to put the bird at ease. A Spirit Animal has visited the Witch Doctor to tell him what has befallen the boy. The Witch Doctor explains the reasoning for this transformation into a bird: the Spirit Animals took pity on him and saved him from famine by transforming him, but at the same time they did it to punish his father for putting his son in danger.

He tells the bird there is a way to undo the spell. Spirit Animals are not evil by nature; they only did it because for them it was the right thing to do. After transforming the boy they also set out a path for him to retrieve a spell to reverse the transformation and to become stronger and wiser along the way. As the boy set out to retrieve his adult name and Spirit Animal, the Witch Doctor considers the transformation as the beginning of his adulthood and calls him by his new name: Robin.

The village's Witch Doctor tells him he and his fellow Witch Doctors all received part of the spell from the Spirit Animals. The bird has to visit them all to complete the spell. The Witch Doctors also decided to help the bird along the way, as they also took pity on him.

Each Witch Doctor is found in a different location, for they are all protectors of Sacred Wonders, except the village's Witch Doctor. All the Witch Doctors know a part of the spell and will give the bird the words when he reaches him, alongside a helpful item or tip that will see him through the next part of his journey.

At the end, when Robin reaches the last Witch Doctor, he has collected all the words he needed. Luckily for him, this last Witch Doctor is capable of chanting the spell, thus transforming Robin back into a boy.

Finally he is back at his father's side.

## Rationale behind game

Before talking about the rationale behind the game we first want to classify our game to make it understand how our mechanics fit into the genre of puzzles.

By design our game is a combinatorial puzzle game since game mechanics are reused for several levels and combined with new mechanics that the player unlocks throughout the game. This means all our levels are carefully designed and not randomly generated by a computer algorithm, which allows us to determine specifically the difficulty for each level and gradually increase it which is crucial for the flow of our game.

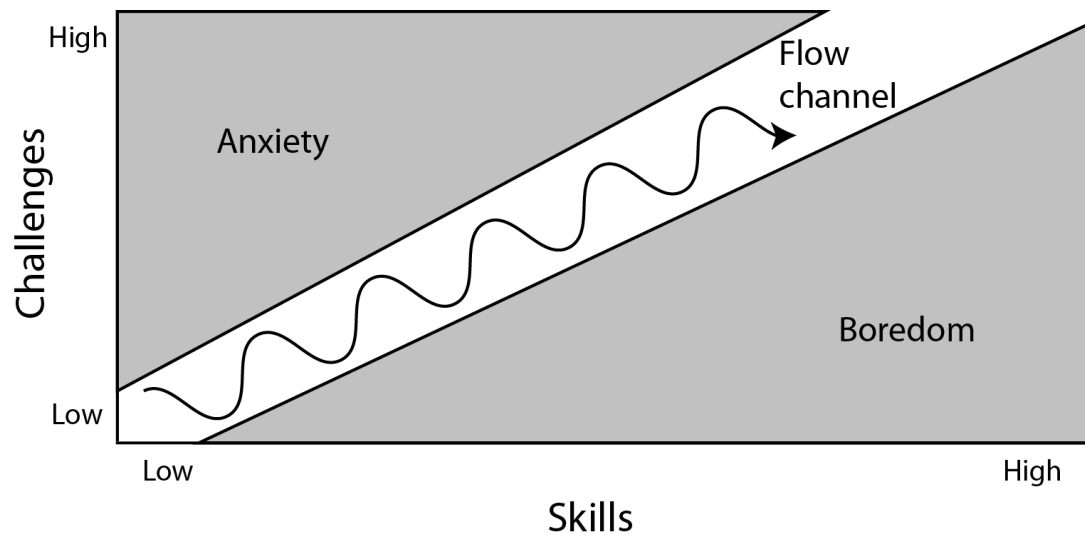
We introduce each new mechanic with easy tutorial levels to make sure the player understands them and can then use his knowledge to solve more difficult puzzles where a combination of mechanics is needed.

By domain and gameplay our game classifies as a combination of common sense and situations and physics. The player uses his common sense for each situations the levels put him in and then has to use the game's physics to find a solution. Here we find, that our game doesn't have a dominant strategy. Each level can be solved in different ways, many of them being equally effective giving the player more creative freedom in solving the puzzles.

A major part of our game is the storyline. Analysing the storyline as presented by H. Jenkins in *Game Design as Narrative Architecture* (H. Jenkins, 2002) we find our game to have an enacting story. Thus the game has two levels to its narrative. Overall we have a broadly defined episodic storyline, thus each witchdoctor can be seen as one episode which could be reordered without massively impacting the overall story. The story progresses after the player completes a set of levels and reaches a witchdoctor. With enacting stories a good balance has to be found between giving the player freedom and keeping the plot going.

To make sure our players want to continue playing the game we had to carefully balance the the difficulty of the game. Puzzle games quickly suffer from a so called enigma syndrome. This means that the difficulty of the puzzle is too hard causing frustration and then leading the player to quit the game but on the other hand making the levels too easy would cause the game to be boring which would also not be fun to play. To make sure this doesn't happen with our game we had a close look at the flow diagram.

The flow diagram describes the state of the player in terms of challenge and skill. If the skills of the player are greater than the challenge of the game the player gets bored but if the challenge is greater than the skills of the player the player becomes anxious. Thus the challenge has to progressively increase with the players skills. Further, to make the game more interesting the rate in which the difficulty increases should fluctuate. We have done this by making levels that introduce a new mechanic relatively easy and then after some getting use to the mechanic the levels get harder and several mechanics are combined creating more challenging levels.



The flow diagram

Breaking down your findings into the following categories as if the game is a strictly strategic system (Salen & Zimmerman).

Objects in our game are

- Player character
- Arrows
- Boxes
- Walls
- Spikes
- Water
- Doors
- Switches

Attributes

- Some arrows have special abilities.
- The boxes can be set on fire to gain access to a new path within the level
- Walls can deflect arrows
- Spikes kill the player
- Water kills the player

Internal relationships

The player can use the arrows to overcome obstacles like high walls or activate a switches.

Arrows have special abilities that interact with the environment. Fire arrows can burn boxes and melt ice, Ice arrows can freeze water, etc.

Switches can make magic block transparent or solid.

Spikes and water are deadly for the player if he jumps on them.

## Environment

The walls create the challenging environment for the player to solve and overcome. Water and spikes create an extra challenge for the player.

Lastly we want to analyse our game in terms of the MDA model as presented in A Formal Approach to Game Design and Game Research (Hunicke et al., 2004).

Our two main aesthetic goals are the challenge of the puzzle and the narrative of the story. Further, submission, thus our game as a pastime experience, can be listed. But for the further analysis we want to focus on the challenge and the narrative aspects. With these two goals in mind we can formulate our aesthetic models which are competitiveness and story driven. Our competitiveness does not come from challenging your friends and beating high scores but rather from beating the individual levels with their game mechanics. The player is challenged to think of possible solutions to each level and use his creativity to find them. In addition, the motivation to solve the puzzles is created by the story. The player gets to know the indian boy and wants to find out what happens to him. These two aesthetic models, competitiveness and story driven, create the drive in the player to complete the game.

Furthermore, with these aesthetic models arise dynamic models. The challenge of the game is created by the limited amount of arrows the player has for each level. Each level is designed that it can be completed with a given set of arrows but sometimes it is even possible to do it with less, thus creating the competitiveness to show who can complete levels with the least amount of arrows. in addition each levels has a golden feather collectable which increases the difficulty of the level. After completing a set of levels the players gets to know how the story continues with small cut scenes.

the mechanics of the game are jumping, shooting arrow, using special arrows, golden feathers and dying. All these mechanics are to create challenging levels for the player to solve. More mechanics, such as scoreboards, could easily be added to create more competitiveness or more complex levels, but we decided not to include more mainly because of time reasons.

## Design process

To design our game we decided to use a standard design process. This approach contains the following steps:

1. Define the problem
2. Collect information
3. Brainstorm and analyze
4. Develop solutions
5. Gather feedback
6. Improve

### **Define the problem**

Defining the core problem was easy, since this was given within the assignment. The core problem was to design a game, but simply just designing a game was not the real problem.

To be able to truly grasp the complete problem we started listing all the points important not only to us but also to the assignment. The most important points we found were:

- Design decisions need to be, partly, based on theory
- We need to enjoy the game and need motivation for creating the game

Although having motivation and enjoying the game is important it wasn't part of the problem we defined. The definition of the problem was: Design a game based upon the theory taught in the lectures.

### **Collect information**

Collecting information was at first quite difficult because we didn't know what type of game we were going to make. Not knowing the type of game makes it difficult, or even impossible, to find the corresponding theory. Because of this we first started to decide the global genre and type of game we wanted to create. To do this we looked at the type of games we all enjoyed and made small lists of these.

Besides the lists we made we also made some decisions based on time we had to design this game and the engine we used. We decided to use GameMaker, because we thought we could create a better game in 2D than in 3D as this was our first game and since one of the team members already had experience in GameMaker.

This led us to the following decisions:

- 2D game
- Platformer
- Puzzle



With these decisions made we could search for theory linked to this genre. After reading multiple articles about this subject and combining these with the theory from the lecture we found a few problems that often occur while designing a puzzle game (Scarpia, 2003; Toni, 2012; Tulleken, 2011).

The puzzle genre of games is a tricky genre to design for, mainly because the puzzles are either too simple or too difficult. Besides this there are also a few other obstacles one needs to tackle while designing a puzzle game.

- A puzzle always has a dominant strategy
  - While designing a game you are always creating a dominant strategy, which is the solution. The charm and goal of puzzles is to find this dominant strategy, the problem that occurs here is that once you find it the puzzle ceases to be fun.
- Puzzles are often a double-edged sword
  - Finding the solution to puzzles can be an amazing satisfaction, but not being able to solve them can create a lot of frustration. Frustration is the main thing a game designer wants to avoid.
- Puzzles often lack of Triangularity
  - Triangularity is a good way to make a game more fun and because of that it's an important concept in games. Triangularity means that an easy and low-risk strategy leads to low rewards while taking the difficult and risky path leads to generous rewards. Adding more of these decisions in a game, the more interesting and fun it gets. Puzzle games however often offer only one optimal solution, which makes it difficult to add triangularity.
- Puzzles are not replayable

Creating awareness of the obstacles that puzzle games often have, gave us a nice starting point to brainstorm and formulate ideas from.

### **Brainstorm and analyze ideas**

Looking at the obstacles puzzle games offer we decided to see if we can add other aspects of the game to keep people interesting. But besides that we also started to look at ways we could overcome these obstacles.

A few options we thought were interesting to implement were a story, spoofing/easter eggs, appealing graphics and a bonus part in each level.

- Making a story driven puzzle game will push people to keep going. It will motivate them to keep playing the game even if a few puzzles are too easy for example. Making a story based game also gave us nice opportunity to add in new mechanics linked to the story, to make things “fit” more into the game world.
- Adding clear easter eggs in the game could add to the replayability of the game. Especially for the achievement hunting type of gamers. Spoofing is a fun way to make people relax between the seriousness that puzzles games often are.

- A bonus part in each level creates opportunities to pass by a few of the obstacles that often occur in puzzle games. Especially the replayability and Triangularity. Of course it offers a replayability if you didn't complete the bonus part of each level. The bonus part gives you an illusion of triangularity, because completing a level and the bonus part gives you a higher reward than simply finishing the the level on its own.

During the brainstorm about these options we also started playing around with GameMaker, this gave us some feeling for the program and also made us find our main mechanic. Which is using arrows to solve puzzles. However not in the way traditionally arrows are used to solve puzzles which is simply hitting switches, buttons etc, but by using the arrow to create platforms to stand on. With these options and our main mechanic we started working on creating the game.

### **Develop solutions**

Having a few general ideas on where to go with our game we choose to split these up on the following parts.

- Mechanics
- Bonus part
- Easter eggs/spoofing
- Story
- Code (creating the game)

And these parts were developed and designed separately but at the same time we kept the general overview of what the game should be.

#### *Mechanics*

Previously we have discussed that the main mechanic of our game was to use a bow and arrow to create platforms to stand on, but this in itself is limited to create puzzles with. So we had to stretch this mechanic. Because we already decided to use a bow and arrow, it was quite obvious to choose to elaborate this mechanic by adding different type of arrows.

After a brainstorm we came up with the following arrows: fire, ice, bounce, light and a grappling hook. The fire arrow can burn wooden crates down, the ice arrow can freeze water so you can walk over it, the bounce arrow makes it possible to reach otherwise impossible places, the light arrow helps you navigate in the darkness and the grappling hooks makes you reach otherwise unreachable places.

But besides arrows it would also be interested if there was a different way to interact with your environment. This is the reason for the magic switch and blocks that we decided to implement.

#### *Bonus part*

For the bonus part we choose a method that is often used in puzzle platformers, which is collecting a collectable that is hard to reach or takes a few more mental steps to get. This is perhaps an easy solution but it is a proven method.



### *Story development*

After we had settled on 2D puzzle type of game during the brainstorm session we reflected upon the mechanics that had already been presented by fiddling around in GameMaker. One in particular sparked our interest: it was a shooting mechanic where the shot projectile did not disappear, but stuck to walls, creating a platform for the player (at that moment a purple square) to stand upon. It seemed like a fun mechanic to work with, but we were uncertain how to include it in a game. Jokingly it was said that the mechanic could be used by an archer, someone like Link or Robin Hood. But no human could logically use an arrow as a platform to stand upon. The mentioning of Robin Hood set the ball rolling: combining the fictional character Robin Hood with his namesake from the animal kingdom, we came up with the character of a bird, wielding a bow and arrow.

While most of us decided to learn a bit more of GameMaker and review upon the theory behind games and their mechanics, Sieger set out to create a story for the setting of the game. Still with the idea of a bird with bow and arrow he came across an old Indian telling of a boy who got transformed into a bird (Alchin, 2016; Native Languages of the Americas, 2015). At the next meeting the story was presented to the others and all agreed upon the possibilities that story brought for our game. Suddenly we had a background for our main character, a setting, surroundings and even options for non-player characters.

From here on onwards we started adding and editing the story and the game. More mechanics were introduced, levels were created. The only problem was we did not have a common thread throughout our game, besides the bird wanting to become a boy again. At this point the idea of using friendly characters as guides and helpers for our main character came to be: Witch Doctors/Shamans to help outline the main story and add Robin on his quest and critters for tips and tricks in the levels themselves. The logic behind these characters is that as a bird, Robin isn't able to speak to normal humans, but he can speak to other animals and humans that are in touch with the Spirit World.

Witch Doctors became a way to give Robin access to the spell for reversing the transformation. Each of them knows a small part of the spell and Robin has to collect those words. But solely using the Witch Doctors for that purpose was a bit meager. That's why it was decided that the different arrows presented in the game would all be introduced by one of the Witch Doctors. This also gave clarity in the way the levels should follow up on each other.

### *Easter eggs/spoofing*

One of the things we enjoy in games are easter eggs and general spoofing, it is fun to recognize things from other games or stories that are well known. Within the story a lot of witch doctors appear and we thought that this could be a nice element to easter egg. So we looked at games that had characters we could change into witch doctors and also added the singer of De Staat, from the song Witch Doctor. The biggest easter egg is at the end of the game, when the player recognises the words used for the spell.

### *Coding(daan)*

For the coding we decided on using Game Maker since Daan already had a lot of experience with Game Maker and it was also recommended for 2D games like ours. It is also a good tool for us since you're able to get stuff done very quickly and we wanted our demo to be pretty big to really give a good impression of experiencing the story.

### **Gather feedback**

To gather feedback we played and played and played the game ourselves to see what we thought that could be improved, but we also let other people play our game. One of the first things we noticed when others played the game was that they didn't understand the new arrows without any explanation. We often had to tell them what the arrows were for and they also asked for a way to be able to go back to the different levels.

The second point of feedback was also the main thing we noticed when playing the game, we missed an overworld. An overworld not only makes it possible to go back to previous levels but also helps with telling a story, because people can see in what type of area they are.

### **Improve**

We took the feedback that we gathered and started designing and implementing the new elements. These were tutorial levels and an overworld. We created different tutorial levels that each described a different new mechanic, explained by little creatures to fit in the game world. The overworld shows the progression of the story and guides the player from witch doctor to witch doctor.

# Personal reflection

## **Peter**

Games have played a big role in my life for as long as I can remember. When I was four years old I was already playing super mario with my parents and siblings on the NES. From there on we had a SNES, playstation, Xbox, Wii, Playstation 3 and of course pc's.

My vision of games has shifted and changed throughout my life. Games have been pure entertainment, a free time consumer, relaxation, escape from reality, social connector and so much more. Nowadays for me games are entertainment, but more than that a social connector. There are friends I only talk to while playing games, people I have known for years. Besides that I also have friends with whom I only meet up with to play games for an entire day and these don't even have to be computer games.

Before this assignment I never looked at why I enjoy certain games and dislike others, the thought of game theory never popped in my head. So it is safe to say that this elective changed my vision of games or at least the way I look at games. Now when I play a game I not only look at if I enjoy the game, but why I enjoy the game.

My role in the team was to guide the overall design process and help with the coding. I made sure we went through the correct phases of the design process, to make sure we didn't make decisions purely based on gut feelings. Besides this I took part in thinking of and designing new mechanics to further develop our game.

I choose this elective because I'm interested in interaction and curiosity. Games are an amazing example of an interactive platform that constantly triggers people's curiosity and keep their attention for hours. During this elective I learned how games do this, by learning the theory behind games. Which is exactly what I hoped to learn. In the coming weeks I'm going to look at how I can transform the general theory of games and shape it so it can be used in interaction design. So I want to look at how gamification of interaction can enhance interaction.

Besides the knowledge I have gained within the elective I also learned skills and gotten insights. These are how to create a game in general, how to use game maker, how to code a game and it shifted my perspective of seeing game design as a form of product design towards experience design. But for me personally the knowledge gained in this elective is the most important part.

## Tim

Games have always been a big part of my life. As a kid I would sit for hours in front of my computer or playstation and play games but as I grew older I started to have less time. Now that I am studying software science I get more in contact with designing human technology interaction and a keyword that I see more and more is gamification.

Thus making tasks that normally are boring more fun, like learning new skills or languages, is valuable knowledge. This means I could combine an old hobby of mine with practical skills which is why I choose this course.

During the course my role in the team was mainly coming up with concepts of how the game should look and feel. I came up with some of the mechanics and ideas that could make the game unique and made sure all team members had the same idea of the game. Especially the last part of making sure everybody had the same idea of the game wasn't as easy as expected. Since everybody had a lot ideas and mechanics they wanted to implement getting on the same page was a challenge in itself. But eventually we managed to come up with one version of the game. After this I made sure we stayed on track with the deadlines and the report and that we made decisions on what we would implement or not.

My vision of games is that they will become even more prominent. Games have lost their image of being for 5 to 25 year old boys only and now everybody, young and old, male or female play video games. Especially thinking about gamification a lot of possibilities for games arise and I guess the idea of what we now think of as a game will change as well. Another interesting trend is the development of VR even though I think that it still has a long way to go because in its current state it will not survive in the long run.

My key learning gains from this course are definitely the game theory. Before the course I didn't really know anything about game theory and now I learned that it is actually quite hard to talk about games. Since everybody finds different games fun and nobody really knows why some things are enjoyable to play and some not it makes it hard but also interesting to talk about this topic. Furthermore, I can now use my learned insight when developing new software.

Another skill I am planning on making use of in the future is to make my own games with game maker since I found this really enjoyable. Making games is a truly unique way of using one's creativity and is an experience I want to continue in doing.

## Daan

My role in the team was as the main programmer/artist, this was mainly because I already had a lot of experience with Game Maker which translated in being able to get the ideas we had into a working prototype really quickly. Also it was important for our game to not be able to deliver just a small demo but really something that already feels like a full game. Since the story is a big part of our game you really need to be able to have more than a few test levels to really get the experience we were aiming for. Also since developing a game has been one of my hobbies for so long it was generally just fun to do.

I started developing games when I was 9 years old so it has always been a big interest of me. However I never thought of the whole process in such a theoretical way, I was always just executing ideas in my head without thinking these ideas through at all. This is something I hoped to learn about in this course and I certainly did so.

I learned to think about games in a totally different fashion than I used to do before. Before I always just played and followed my intuition / gut feeling. Doing a lot of play testing and altering the game according to what I felt fitting. This method somewhat works but it is not very efficient since you will discover very late if things work or not and you have to fully develop every option you think about. Here in the course the theory we learned makes me able to think ahead a lot more which generally makes the road a lot smoother.

For example if I had made this game using my old methods it probably would have a lot worse flow since I always forget about starting with the easy levels since I would just go off on my own experience which would only make the hard levels fun since as the developer who did all the testing you are of course on a very high level of understanding of the game.

Also since I was always just doing this alone as a hobby I've never experienced before what it is like to develop a game in a team-oriented fashion which was a nice experience to have.



## Sieger

During this assignment I think I've been mostly appreciated for my story telling input. My job has mostly existed of interconnecting ideas and mechanics within the story we had set out to tell. For most of the time I've been focussing on the story as a whole. After I've found the Indian legend of *The boy who became a robin*, this role stuck to me and no one seemed to object.

Whereas the others put their mind to the game mechanics and theories, I tried to implement it all in one logical telling. I found it really important that all the element of the game were imbedded in the story and not seemed to be plucked out of thin air. I imagine my group members were at times annoyed by my opinion of a new mechanic, as I had a hard time explaining how a bird would be able to use them. But in the end I'm definitely satisfied by how it all worked out, both as a team and what our game has become.

As an architecture student I'm not unfamiliar with learning new software. I specifically chose this course to add some programming to my skills. Overall I did not do much of the programming work, but between following tutorials, asking questions and learning from what the others made, I can certainly say that I gained a lot of insight.

My thoughts about games in general haven't really changed. I still see them as ways to learn and develop oneself in an appealing environment, whether you want to be the best, have fun or meet people. What did change for me is the fact that there is so much theory behind gaming. As I've only worked with the end products I've never given it a moment's thought that there is so much research behind it and maybe even more to be done.

The lectures themselves have been quite an eyeopener. Although a vivid gamer with a broad interest in genres, I've never really reflected on why I played certain games. On that subject I've learned a lot about myself, but also about what other motives are for choosing and playing games. During the course I began to choose with more care and rational which game I wanted to play based on theory presented in the lectures. Taking into account how I felt, if I wanted to accomplish something, have fun, follow a storyline, etc., certainly has an impact nowadays on what games I play.

About the theory I might even try to use some of it, one way or the other, in building and city planning. I think that for instance gameplay features and play styles might just be a way to plan a layout where different incentives are taken into account for optimal mapping of people and locations. How this will work out, I do not know, but this course will certainly stay in the back of my mind for a long time.

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