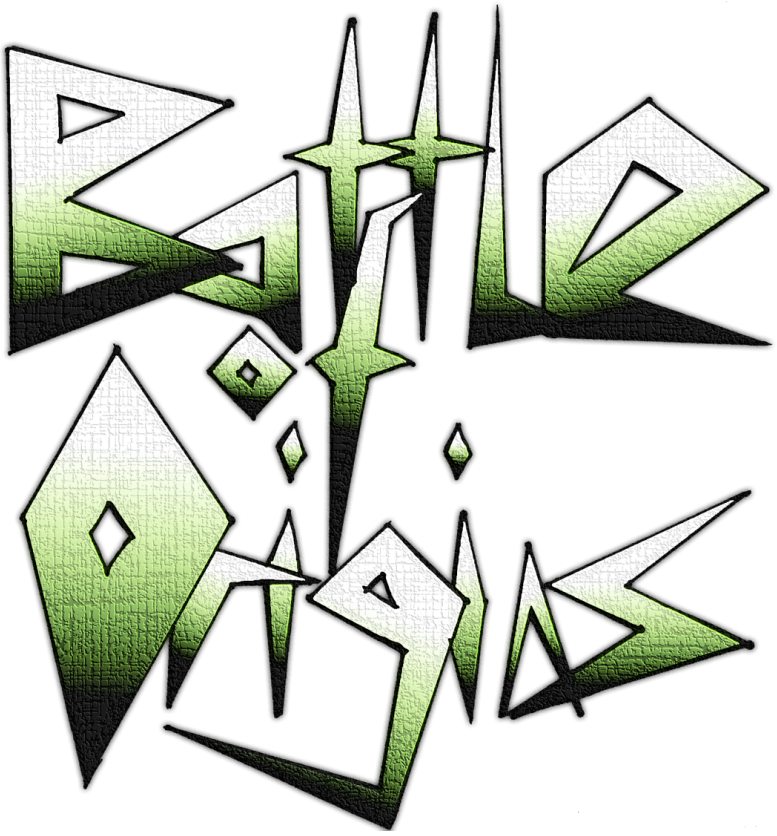

Battle of Origins — Conclusion Chapter

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Contents

1. Current Stage

1.1 Task Distribution

See Table 1

Task	Description	Who	Hrs	Actual
	Idea Finding			
1.	Brainstorming Design	All	5	7
2.	Character modeling	Greg, Jacq	20	25
	Assignments			
3.	Project Proposal Draft	All	10	10
4.	Prototype Chapter	All	10	10
5.	Interim Report Chapter	All	10	10
6.	Alpha Release Chapter	All	10	10
7.	Playtest Chapter	All	10	15
8.	Conclusion Chapter	All	10	10
9.	Demo Video	Patrick	50	50
	Presentation and Demos			
10.	Pitch of the Game	All	7	7
11.	Formal Game Proposal	All	10	12
12.	Paper Prototype	Jacqueline	5	6
13.	First Playable Demo	All	30	50
14.	Interim Demo	All	50	80
15.	Alpha Release Demo	All	100	50
16.	Play-test presentation	All	75	100
17.	Final Public Presentation	All	40	40
	Functional Minimum			
18.	Players from two teams running around	All	15	15
19.	Level Design: Overflow flat Map	All	15	7
20.	Counting collective hits	All	15	8
21.	Game finishes after 7 min	All	15	10
22.	Winner is Team with most hits	All	15	14
23.	AI Controlled Allies/Enemies.	Ruben	15	25

Table 1: *Task allocation* Green: Completed

1.2 Project Management

See Table 2

Task	Description	Who	Hrs	Actual
	Low Target			
24.	Audio: Music + Sound Effects	Patrick	15	2
25.	Physics: Players flying away when hit	All	15	10
26.	Physics: Cooldown before being able to move & attack	All	15	17
27.	Physics: Immunity cooldown before being vulnerable again	All	15	13
28.	Wonder: Wonder is generated after every 50 collective hits	All	15	24
29.	Wonder: Wonder is (visually) possessed by a human player	All	15	10
30.	Wonder: Wonder can visually be cast	All	15	12
31.	Wonder: Wonder converts players	All	15	16
32.	Wonder: Converted Human player plays for the other team	All	15	5
33.	Winner is the team with the most members	All	15	20
34.	Level Design: Map includes obstacles	All	15	7
	Desired Target			
35.	Characters visually polished to look from same theme	Jacqueline, Gregory	15	150
36.	Wonder Creation: Creating a wonder by standing together and pressing "commit"	All	15	11
37.	Wonder Creation: Cooldown after releasing "commit"	All	15	14
38.	Wonder Creation: Increased vulnerability during praying	All	15	10
39.	Wonder Creation: Larger praying/studying circles will generate quicker progress	All	15	20
40.	Wonder Creation: AI upgrade to take wonder creation into account	All	15	20
	High Target			
41.	Converted Human player will control free NPC if available	All	15	20
42.	Players evolve numerically according to their actions (Running, Shooting, Praying/Studying)	All	15	30
43.	Players evolve visually	All	15	
	Extras			
44.	Online Multiplayer	All	15	
45.	Procedural level-design (each level is different)	All	15	20
46.	Classes of characters (specialized for praying/studying or shooting)	All	15	

Table 2: *Task allocation* Green: Completed, Yellow: in Progress

1.3 Dropped Tasks

As you can see we did not investigate any further on how to grow body parts, which was originally planned as *task*43. The reasons for this decision were on the one hand that we encountered several technical difficulties and on the other hand that multiple participants of our play-testing sessions inclined to the view that this effect might offend supporters of the religious party. So we decided to ultimately drop this task. Instead we collected feedback by the participants what features they wish for and implemented those instead. You can find a complete list of extra features we included in table 3.

Task	Description	Who	Hrs	Actual
	Extended Extras			
47.	Pause menu, with controls	R, P	5	5
48.	Start menu, players can choose team	R	25	25
49.	End game menu, with statistics	R, J	15	15
50.	animations for start screen	J,G	5	5
51.	animations for end game screen	J, G	5	5
52.	Battle Of Origin Soundtrack	P	25	25
53.	Icons for both wonderbars	J, G	5	5
54.	group starts to glow while praying/studying	G	10	10
55.	wonderbar progress indication	G	10	10
56.	wonder collision -> super explosion	P, R	25	25
57.	throwing themed objects instead of power ball	G, J	15	15
58.	allow to push back player with wonder	G	5	5
59.	Indicate wonder duration	P	5	5

Table 3: *Task allocation* Green: Completed, Yellow: in Progress

We did some further playtesting after implementing the previously mentioned features and got a very positive feedback. Since all of the participants filled out the questionnaire already, we did not collect their demographics again, but just let them play the game and speak out any issues that still arose. The feedback was very positive, which makes us conclude that we have decided on correct and important additional features.

2. Final Version

2.1 Start Screen

In the start screen (Shown in Fig. 1) the user gets the opportunity to choose which team he wants to play for. *Battle of Origins* can be played by one to four players. Each of which can fight the battle of Origins either as *Darwinist* or as *Religionist*. Player 1 is responsible to set the number of non-human-players for each team on the start screen (bottom).

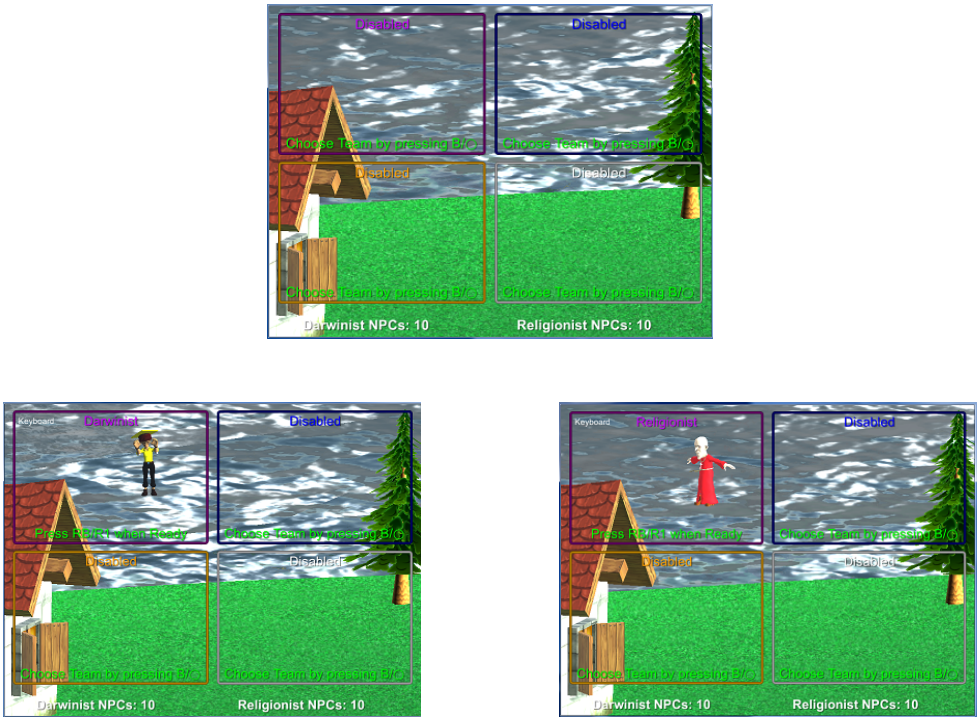

Figure 1: Start Screen

The game will start once all players have chosen their team and confirmed their choice. During this time a splash screen will show the players the controls of the game (Shown in Fig. 2). The same splash screen also appears when a player decides to pause the game by pressing the *start* button.

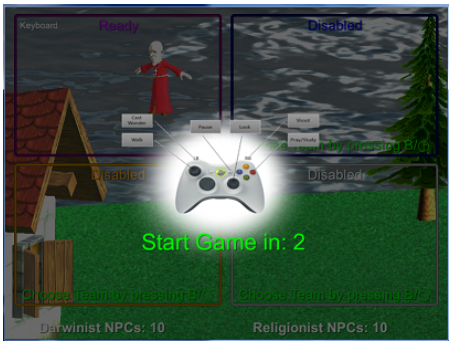

Figure 2: Splash Screen Controls

Once the whole map with all obstacles, players and NPCs is loaded and the initial scripts are processed, the players can see the map and get a few seconds to find themselves. A *READY?*, *SET*, *GO!* will indicate the start of the game (Shown in Fig. 3).

Figure 3: Ready Set Go, before match start

2.2 Graphical User Interface

The screen holds four graphical user interface elements, to inform the player about important game factors as:

- **Time**: On top of the screen in the middle a countdown is visible. The game ends either if all characters belong to the same team or after seven minutes.
- **Group Size**: At the bottom of the screen the ratio between members of both teams is visible. This information can be used to infer how close a team is to winning the battle.
- **Wonder Bar**: In the top left and right a wonder bar is visible for both teams. This bar gets filled when a group of at least two people is standing together and praying or studying. If the wonder bar is full, a wonder is available for the corresponding team.

2.3 Wonder Generation (Pray/Study)

A player can actively make progress and fill up its teams wonder bar by standing together with team mates and praying or studying. While standing together every group is glowing in the corresponding team color (yellow for Darwinists and red for Religionists). They produce small entities of *wonder-energy*, which flows towards their wonder bar on top of the screen. This is shown in Fig. 4.

Figure 4: Wonder Creation

2.4 Shooting/Blasting

One way to prevent the opponent from reaching their goal (to create a big wonder and converting every character fighting for the other team) is to disperse a group of praying or studying people by shooting at the group. The attacker shoots with an object themed by the corresponding team. Darwinists throw flasks, while Religionists throw crucifixes. This is shown in Fig. 5.

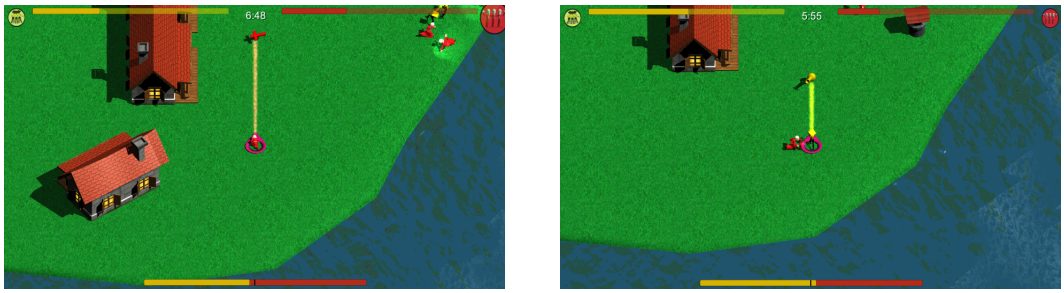

Figure 5: Different Shots

2.5 Wonder Casting

Both teams try to generate a big wonder. Once a wonder bar is full, the corresponding team gets a big wonder. If this team has human team members, the wonder is assigned to one of them. The chosen player can then activate the wonder any time. In teams that consist only

of NPCs the wonder is assigned to a random team member and activated instantaneously. Players controlling an activated wonder have the ability to convert enemy players. The wonder lasts for 10 seconds before it expires. The height of the wonder cylinder indicates the remaining duration of the wonder (shown in Fig. 6).

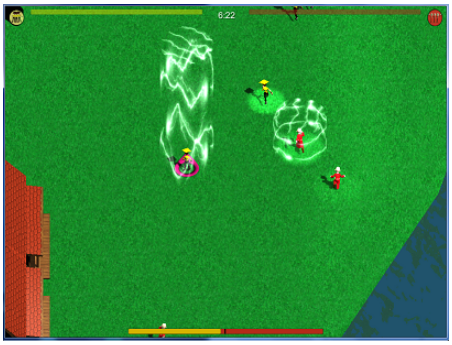

Figure 6: Wonder duration is shown by the size of the cylinder

2.6 Wonder Collision

If two wonders collide, both wonders get extinguished with an explosion.

2.7 Game Over

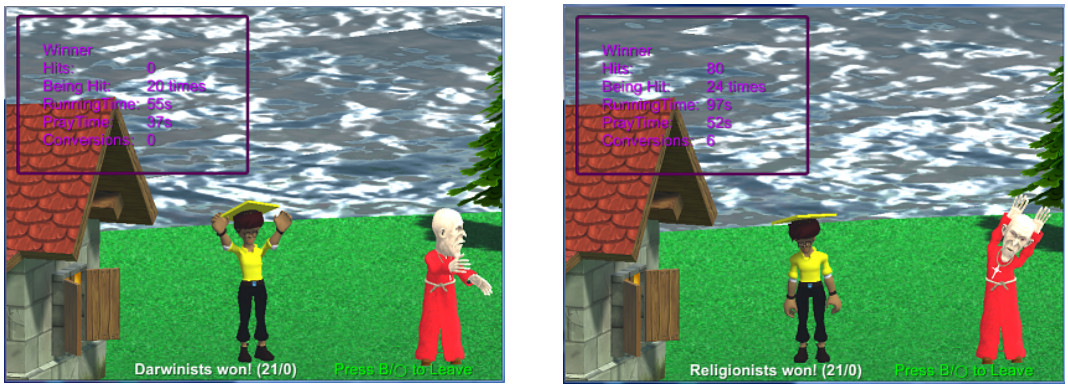

Figure 7: Winners

The game ends once every player belongs to the same team or seven minutes have passed. In the former case the team who managed to convert every other character wins. In the latter case the team with the most members wins. The end screen displays the winning team as well as some statistics for every player (how often the player hit someone, how often they got hit, for how long they were running and praying and how many players they managed to convert). Two screenshots are shown in Fig. 7.

3. Feedback

We will answer some specific questions asked by the course organizer:

- **How well did your initial design ideas materialize into the final game?**
  Very well! We were able to keep almost all the ideas we had when we were working on the paper prototype. Only some small differences, like the perspective did materialize differently than we thought in the beginning.

- **Were you able to follow your development schedule?**
  We did not look too often onto the development schedule. We met weekly and discussed about the problems and possible solutions, we wanted to work on and where we wanted to be one week later. We stuck to the main tasks we laid out at the beginning of the project and re-prioritized them as we went on. This worked great for us, since every team member was highly motivated and worked on the project as much as possible.

- **How did the different elements of the project structure contribute to your progress?**
  Game Proposal: We did some brainstorming until we had the topic we wanted to realize in our game, definitively useful!
  Paper Prototype: We did not use it to play too often, because it was too slow to be much fun. But it was very useful to think about corner cases we might not have thought about otherwise and proved very useful in anticipating difficulties.
  Interim Release: The feedback we got after our presentation was useful. We were asked to provide an elevator-pitch to summarize our game concept in a few words.
  Alpha Release: Feedback such as making the colors more prominent of each team and making sure we stay neutral to the topic was useful. It was also helpful to see that we are on track with our tasks and we managed to get a playable version as an alpha release.
  Playtesting: This part of the project was extremely useful. We got feedback by more than 60 people in total. We saw which factors caused difficulties and for what kind of people. We tested several settings and investigated further on the factors our participants enjoyed the most and on the factors they disliked the most. We collected opinions for improvements and additions and implemented those we found meaningful once we were done with our own tasks.

- **Did the course meet your expectations?**
  Yes.

- **Are you happy with your game?**
  Absolutely. If we could start over again, we might take the very same way we already took.

- **Do you feel there wasn't enough time or that the schedule was too compressed?**
  No. In the beginning of the course we were afraid we might not have enough time to learn all the new tools and use them so we tried to work as productively as possible. In the end, however, it was enough time to make some silly mistakes, to learn all the unknown platforms and do some tutorials. Especially in the last week we became extremely productive but thanks to our non-stop dedication during the semester we were not forced to pull an all-nighter before the final release.

- **What was the biggest technical difficulty during the project?**
  We were surprised that implementing the AI was not the hardest technical difficulty we had. It was more about learning how to interact with Maya and Blender and how to export the meshes in a way they can be used in unity afterwards. As well as working on the colliders (trying to make them behave exactly the same for both teams) to have a realistic and fun explosion effect.

- **What was your impression of working with the theme?**
  It was fun. The theme *EVOLUTION* is a very broad topic. It left us with a wide enough field to explore what we wanted to work on. There was no other team going the same way we did, which we appreciated a lot.

- **Do you think the theme enhanced your game?**
  Definitely. No theme at all would have left us with too many options. We enjoyed being restricted by one theme.

- **What would you do differently in your next game project?**
  Nothing :)
  Singed by all team members

- **What was your greatest success during the project?**

  - Choosing the team. Everybody was eager to work on the topics they chose. We were all interested in slightly different parts, so everybody was able to do what he/she wanted to do. Thus we were productive, motivated and highly encouraged.
  - In the first phase of the projects where big decisions have to be made, we discussed each of them thoroughly. With the help of our computer science background almost all our decisions we blindly took at the beginning turned out to be the most effective ones.

- **Are you happy with the final result of your project?**
  Of course, our game is great. There is no urge to play *Battle of Origin* ourselves anymore, because we did so A LOT. But it is still fun watching other people playing and enjoying it.

- **Do you consider the project a success?**
  Absolutely.

- **To what extend did you meet your project plan and milestones?**
  We definitely met all the targets we wanted to have. Of all the optional features that make up the cherries on top, a few of them we were forced to leave unimplemented due to technical difficulties and inexperience with the tools.

- **What improvements would you suggest for the course organization?**
  Lectures: The in-class student presentations were very useful. But the other lectures (especially the ones towards the end of the semester) were not too useful anymore, because we already implemented the topic taught in those lectures. Topics include sounds, music and the implementation of an artificial intelligence. Perhaps you could try to invest more time in the beginning of the semester to tell us everything we might need afterwards and then let the teams work towards the end of the semester, while only holding the lectures we were supposed to present something.
  Marks: Having a mark from 1-6 or even 1-100 would be more suitable for this course. We know of teams where one member did most if not all the work while the others were slacking around. While we made sure to always meet our deadlines on time, other teams managed to hand in most of the reports late or even not at all. Maybe a private discussion with each individual team member and introducing the marking-system mentioned above the final mark would be tailored more accurately and a higher variance is possible.

- **Did you like the Unity engine?**
  Yes. It takes some time to get into it, but once we knew how it works we started to love it. Especially that we never had any performance issues. Even though there are some flaws with Unity, such as the input mapping, that are hopefully improved in the next version, it is still very well suited for this course.

4. Epilogue

Thank you so much for the opportunity to work on such a great project. We all are very glad we took the course! Thank you!