The Vision of a New Class of Interactive Digital Games Aimed at Technological and Educational Advancement

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Successfully implemented international projects, grants received

UNIVERSITÄT BAYREUTH
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Khnué
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GAZEUS games
https://www.gazeus.com/en/

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https://www.reallusion.com/iclone/

Methods for Distributed Development of Computer Games

**Collaborative Workflows in Distributed Game Development**

Myriad of problems associated with organizing resistance against the aggressor

For the part of society not directly involved in combat, the processes of **information dissemination**, **training**, **forming a spectrum of values related to defending the homeland**, and **developing psychological traits** such as empathy, among others, became paramount.

Four areas of experiences

- **Aesthetic ("Being There")** - where the player physically (virtually) becomes part of the experience, immersing in the game environment in a passive role;
- **Educational** - where the player directly influences the events, learning through active participation in the game's scenario;
- **Motivational (Entertaining)** – where the player absorbs experiences that are transferred to their inner world, feeling rather than learning, in a passive role;
- **Engagement - a "escape from reality"** phase, where the player physically (virtually) becomes part of the experience and begins or continues to act actively, immersing in the game content.
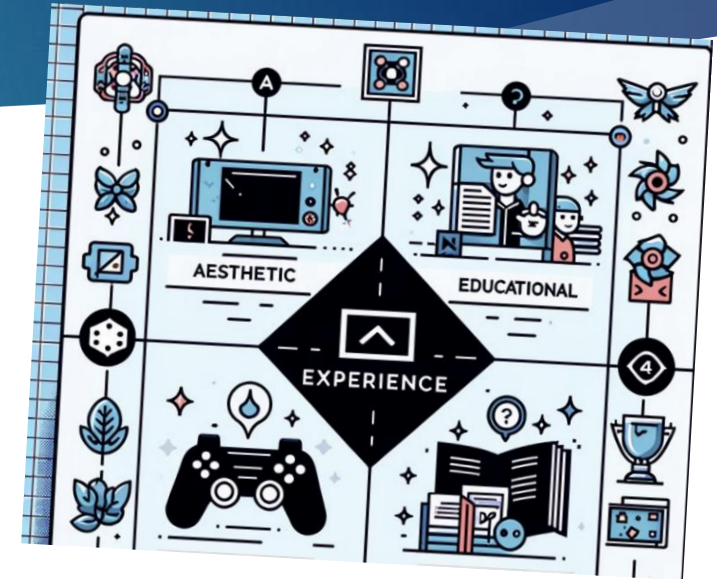
Educational phase - familiarizing with weaponry

Introducing the player with multimedia educational material

New class of games as a combination of the game genres

Strategic games like "Civilization VI" and "Age of Empires IV" promote the development of ***management skills***, ***strategic planning***, and ***multitasking***, which can be useful in conditions requiring quick responses to changing circumstances.

Role-playing games (RPGs) like "The Witcher 3: Wild Hunt" and "Elden Ring" allow players to ***experience different roles***, ***developing empathy*** and ***decision-making skills in complex moral situations***.

Adventure games and quests like "The Legend of Zelda: Breath of the Wild" help develop logical thinking, attention to detail, and the ability to solve complex problems.

Shooters (FPS) like "Call of Duty: Modern Warfare" and "Battlefield 2042" can assist players in ***developing reaction speed*** and ***decision-making under pressure***, particularly relevant in conflict conditions.

Simulators, such as "Microsoft Flight Simulator" and "Euro Truck Simulator 2", offer the opportunity to learn how to ***operate machinery*** in conditions as close to reality as possible, ***simultaneously developing attentiveness and responsibility***.

Online PVP (Player versus Player) games, like "League of Legends" and "Dota 2", promote the ***development of team spirit***, ***strategic thinking***, and ***communication***, important in conditions of ***collective work and cooperation***.

New class of games as a combination of the game genres

The **new class of games** should be built as a **combination** of the technical and technological capabilities of the above **game genres**. This will allow a **systematic representation** of the **complexity of modern military actions**, **logistics**, and the use of **advanced weaponry** in the new class of games.
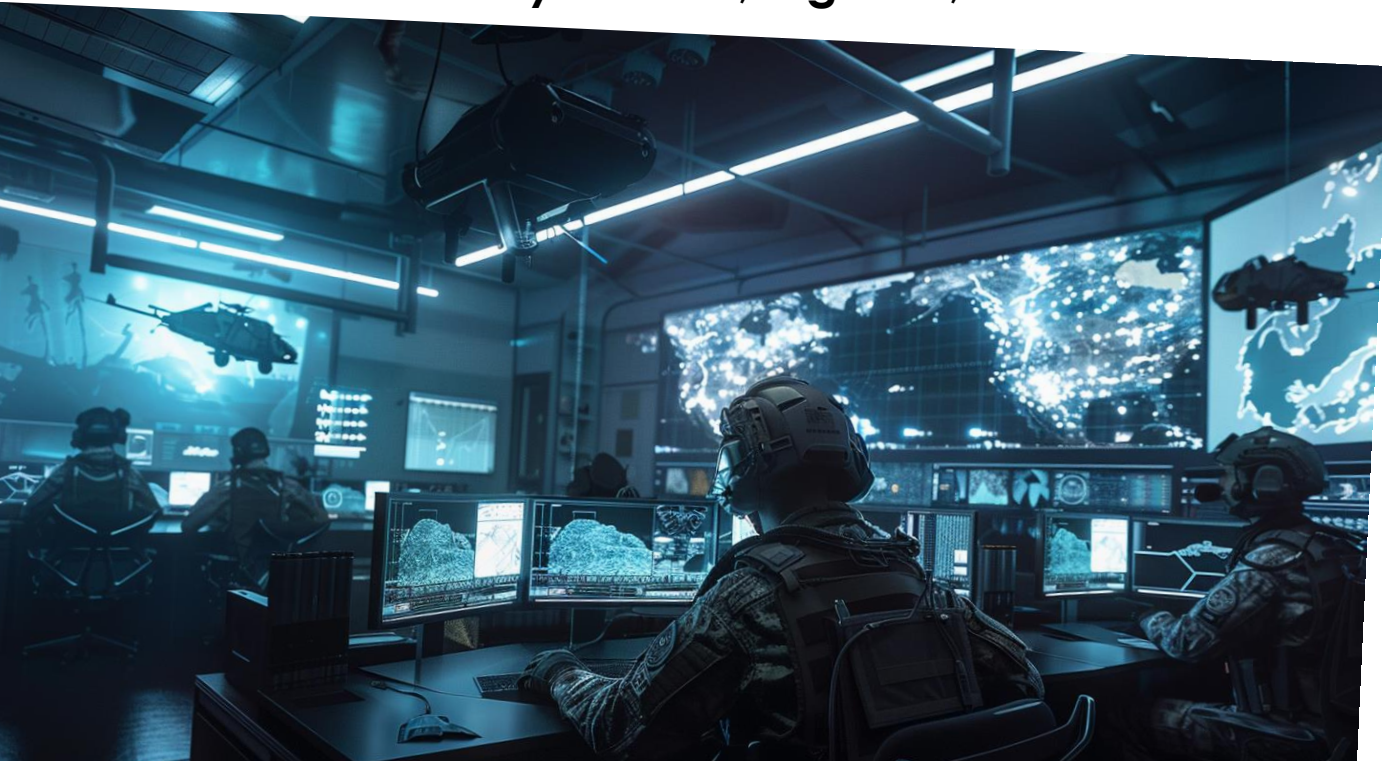
Supplementing the game scenario with multimedia stories

A **multimedia story** is a relatively new product in online media - a **combination of text, photographs, video clips, audio, graphics, and interactive elements presented on a website in a non-linear form**.

A significant component of the multimedia game is the motivational aspect

This **motivational force** is achieved through carefully crafted game metaphors and scenarios that resonate with the player's values and ethics, encouraging them to make choices that reflect a commitment to protect and **fight for** their **nation.**

The game design strategically integrates educational elements that not only teach about modern military equipment but also cultivate a personal investment in the game's outcome, thus fostering a deep connection between the player's actions in the virtual world and his or her values in the real world.

KharkivAR
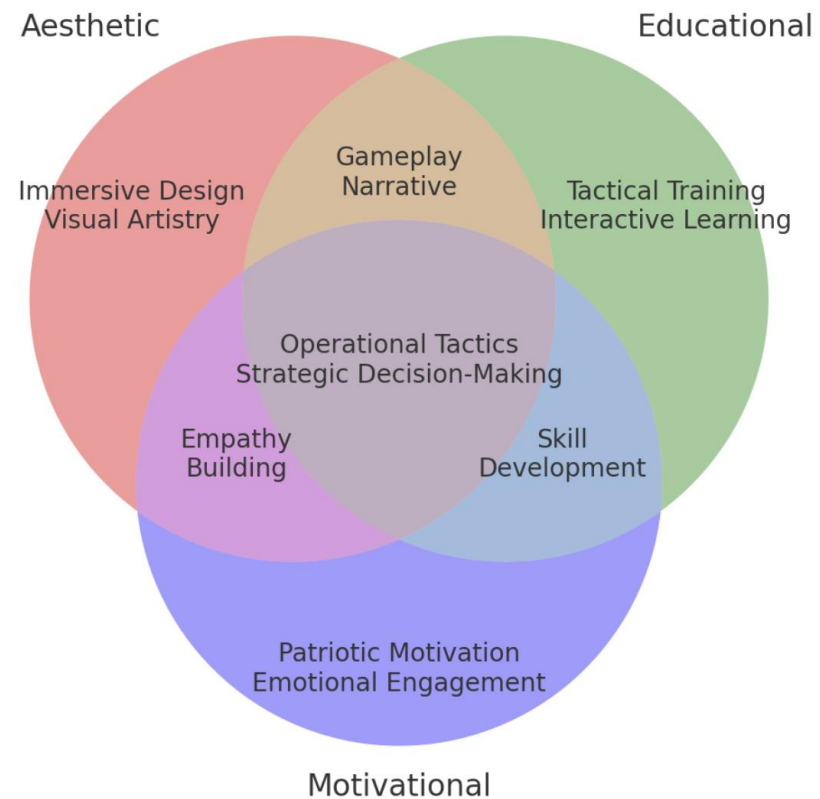## Example of short multimedia stories, artifacts using augmented reality

Demonstration of the AR camera operation

KharkivAR app launch

Areas of experiences

Venn Diagram: Integrating Experience Areas in Game Development

Conclusion

Key takeaways on the importance of computer games in war contexts for training, value formation, and psychological support

Computer games play an important role in the modern world, especially during military conflicts, as a means not only of entertainment but also of learning and developing essential life skills. They help develop managerial skills, strategic planning, empathy, and the ability to respond quickly to change, while maintaining morale and fostering a sense of responsibility.

A **call-to-action** for embracing the creation of "contemporary historical computer games "

The authors call for the development of a new class of computer games that integrate a variety of technical and technological capabilities to systematically reflect the complexities of modern warfare and logistics. These games are intended not only to provide a deep understanding of military scenarios, but also to contribute to the formation of values and psychological support, allowing players to empathize with the realities of combat.