Life of Blob (tentative title)

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Team MAD

Andreas Halter

Diego Martinez

Manuel Braunschweiler

1. Game Description

In the game you take control of an undefined creature (the blob), whose goal is to become the strongest being on earth (or at least within the game area). But everyone starts small – so the player starts with a very primitive life form, that needs to evade possible predators, while trying to grow by eating smaller/weaker creatures in the game area. There may even be creatures much bigger than the usual predators, that will not even take notice of the player. By growing, the perspective on the surrounding game environment will change, the bigger the player's creature gets.

1.1 Predator behaviour

AI controlled predators can only see what is in their line of sight, so it is possible for the player to sneak around them. A predator will attack what comes in front of its eyes, assuming that creature is smaller than the predator. Then the predator will pursue this creature for a certain time, also with use of its special abilities, if any.

1.2 Prey behaviour

AI controlled prey will run away from predators (or the player) or will use its abilities to protect itself. If it can fly, it will most likely do that to get away.

1.3 Special Abilities

Some stronger creatures carry special abilities and if the player defeats and eats one of those, the creature under the player's control gains this very ability. The exact number of abilities is yet to be defined but may contain:

- flying
- climbing
- swimming
- carrying objects
- active abilities to attack enemies
- chameleon-like camouflage
- being resistant against certain environmental influences
- acquiring better visual organs
- develop bioluminescence for illumination in the dark (which may also attract predators as well as prey)
- and many others.

All these abilities should lead to a visual development of the creature and in some cases also to the way the surrounding game environment is perceived − more eyes would lead to a bigger field of view or less blurred perception. As the player's creature grows, the surrounding animals should also adapt, in order to still yield a challenge or to give the player new abilities. By making some abilities rather rare, we can also bring in some kind of achievement for finding creatures with certain badass abilities. In general, the player's creature can absorb several times the same ability, which leads to a stronger forming of this ability − therefore the creature can for example move faster the more legs or fins it absorbs, can view farer the more eyes it acquires or fly longer the more wings it has. However, there should be a maximum of different abilities the creature can acquire at a certain time − most probably related to the number of buttons on the gamepad. So the player will have to decide which ability to abandon for the new one, by pressing the button the abandoned ability currently lies on.

1.3.1 All abilities:

Size (passive) - Affects strength and weight of player and which enemies are food and which are predators. The size increases with every devoured enemy/creature - unless the player absorbs the defeated creature's special ability.

Speed (passive) - The speed of movement.
The top speed of the creature increases with every acquired "leg". If the player pushes the control stick to the max, the creature accelerates by a certain value until it reaches its max speed.

Sight (passive) - How far/clearly the player can see in the world.
This will enhance the viewing range (everything outside will be blurred) and also enhances the ability to view through fog, in the night or even the ability to see colors.

Close range attack (active) - Attack by touching enemy. These abilities will have a cooldown time. Active close range attacks (like tackle, spin attack, thorns, ram attack) have to be activated upon button press and will damage/kill all enemies within area of effect.

Far range attack (active) - Attack far away enemies. Will be penalized with a cooldown after each use.
Electroshock: will hit the closest enemy (or several enemies) within a certain radius with a lightning bolt that damages or kills them. Will also hit flying targets.
Flamethrower: will hit all enemies/creatures along a directed cone with deadly heat.

Jump/Fly (active) - Overcome certain obstacles or escape from predator's attacks.
Flight duration is limited according to how many "wings" the player has already acquired.

Swimming (passive) - To cross water and eat the creatures in there or to escape from predators that cannot swim. The more fins the creature acquires, the faster it can move in water.

Shield (active) - Resistance to certain attacks/environment (heat, cold, spikes, poison, massive impact). The shields are activated upon button press and can only last for a certain time. Once they are deactivated, they slowly regenerate.

Camouflage (active) - Allows the player to hide from predators for a certain time or sneak onto prey. Enemies with good vision may see through the camouflage.

Bioluminescence (active) - Can be activated during the night and attracts certain prey, illuminates the surrounding but may also attract predators.

Spider web (active) - Allows the player to capture other creatures and keep them from running/flying away.

Climbing (active) - Allows the player to climb into narrow caves or onto trees/rocks/plants to escape from predators.

Carrying objects (active) - Required for solving some puzzles.

1.4 Puzzles

All these abilities can be used for simple puzzle solving within the game area. An example: In order to proceed or to reach an animal with a special ability, the player has to get through some poisonous plants, for which the creature either needs to acquire wings to fly over them or a shell which makes it immune to the poison. Visual cues of the poisonous plant should help the player to identify the required ability. Therefore the animals carrying a resistance against this poison should also have the same color. Eating this creature will give the player the ability to cross these plants. More elaborated sorts of puzzles still need to be determined. Other examples are:

- using the ram attack to destroy weak barriers
- using ram attack + massive-impact shield to destroy heavy barriers
- using spider webs to capture flying enemies or tear down objects from the height
- jump + weight to stamp the floor

- using flamethrower to burn wooden barriers/thorns or to burn plants/trees and scare out everything that was hiding inside.
- using electroshocks to charge objects
- using bioluminescence to uncover details in the dark
- using camouflage to get around dangerous predators guarding a place
- carrying a rock up the hill to let it roll down and smash objects blocking the path
- ...

1.5 Game environment

The game levels will be procedurally generated to yield a new challenge on every play through. While this means that we don't need to design levels in the traditional sense, it will still be necessary to define certain guidelines on how the level should be generated in order to be fully playable and enjoyable. Foremost the animals within the same area should adapt to the player's strength and the puzzles should adapt to the player's abilities and the abilities acquirable in the current level. The levels should be filled with obstacles and certain barriers that can only be overcome by the use of certain abilities and contain local puzzles, solving which will give a special reward.

Important for the visuals is that the player realizes, that the creature is getting bigger. That means, the creature always needs to be comparable to the environment. In the beginning of the game, the blob may has to find its way in between blades of grass because it's so small and will eventually grow, such that it once can walk on the grass or until even trees look small in comparison to the blob.

1.6 Music

The music in the game is affected by the environment. If there are no predators within hearing range, the music will be calm and soothing. If predators are close (and willing to attack) musical clues change to be more menacing.

1.7 Visuals

The game is in 2D (maybe 2.5D) and played from a top down perspective. The camera is centrally fixed to the player's creature and moves as the player moves its creature. In the beginning of the game the visuals should only be black and white. This progressively changes during the creature's development as it can acquire piece by piece the ability to have color

vision from defeated enemies. The graphics style will be determined according to available time. The main task of the visuals will be to aid the player during the game. It should always be clear which enemies can hurt the avatar and which enemies are easy prey. The same goes for abilities and environment. Our aim is to create a visual style that fits the theme of an evolving and ever-changing game. Maybe even by changing itself.

1.8 Story

There probably won't be a story in the traditional sense. The player tells their own story by playing through the game and this story will be different every play through. The big story behind the game is of course the greatest story of them all: Evolution − Survival of the fittest.

1.9 Game Control

The player can actively move the creature and use its abilities to interact with the environment or to attack other creatures. The game is over if the player loses all health points. Lost health points can be restored by eating other creatures.

2. Technical Achievement

The main technical challenge in this project is how to procedurally generate attractive levels and enemy creatures. They should adapt to the players acquired abilities and yield a new challenge for the player to grow on. Especially when generating puzzles is included, then this procedural modeling will yield a lot to think about.

3. Big Idea

The main motivation of the game will be the player's strive to become stronger. In order to keep the flow up, the growth of the creature should be rather fast paced, supported by visual development and cool abilities, that motivate to venture further. The basic gameplay is eating, while evading stronger predators − it's as simple as that. Since enemies and environment are procedurally generated, it should be no issue to store the current creature and proceed at a later time to continue on the road to "world" domination.

4. Development Schedule

Week 2: Finish basic game idea
Week 3: Finished formal description of the game
Week 4: Game Design
Week 5: Formal game proposal and physical prototype
Week 6: Asset creation and programming
Week 7: First playable demo
Week 8: Game Design
Week 9: Game Design
Week 10: Interim Demo
Week 11: Playtesting
Week 12: Alpha release demo
Week 13: Student presentations − Playtest results
Week 14: Functionality, Completeness, Balance
Week 15: Final Presentations

4.1 Layers:

Functional Minimum:

- moving, eating, growing
- basic prey/predator behaviour
- basic game controls, camera
- basic player / enemy visuals

Low Target:

- procedurally generate enemies
- acquiring and using basic abilities (running, tackle, spin attack, ram attack)
- terrain visuals
- ability visuals

Desirable Target:

- more abilities (sight, electroshock, jump, thorns, spider web)
- procedurally generate levels with obstacles
- more elaborated predator/prey behaviour
- shader effects (glow, blur, black/white, color filter, attacks)
- animations
- music and sound effects

High Target:

- even more abilities (bioluminescence, flying, swimming, camouflage, flamethrower, carrying objects, shields)
- simple puzzles
- day / night cycle
- nice looking visuals

Extra:

- even even more abilities (...)
- story
- co-operative multiplayer

4.2 Timeline

Tasks	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
Project Proposal		MAD													
Prototype Chapter	3h		MAD												
Interim Report Chapter	3h							MAD	MAD						
Alpha Release Chapter	5h											MAD			
Playtest Chapter	3h													MAD	
Conclusion Chapter	3h														MAD
Demo Video	5h														MAD
Functional Minimum	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
Moving, Eating / Growing	10h			MA	M										
Prey / Predator behaviour	8h			MA	M										
Controls, Camera	8h			MA	M										
Player / Enemy Visuals	15h			MAD	AD										
Low Target	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
Procedurally generate enemies	15h				MAD	M	M								
Acquiring and using basic skills	15h				MAD	MA	M								
Environment visuals	15h				MAD	AD	AD								
Ability visuals	10h				MAD	D	AD								
Desirable Target	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
More abilities	10h						MAD	MA	M	M					
Procedurally generated levels	20h						MAD	M	M	M					
Advanced prey/predator	10h						MAD	M	M	M					
Animations	15h						MAD	AD	AD	AD					
Effects visuals	20h						MAD	AD	AD	AD					
Music and sound effects	10h						MAD	AD	AD	AD					
High Target	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
Even more abilities	15h									MAD	MA	M	M		
Simple puzzles	20h									MAD	M	M	M		

Day/night cycle	5h									MAD	MA	M	M		
Nice looking visuals	20h									AD	AD	AD	AD		
Extra	**time**	**w2**	**w3**	**w4**	**w5**	**w6**	**w7**	**w8**	**w9**	**w10**	**w11**	**w12**	**w13**	**w14**	**w15**
Even even more abilities													MA	MA	
Story													MAD	MAD	
Co-operative multiplayer													MAD	MAD	

5. Assessment

The main strength of the game will be the sense of becoming bigger and stronger with every defeated enemy. What once was a feared predator may after some play time be only a small snack on the way. The strive to discover new abilities will also be a big motivation factor and the puzzles should account for making the gameplay not feel too dull. The simplicity of the gameplay makes this game perfect for a short session on the go or for people that like to endlessly "grind" on a game. Also it should be possible to play the game in different ways. One player may chooses to be that very fast creature that goes in and out while relying on the intention that no predator can follow it, whereas another may use brute force and yet another one would rely on camouflage to survive.

The goal is to make the gameplay fun and fair for any way the player chooses to play the game. If the game is too frustrating or too easy, the player will put the controller away way too soon. Finding the sweet spot in between will be our main goal.

6. Basic gameplay in pictures

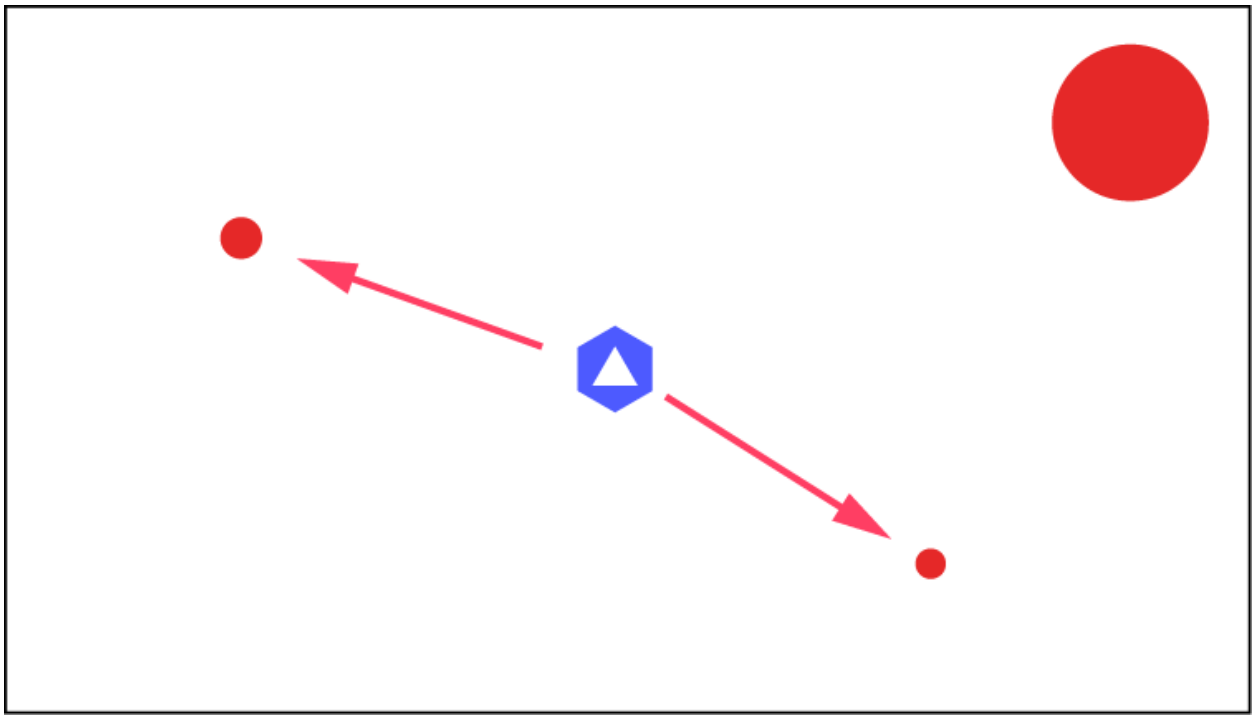

Fig 1: Player can attack/eat enemies smaller than them

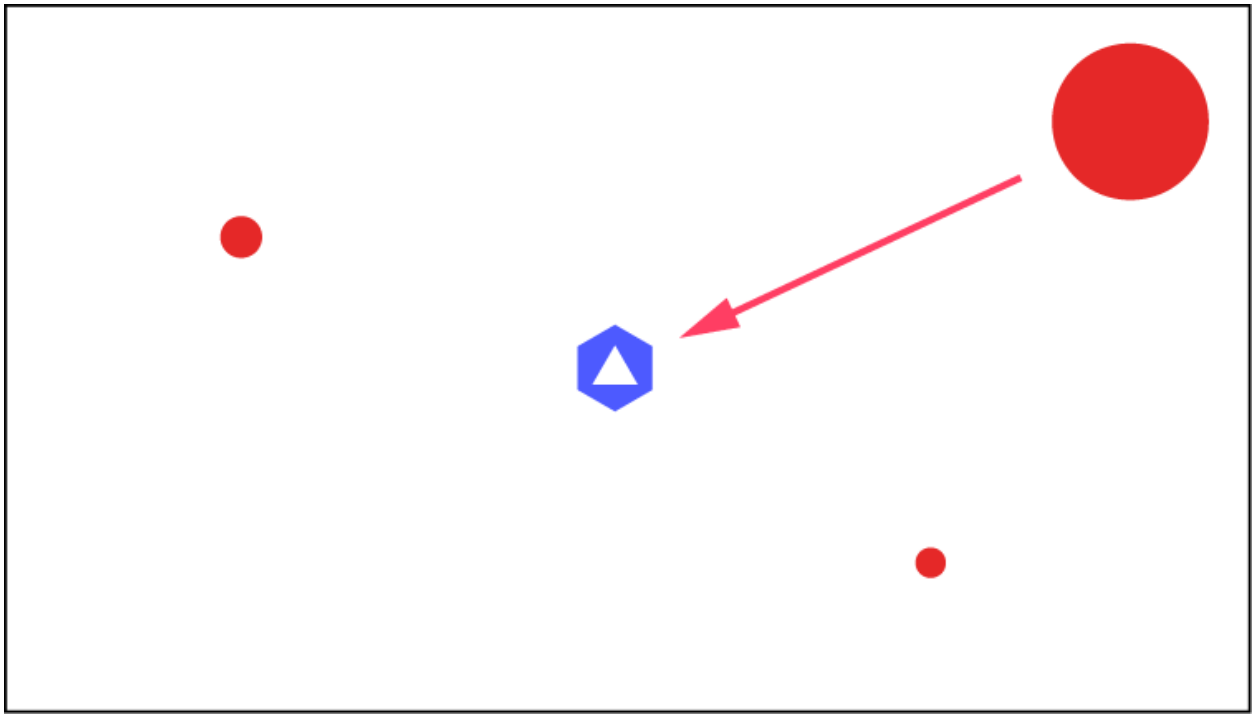

Fig 2: Player should avoid getting attacked by enemies that are bigger/stronger

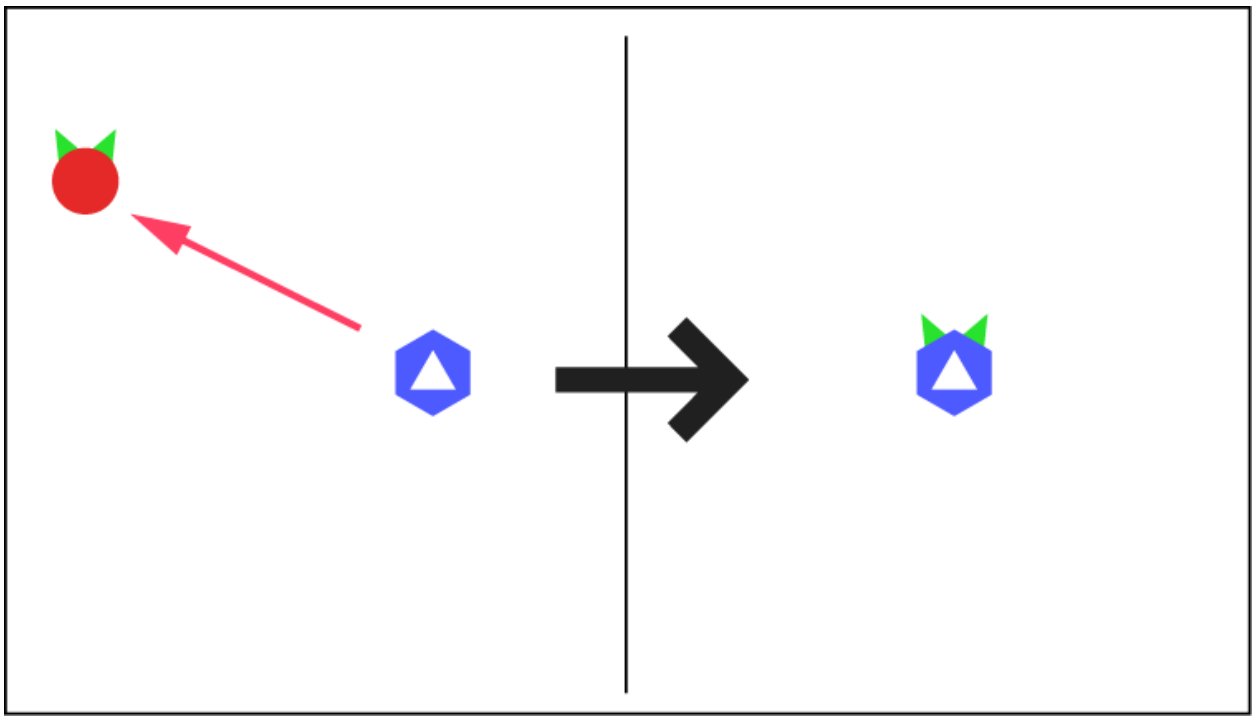

Fig 3: Defeating an enemy with a certain ability grants Player that very ability