ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҒЫЛЫМ ЖӘНЕ ЖОҒАРЫ БІЛІМ МИНИСТРЛІГІ

«Л.Н. ГУМИЛЕВ АТЫНДАҒЫ ЕУРАЗИЯ ҰЛТТЫҚ УНИВЕРСИТЕТІ» КЕАҚ

Студенттер мен жас ғалымдардың
«ǴYLYM JÁNE BILIM - 2023»
XVIII Халықаралық ғылыми конференциясының
БАЯНДАМАЛАР ЖИНАҒЫ

СБОРНИК МАТЕРИАЛОВ
XVIII Международной научной конференции
студентов и молодых ученых
«ǴYLYM JÁNE BILIM - 2023»

PROCEEDINGS
of the XVIII International Scientific Conference
for students and young scholars
«ǴYLYM JÁNE BILIM - 2023»

2023
Астана

«ǴYLYM JÁNE BILIM – 2023» студенттер мен жас ғалымдардың XVIII Халықаралық ғылыми конференциясы = XVIII Международная научная конференция студентов и молодых ученых «ǴYLYM JÁNE BILIM – 2023» = The XVIII International Scientific Conference for students and young scholars «ǴYLYM JÁNE BILIM – 2023». – Астана: – 6865 б. - қазақша, орысша, ағылшынша.

Жинаққа студенттердің, магистранттардың, докторанттардың және жас ғалымдардың жаратылыстану-техникалық және гуманитарлық ғылымдардың өзекті мәселелері бойынша баяндамалары енгізілген.

The proceedings are the papers of students, undergraduates, doctoral students and young researchers on topical issues of natural and technical sciences and humanities.

В сборник вошли доклады студентов, магистрантов, докторантов и молодых ученых по актуальным вопросам естественно-технических и гуманитарных наук.

3. Герасимов Д.Б. Дизайн интерьера квартиры и загородного дома на компьютере в Arcon Home 2/Д.Б. Герасимов. СПб.: Наука и техника, 2008. 256 с.

4. Джилл М. Гармония цвета в дизайне интерьера. М. Джилл., 2005. 160 с.

5. Косо Й. Квартира.Загородный дом.Планировка и дизайн интерьера/Й. Косо. М.: Контэнт, 2011. 214 с.

6. Кузина Е. А. Дизайн интерьера общественного пространства магазинов. М.: Юрайт, 2020. 122 с.

UDC 7.012.185
STUDY AND ANALYSIS OF THE RELEVANCE OF GAME PRODUCTION

Makash Aitolkyn Kurakkyzy
Makash.aytolkyn@gmail.com
5th year student of the Department «Design and Engineering Graphics» of L.N. Gumilyov ENU, Astana, Kazakhstan
Scientific advisor – Begimbay K.M.

With this article, I want to open a cycle about game development. The purpose of which is to give an understanding of what GameDev consists of and how to start making your own games.

In the beginning, I will talk about the general process of creating a game, its stages. In the second part of the article, we will go through the directions in game development, and where you can learn more about it.

How are games created?

As a rule, the game is about transferring experience to the player, teaching him something. (See Game Design). True, often our ideas and assumptions are imperfect, and tend to change over the course of development. The game itself consists of a huge amount of code and assets (resources, graphics, animations, icons, models, textures, etc.). When we change our idea, we have to redo a lot of work, the project becomes more complicated, the graphics are drawn again. So development is delayed and becomes incredibly painful.

A lot of studios and just developers have come up with a simple but effective process that allows you to make a game with minimal rework. Naturally, it is not absolute, but for a start I think that's it.

In short, the development process is divided into three stages.

1. Pre-production.

This is usually the stage of testing ideas, collecting concepts, developing design, appearance, and prototypes of the game. The most important thing at the pre-sale stage is to check the quality of our gameplay, to determine the mechanics and feel of the game.

Some game designers create paper game prototypes and play them as a team to test their ideas. Then digital prototypes are created. As soon as possible, a game is created without graphics, without features, but with key gameplay and mechanics. If the game at this stage is boring and not interesting, it will always be the same, regardless of whistles and wishlists. This is why prototypes are so important.

In parallel, at this time, they collect as many references as possible that will help explain the idea of the game to other people.

As a rule, a good result of this stage is a synchronous understanding of the team of what the game should be, the main document of the game, and the prototypes that have been tested, confirmed the ideas or hypotheses of the game. (Picture1)
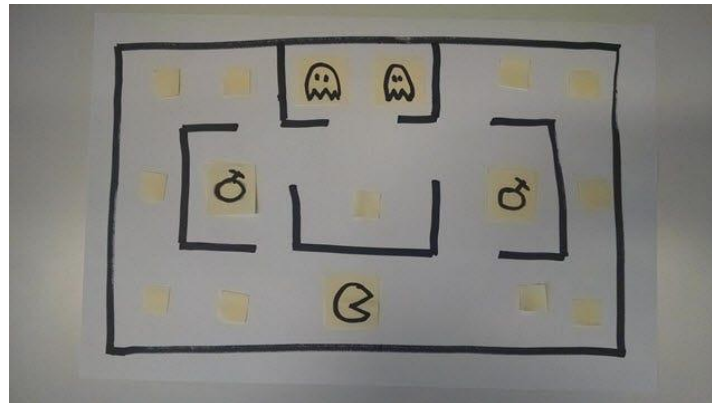
2. Production.

At this stage, as a rule, the code and assets of the game are created. Artists draw, coders code, sound engineers write sound, level designers create levels, in general order and idyll. Without a doubt, everything is not as simple as described here, and there are many techniques to synchronize

and optimize the work of so many people, but the essence is clear. Production is the development of the game itself. After the previous stage, we are confident in our mechanics and gameplay, so we can start implementation without being afraid to delete everything and change the idea 180 degrees.

The result of this stage are the first playable, alpha, beta, gold master releases of the game. It is worth noting that the game designer does not sleep at this time, and continues to test and develop the game design.

3. Post-production.

After the release, bugs are collected, and coders have to fix them. During this phase, patches are created and released that fix bugs or shortcomings in the game. In MMORPG games, as a rule, the support phase does not stop, new content is added.

Pic. 1 Pre-production

Roles in the game development process.

As a rule, a game is a complex product that is quite difficult to make alone. Although at the dawn of game development, there were rockstar developers who created masterpieces alone, those days are over, and now we have to unite.

Let's start with the most important.

Game Design.

The word design is often misunderstood in our society. And, consequently, there is a misunderstanding about what game design is. There is an opinion that this is a drawing of the appearance of the game. I advise you to forget it as soon as possible.

Design is design.

You create your game. You already have a picture in your head of some of the emotions that you or the player get from the process. At its core, game design is about the emotions that the player experiences from your game. It already follows from this, why is the player playing your game? What are the goals, challenges? What decisions does he make? What is the game talking about? Does success in it depend on skill or luck of the player?

Game Design is the heart of the game. It is about everything and nothing at the same time. It is the game designer who has a complete vision of what the game should be. He designs the gameplay, the structure, the rules of the game. How it should feel. And what tools can be used to achieve this.

In addition to game designers, there is also a designer for every aspect of the game. For example, story designer, character designer, interface designer, dialogue designer, etc.

Art. Jesse Schell in his book The Art of Game Design: A Book of Lenses wrote that a game consists of 4 elements. Aesthetics, History, Technology, Mechanics. That is, our game 1/4 consists of a visual. Not so much anymore. Artists can be divided into 2D and 3D. (Picture1)

Table 1 Advantages of VR Game Making

Advantages of VR Game Making	Explanation
Immersive experience	VR games allow players to feel like they are truly inside the game world, which creates a much more immersive experience than traditional games.
New gameplay mechanics	**Wow-effects and dynamics** VR technology enables new gameplay mechanics that are not possible with traditional games. For example, players can use their physical movements to control the game, adding a new level of interactivity.
Unique storytelling opportunities	VR games offer unique opportunities for storytelling, allowing players to be fully immersed in the game's world and interact with characters and environments in a more engaging way.
Increased player engagement	The immersive nature of VR games can increase player engagement and immersion, leading to more dedicated and loyal players.
Differentiation from competitors	VR games are still relatively new, so creating a VR game can differentiate a game developer from their competitors and help them stand out in a crowded market.
Innovation potential	VR technology is still evolving, so there is a lot of potential for innovation in the VR game space. Developers can experiment with new ideas and push the boundaries of what is possible with VR games.
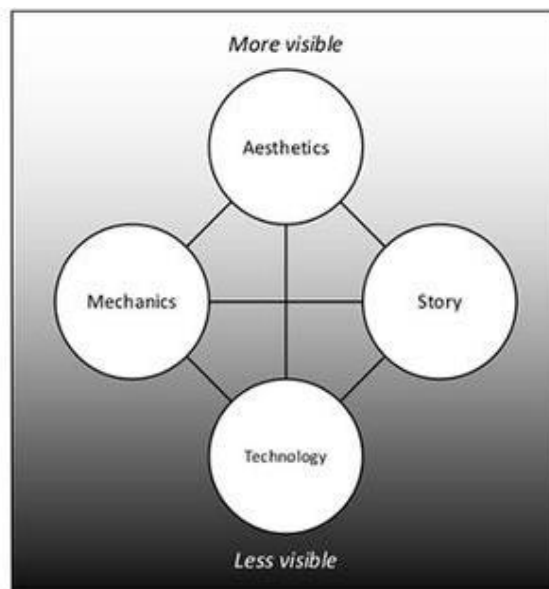
SCHELL, J. *The Art of Game Design A Book of Lenses*. 1. ed. Burlington: Morgan Kaufmann, 2008. (p. 42)

Pic. 2 The Art of Game Design

2D artists typically create concept art, sprites, textures, level backgrounds, and user interfaces. And sometimes there are artists sharpened purely for the creation of icons.

3D artists create meshes, animations, environments, cinematics.

They even say there are artists who can do both 2D and 3D.

Programming. A digital game is still software, there's nothing you can do about it. It was the programmers who were the first game developers. There is a wonderful book by Stephen Levy: Hackers: Heroes of the Computer Revolution, which describes the incredible atmosphere of the time when they were just starting to write the first code, create the first computers, and invent games. What can I say, because Steve Jobs and Wozniak themselves started with the development of the now classic atari breakout (try google).

However, now one programmer is not enough to write any serious game from scratch. Therefore, the following disciplines are distinguished.

Physical game engine programmer. He writes physics simulation, collision calculation, object movement.

Graphic programmer of the game engine. Works close to graphics card and physics programmer. Integrates graphics, models, textures, light.

Gameplay programmer. Implements game rules, features and mechanics.

Script programmer. It creates and maintains the team system inside the game. For example, the interaction of triggers and AI.

Interface programmer, UI. Creates a menu, user HUD, training systems.

Input processing programmer. Writes code to receive and process input and output from a keyboard, touch screen, joystick, etc.

network programmer. Interaction of the game with the server. Online part.

Tool programmer. Creates tools that help everyone else make the game. For example, a level editor, or a converter of various in-game formats.

Sound programmer.

Artificial Intelligence programmer.

Of course, each of them deserves a separate article.

However, you do not need to be able to do all this in order to code your game.

Engines such as Unity, Unreal Eninge already cover physics, graphics, input, network, sound, partly AI, UI. You just have to create gameplay.

Technical quality: The animation clip's technical quality can affect the audience's perception of the animation's overall effectiveness. Analyzing factors such as the animation's visual appeal, coherence, and sound quality can indicate the level of technical expertise demonstrated in the project. Technical quality refers to the overall technical standards and production values of an animation clip with 3D graphics. This aspect is essential in measuring the effectiveness of the animation since it influences how the audience perceives the animation's quality and credibility. Here are some key aspects of technical quality that can be analyzed.

Game production is a complex process that involves multiple stages, from conceptualizing the game idea to finalizing its release. Developing a game requires a team of professionals with diverse skill sets, such as game designers, programmers, artists, and sound engineers.

To create a successful game, a thorough understanding of the target audience and market trends is crucial. Game development companies often conduct extensive market research to determine the features, gameplay mechanics, and overall design that will appeal to their target audience.

Game production involves several stages, including pre-production, production, testing, and release. During pre-production, the game concept is developed, and the team determines the game's scope, features, and development timeline. In the production phase, the team works on creating the game's assets, coding, and integrating gameplay mechanics.

Testing is a crucial phase in game development, where the team tests the game for bugs and glitches, gameplay balance, and overall player experience. Once the game has passed the testing phase, it is released to the public, and post-release support and updates may be necessary to maintain the game's quality and player engagement.

Overall, game production is a complex and challenging process that requires a high level of skill, creativity, and teamwork. The gaming industry continues to grow, and producing high-quality

games that engage and delight players is a key factor in a game's success.

References

1. McGuire, Morgan; Jenkins, Odest Chadwicke. Creating Games: Mechanics, Content, and Technology — Wellesley, Massachusetts: A K Peters

2. Moore, Michael E. & Novak, Jeannie (2010), *Game Industry Career Guide*, Delmar: Cengage Learning

3. Salen, Katie & Zimmerman, Eric (2005), The Game Design Reader: A Rules of Play Anthology, The MIT Press, ISBN 0-262-19536-4

4. Adams, Ernest; Rollings, Andrew. Andrew Rollings and Ernest Adams on game design (англ.). — New Riders Publishing

5. Bates, Bob.Game Design — 2nd. Thomson Course Technology, 2004.— ISBN 1-59200-493-8

УДК 7.74.01/.09
ЗАМАНАУИ ЛОГОТИПТІ ЖАСАУҒА АРНАЛҒАН 2023 ЖЫЛДЫҢ ТРЕНДТЕРІ

Макишева Ажар Ермековна
azhar.makisheva@mail.ru
Л.Н. Гумилев атындағы ЕҰУ «Дизайн және инженерлік графика» кафедрасының
5 курс студенті, Астана, Қазақстан
Ғылыми жетекші – Г.Б. Рахимжанова

Логотип-бұл клиенттің компаниямен алғашқы кездесуі. Көптеген адамдар ұсынылған қызметтер мен тауарларды бағалайды және көбінесе бизнесімен артықшылық беру немесе бәсекелестерге бару туралы шешім қабылдайды. Сондықтан лого мүмкіндігінше ассоциативті болуы керек және клиентте тек жағымды эмоциялар тудыруы керек. Тренд-бұл индустрияның қозғалыс бағытын көрсететін компастың бір түрі. Оның көмегімен сіз белгілі бір нарықтың даму сценарийін белгілей аласыз, тенденцияларды болжай аласыз және оларды маркетингте бірінші болып қолдана бастай аласыз.

Сұйық «сынап» қаріптері. Екі жылдық карантиннен кейін барлығына шығармашылық өмірдің жаңа тарауының жақындағанын сезіну үшін жаңа нәрсе қажет болды. Сұйық металл мен хром типографиясының 3D дизайны мен тренді пайда болды. Бұл стильде көптеген дизайн тұжырымдамалары тоғысады: 2000-шы жылдардағы стильді өмірге қайтару арқылы дизайнерлер адамзатқа аздап оптимизм мен жарқын болашаққа деген сенімділікті оятуға тырысады. 3D өнері шабытты оятатын таңқаларлық, эмоционалды формалары үшін жақсы көреді.Ал балқитын металл текстуралар үлкен магнит сияқты жұмыс істейді, өйткені оларды мәңгілікке қарауға болады. Биылғы жылы түсінікті қаріптер басымдыққа ие болса да, эксперименттік типографияның орны әлі де бар.

Сур.1 сұйық металл және хром дизайнда қолдану