





Harz University of Applied Sciences GERMANY







Mentor: Dominik Wilhelm

STUDENTS TEAM

Mayuri Iwata (Art / Animation) Takuma Wabiko (Code / Tech) + myself also as a team member (GD / UX)







WORKING TITLE: Simplicity

Platform: Smartphone/Tablet, PC Engine: Unity







CONCEPT

Simplicity of Complexity – Emergent Art and Gameplay

The concept of emergence describes how complex structures and behaviours can arise from a system of seemingly simple rules and components, or even chaos.

From the self-organizing behaviour of a beehive to the similar but endlessly diverse structures of snow crystals and to the human mind itself: Emergent behaviour plays a major role in many areas, such as nature, social life, systems thinking or artificial intelligence. It is not governed by a central instance but develops rather spontaneously when the parts of a system interact with each other. But the beauty and complexity that appears when emergence happens is greater than its parts and cannot be fully predicted.

Games like ,Go' and ,Tetris' achieve endless hours of deep emergent gameplay from simple rules, while ,Dungeons & Dragons' defined a system of rules for the collaborative creation of ever-evolving emergent stories...







GO

- few components
- simple rule system
- very high complexity & infinite gameplay situations



TETRIS

- rotate & sort: no other mechanics added during game
- Infinite gameplay by changing just 1 parameter (falling speed)



CONWAY'S GAME OF LIFE

- system with simple rules
- complex shapes but surprisingly, also complex behaviours <u>emerge</u>!









EMERGENT VISUALS AND BEHAVIOURS

























Show the work completed so far, in any form: drawings, diagrams, concepts, models, etc.

Do not forget to indicate elements that are innovative, fun, interesting and worth creating, playing or watching them for, even if you fail to implement them, should be included in the project.









IDEA DEVELOPMENT

#1 BLOCK SHIFT

mechanics inspired from Board Game "Tipsy"



FIRST PHYSICAL PROTOTYPE

SWIPE or use D-PAD to move ALL moveable ELEMENTS at same time









IDEA DEVELOPMENT

V2: CHARACTER MOVEMENT & OBSTACLES:

-EXIT blocked and 1 ENEMY remaining

Swipe Right





V3: ITEM COLLECTING

ITEM COLLECTING

-Exits are blocked -Path to ITEM (Key) is blocked









IDEA DEVELOPMENT

#2 KALEIDOSCOPE / MIRROR LINES

REMOVE colors...



ADD colors... (use only 3 mirror lines)

EXAMPLE: -Get AS MANY COLORS as possible -You can use 3 MIRROR lines











Ideas for Behaviours COMPONENT BEHAVIOUR SLIDE (Normal) MOVES FREELY (Like Enemy...) ()D Ideas for Behaviours SLIDE (Normal) + REMOVE other Objects Kill SLIDE (Sticky): Slide 1 Step per move L HOLE: Fill with block & create path WALL : Block path

SYSTEM

- -Simple COMPONENTS with different behaviours that INFLUENCE each other
- -this way, we can create complex gameplay











Hochschule für angewandte Wissenschaften















COMMUNICATION

e.g. what platform do you use for communication, frequency of meetings, division of work, segregation of duties, etc.







COMMUNICATION

ZOOM

We use it to...

- SEE each other
- SHARE SCREENS

- good for TEAM BUILDING to see faces of team members once a week.
- less misunderstanding, even during text chat (understand nuances by mimics, emotions...)









COMMUNICATION

SLACK

We use it to...

- TALK and DISCUSS
- Post ideas, questions, images etc.

 written communication is easier to understand. Team members can use DeepL or Google Translate with written text or use a Slack Translate add-on.
 we have Slack & Zoom open at the same time









....

COMMUNICATION

SLACK

#TOOLS & WORKFLOWS channel

- ...collects all important links (Zoom, Miro, Jira, Google Drive, Confluence etc.)
- explains our workflow and the tools we use

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SKILL MATRIX on GOOGLE SHEETS

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	Use the DROPD the different are	OOWN MENU (Arrow ico as of game developme	ons in cells) to select your skill or ex nt:	perience with															
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	Please assess y	our skills realistically -	no false understatement :)																
3	First Name	Family Name	E-Mail	2D ART / CONCEI	PT 2D ANI	MATION	3D ART	3D ANIMATION	UI / UX D	ESIGN	GAME DESIG	N N	NARRATIVE DESIGN		CODE		MUSIC		
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3	SOUND		PROJECT MANAGEMEN PRODUCIN	NT / G	EXPERIENCE IN TEAMWORK		WHICH LANGUAGES DO YOU UNDERSTAND?	ONLINE PORTFOLIO / SHOWREEL (Insert URL)	ONLINE PORTFOLIO / WISHES FOR THIS PROJECT SHOWREEL (Insert URL)	
4	UNSURE		LOW	-	MED	1.40	Japanese, English		Graphics and UI design for different cultures	Junior year
5	UNSURE		LOW	1.00	MED		Japanese, English		Make the game for different cultures	Senior year
6	MED	*	HIGH		HIGH		German, English, Japanese (a little), Spanish (a little)		 Make a game with a creative, international team! Focus on minimalist but exiting gameplay, art and user experience. Make a game concept so minimal (but awesome) that we can finish development during this semester and actually release the game in the app store. 	
7		•	÷	+		*				
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SPACETIME / DOODLE

We use it for...

- finding COMMON TIMESLOTS
- Spacetime is connected to SLACK

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HARZ UNIVERSITY (3)					
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		13. PM			
		Thu 13:30			
Mayuri.Iwata(Jp.TUT) is at work for about 4 more hours	Thu, 20:00	which is 8 916 ki	lometers away		
		Thu 21:30			
Takuma.Wabiko is at work for about 4 more hours	Thu, 20:00 Edit Schedule	Tokyo, Tokyo, J which is 8,920 <u>ki</u>	lapan 💌 Iometers away		
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		Thu 21:30			

WORLDTIMEBUDDY.COM

We use it for...

• checking the time of day in multiple locations

* *	+ Place or timezone		(TE	25	Feb	26	27	28	1 :	2 3										ΰ	Se	ttings		LINK	тотни	5 VIEW	
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MIRO (Collaborative Whiteboard)

We use it for...

- BRAINSTORMING, sketching together when talking about ideas
- VISUAL DEVELOPMENT of ideas
- EXPLAINING complex issues through sketching

- sketching together really helped to get the team talking and get creative together!
- ➡ MIRO is connected to JIRA and SLACK









COLLABORATION

JIRA

We use it for...

- TASK MANAGEMENT & assigning tasks to team members
- planning SPRINTS
- keeping track of progress in the project
- tracking & prioritizing BUGS

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٢	GAMELAB: Simplicity Next-gen software project	Projects / GAMELAB: Simplicity Backlog			
000	Roadmap	Q. DWERE Epic - Label - Type -			
8	Backlog				
	Board	Brainstorm & Pre-Production 23 Feb – 1 Mar (14 issues) 2 3	Complete	sprint	
4>	Code	Let's brainstorm and create concepts for a game based on the theme "Simplicity of Complexity" - setup the project structure in our tools (Confluence, JIRA, Slack, Unity, Gil/8	htbucket) - dec	ide on a	workf
F	Project pages	SIM-10 Initial Only 2013/12011 SIM-20 Talk to team about contents for EIPST DI AVARI E Prototype	DONE		
Ľ	Add item	SIM-25 Talk to team about schedule & meeting times	DONE		
0	Project settings	SHM-21 Create moodboard 'MOOD & FEEL'	DONE		
		SHM-22 Create moodboard 'ART STYLE'	DONE	•	
		SiM-7 Prepare toolset and project structure	& DONE	DW	
		SIM-11 Setup first meeting with team members	DONE	DW	
		SiM-19 Install Unity 2019.4.20f1	DONE	•	
		SIM-6 Prepare presentation of our Game Idea PHASE 1: IDEATION	TO DO	w	
		SIM-16 Create project in Unity & put on Git / Bitbucket or similar	N PROGRESS	R	
Y	ou're in a next-gen project	SIM-17 Install Unity 2019.4.20f1	(lieket	art
G	ive feedback Learn more	SIM-20 Collect ideas and sketches for THEME of the game	10.00	CRSta	

















CONFLUENCE

We use it for...

- Wiki/ GDD / documentation for each department (Producing, Art, Code, Game Design etc.)
- collecting MEETING NOTES etc.
- Confluence & JIRA are connected
 SLACK is connected to both & notifies team about changes

III 🗙 Confluence Home Rece	nt - Spaces - People - Apps - Templates	Create Q Search	🔹 😧 🗢
GAMELAB: Simplicity	Item	Notes	Tasks
	first ideas	decided on idea 1 "slide mechanic"	
 Pages About this project Producing 	Which Platform?	 Mobile, PC or Nintendo Switch? Decided on Mobile (option for PC) Switch brings to many unknown issues for the short 	
 Team, Tools and Meeting notes 2021-02-23 M Decision log Post Mortem Game Design 	Which engine and tech?	 development time we have Decided for Unity Unity is the engine in which our programmer @我彥拓	 SIM-17: Install Unity 2019.4.20f1 DONE SIM-16: Create project in Unity & put on Git / Bitbucket or
 Art Tech UI / UX Audio Other 	What is our workflow?	 We use a simple agile method Tasks are managed in JIRA A Backlog (in JIRA) to collect and prioritize our tasks Development based on Sprints (14 days?) Tasks from Backlog are selected in Sprint planning meeting 	Quickstart







GENERAL PROCESS

- WEEKLY team meetings (Zoom, Slack, Miro)
- We work in SPRINTS (14 days each)
- asynchronous communication during the week
- every team member updates their tasks in JIRA
- every team member keeps their section (TECH, ART, GD etc.) up-to-date in CONFLUENCE

- POST MORTEM after the student project is finished: What worked well? What would we change next time? What would we recommend to other teams? etc.
- maybe collect this data for all the GAMELAB projects?















PARTNERS

 Benemérita Universidad Autónoma de Puebla



 Tokyo University of Technology, School of Media Science



LUCA School

- LUCA SCHOOL OF ARTS
- School of Art at Northern Illinois University



- School of Media Science
- University of Ostrava



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