Women in Gaming

NuGamers Fact Sheet

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About this fact sheet

This fact sheet provides information on the current situation and landscape of girls and women in gaming and the gender equality in game industry and education. Gaming and game industry is discussed both as an interest and a hobby, as well as a profession point of view. Additionally, the fact sheet provides an understanding of the main obstacles and reasons for the low interest of women in the sector.

This fact sheet gathers the identified motivators and related areas of interest among women. This was done through semi-structured interviews and workshops with target groups of students, teachers and industry professionals in game education and STEM (Science, Technology, Engineering, Math) in general.

Through the focus groups, the definitions of the challenges women face in the game sector, as well as possible solutions for overcoming them, are explored. These are the interviewees' recommendations and needs for change to educational institutions and the industry itself.

While this fact sheet gathers statistical data, it also provides the knowledge for raising awareness on issues that require a change in the game and STEM industries, such as gender disbalance and obstacles faced mainly by women because of their gender.

– Minna Porvari, RDI Specialist at South-Eastern Finland University of Applied Sciences

Contents

We explore the main motivators, obstacles and reasons for women to study and work in the game industry and other STEM fields.

Part I: Data on the Current Situation

Gender equality in game industry and education

Part II: Focus Groups

The identified main obstacles, reasons and motivators

Part III: Conclusions

Possible solutions for overcoming obstacles and the included risks

How to use this fact sheet?

The contents are divided into three parts as shown on the left. Each of these parts can be explored as a standalone, but to reach the best understanding of the topics, it is recommended to be explored in this order.

However, some of the introduced topics revolve around similar themes, which means that even a superficial read-through should give you a good overview of the contents.

Part I: Data on the Current Situation

Gender equality in game industry and education

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Do women even play games?

Simple answer: YES.

Let's have a look at how much
and what women play
and what the situation is in the
game industry.

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Women and video games

46.7%

of European game players are women.

33

is the average age of women who play video games.

44%

of women video game players are 35-64 years old.

51%

Women represent 51% of all smartphone and tablet players.

The prevalence of gaming

in Finland in 2022

According to the Finnish Player Barometer…

- 88% of women play something at least once a month
- 59% of women play digital games at least once a month

- 90% of men play something at least once a month
- 71% of men play digital games at least once a month

Digital gaming

in Finland in 2022

According to the Finnish Player Barometer...

- **Mobile** is the most popular platform to play video games
- 21% of respondents play on mobile **daily**
- 41% of respondents **never** play on mobile

- 14% are **daily PC** gamers
- 51% **never** play on PC

- Only 3% are **daily console** gamers
- 57% **never** play on consoles

So, what kind of games women play?

And what motivates them to play video games?

Genres

According to Quantic Foundry...

- Across genres, the average share of female gamers varies from 2% to 70%.

Match 3 and Farm Sim

gamers are most likely to be women.
→ Almost 70% of gamers who play match 3 games are women.

Tactical shooter and Sports game

players are least likely to be women.
→ Less than 5% of gamers of these genres are women.

High Fantasy MMOs

have more female players than sci-fi MMOs (Massive Multiplayer Online games such as World of Warcraft and Final Fantasy XIV)

Motivators

According to Quantic Foundry...

Completion and fantasy elements

are most common motivators for female gamers.
→ **Completion:** collect everything, complete all quests
→ **Fantasy:** be someone else or somewhere else

Fantasy and design elements

are most common motivators for non-binary gamers.
→ **Design:** expressing individuality, customization

Women in game industry in Europe

UK and France have the most game development studios.

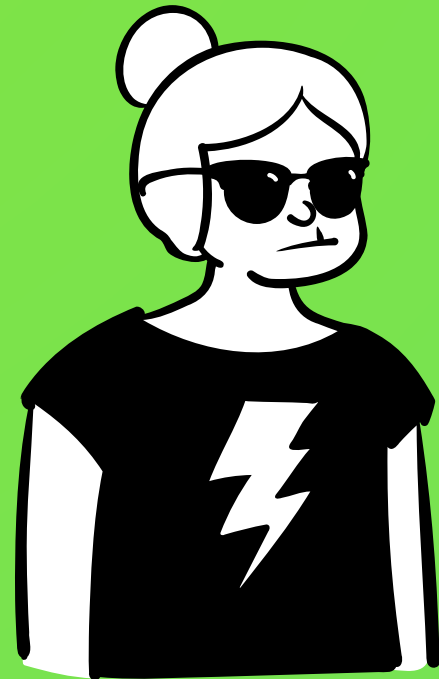Most game developer studios are **small and medium-sized enterprises** (SME).

EU has overall around **5,500 game development studios**.

In Europe, the video game sector **employed 85,000 people** in 2021.

Leading game studios in Europe

EA DICE, King

Rockstar North

King

Guerilla Games

CD Projekt

Ubisoft

Arkane Studios

Women in game industry

30%

of game industry workforce **worldwide** are women (2021).

8%

of game industry workforce **worldwide** identify as other/non-binary.

23.7%

of game industry workforce in **Europe** are women (2022).

Sources:
Video game industry in select regions in Europe – Statistics & Facts, Statista, https://www.statista.com/topics/11661/video-game-industry-in-select-regions-in-europe
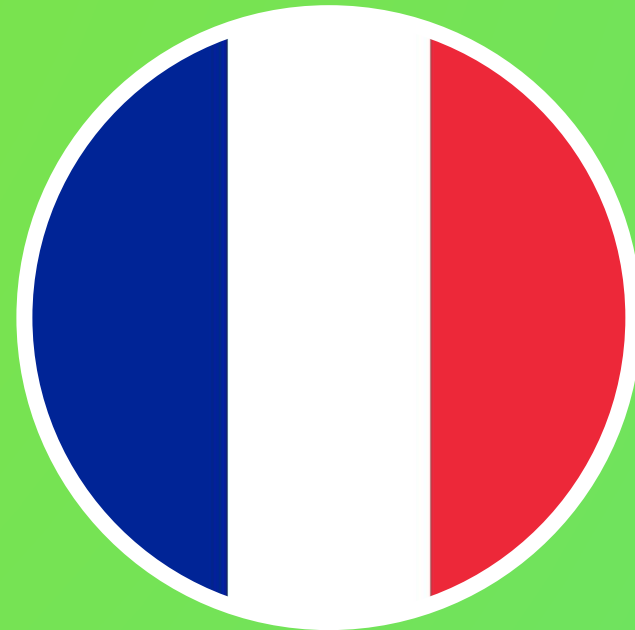European Gaming Industry report, https://gam3s.gg/news/european-gaming-industry-report
Key facts from 2022 Europe video games sector: https://www.videogameseurope.eu/data-key-facts/key-facts-from-2022-europe-video-games-sector/
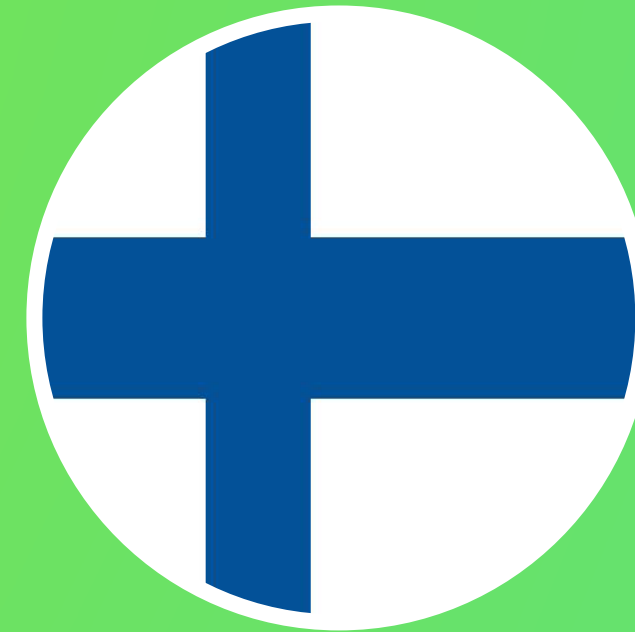
Women in game industry

UK
2022

- 24,000 employees
- 30% women
- 3% non-binary

France
2023

- 18,000 employees
- 24% women

Finland
2021

- 4,100 employees
- 22% women

Sweden
2023

- 8600 employees
- 23% women

Sources:
Video game industry in select regions in Europe – Statistics & Facts, Statista, https://www.statista.com/topics/11661/video-game-industry-in-select-regions-in-europe
Distribution of game developers worldwide from 2014 to 2021, by gender, Statista, https://www.statista.com/statistics/453634/game-developer-gender-distribution-worldwide/
UK Games Industry Census 2022, https://ukie.org.uk/census2022
SNJV Report: French Gaming Industry in 2023, https://gam3s.gg/news/snjv-report-french-gaming-industry-2023/
The Finnish Game Industry Report 2022, https://neogames.fi/wp-content/uploads/2023/05/FGIR2022report.pdf
Swedish Games Industry 2023 Game Developer Index, https://dataspelsbranschen.se/news/2023/10/19/record-year-for-the-swedish-game-industry

Women in game industry

Sweden

- 44% of people who joined the industry were women in 2023

- 26% of people who joined the industry were women in 2022

Game studies in Europe

- Game industry is a hybrid of **technology** and **creative industries**

- Currently at least **360 bachelor's degrees** that include game design in Europe

- Degrees range from **animation to management and sound design**

- 50+ degrees focused only on game design

Xamk, Bachelor of Culture and Arts, Game Design

- **2024, full time studies**
  - Total applicants 2125
  - Women 35%
  - Men 65%

- **2023, part time studies**
  - Total applicants 3718
  - Women 29%
  - Men 71%

According to the teachers at Xamk, half of the game design students are women.

35%

of Game Design degree applicants at Xamk are women (2024, full time studies).

Women in STEM

– Science, Technology, Engineering and Mathematics in 2024

- Bachelor degrees earned by women are

  ➢Engineering 24%

  ➢Computer science 21%

  ➢Physics 24%

35%

of the STEM workforce are women.

Women in STEM

— Science, Technology, Engineering and Mathematics in 2024

- Women STEM professionals are in
  - ❖ Social sciences 65%
  - ❖ Life sciences 48%
  - ❖ Computer and mathematical sciences 26%
  - ❖ Engineering 16%

" *Girls/young women and boys/young men* **do not significantly differ in their abilities** *in mathematics and science, but do differ in their interest, confidence, and sense of belonging in STEM.*

— National Girls Collaborative Project

Part II: Focus Groups
The identified main obstacles, reasons and motivators

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What motivates women to study and work in game industry?

As previously established:

- Half of gamers are women
- Only around 24% of the industry workforce are women
- Even less hold a managing position
- As a result, the industry is missing the skills, viewpoints, ideas and innovation from women
- This leads to the products (= games) not being the best they could be

Why women want to make games for living?

- The reasons can be exactly the same as the reasons for men
- We know why more women should work in the industry
- There are multiple disciplines within the industry – it's a hybrid of technology and creative industries

What obstacles women face in the gaming sector?

- Negative portrayal of women in video games
- Harassment, sexism and cyber-bullying while playing video games
- Presentational aspects of games can be identified as strongly gender-linked

> **Games include twice as much male dialogue as female dialogue on average. 94% of games studied had more male dialogue than female dialogue, including games with multiple female protagonists.**

- Misogynistic attitudes & workplace harassment
- Unequal pay for men and women
- Lack of visible role models
- Gender bias and stereotypes in STEM education field and in applying to education – "Maths is only for boys."

What is Gamergate?

The number of female players has increased, which has also increased the number of female developers who have developed the industry forward.

However, this does not please everyone, which, for example, gave rise to the phenomenon "Gamergate".

It's about **harassment of game developers and players**, cyberbullying and misogyny in the game industry.

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Abuse of female gamers in the UK
by male counterparts is driving gamers offline

Impact

35%

of UK women game on PC

23%

game on console

33%

of female gamers say they've been the victim of abuse or discrimination from male gamers

Where abused: **online**

63%

Type of abuse:

51% Verbal

40% Sending inappropriate content/messages

32% Sexual harassment

10% Threats of rape

33%

Don't reveal that they are female when playing online multiplayer games

11%

Won't play online as they are worried that they will be abused by men

Focus groups

- **Our goal was to find:**
  - Vocational school and university students in game and STEM-related fields
  - Their teachers
  - Industry professionals
- And ask their thoughts and opinions.

- **What we were looking for:**
  1. Motivators for studying/working in game industry
  2. Main obstacles and reasons for studying/working in game industry
  3. Possible solutions for overcoming these obstacles
  4. Possible risks in overcoming these obstacles

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Demographics of interviewees
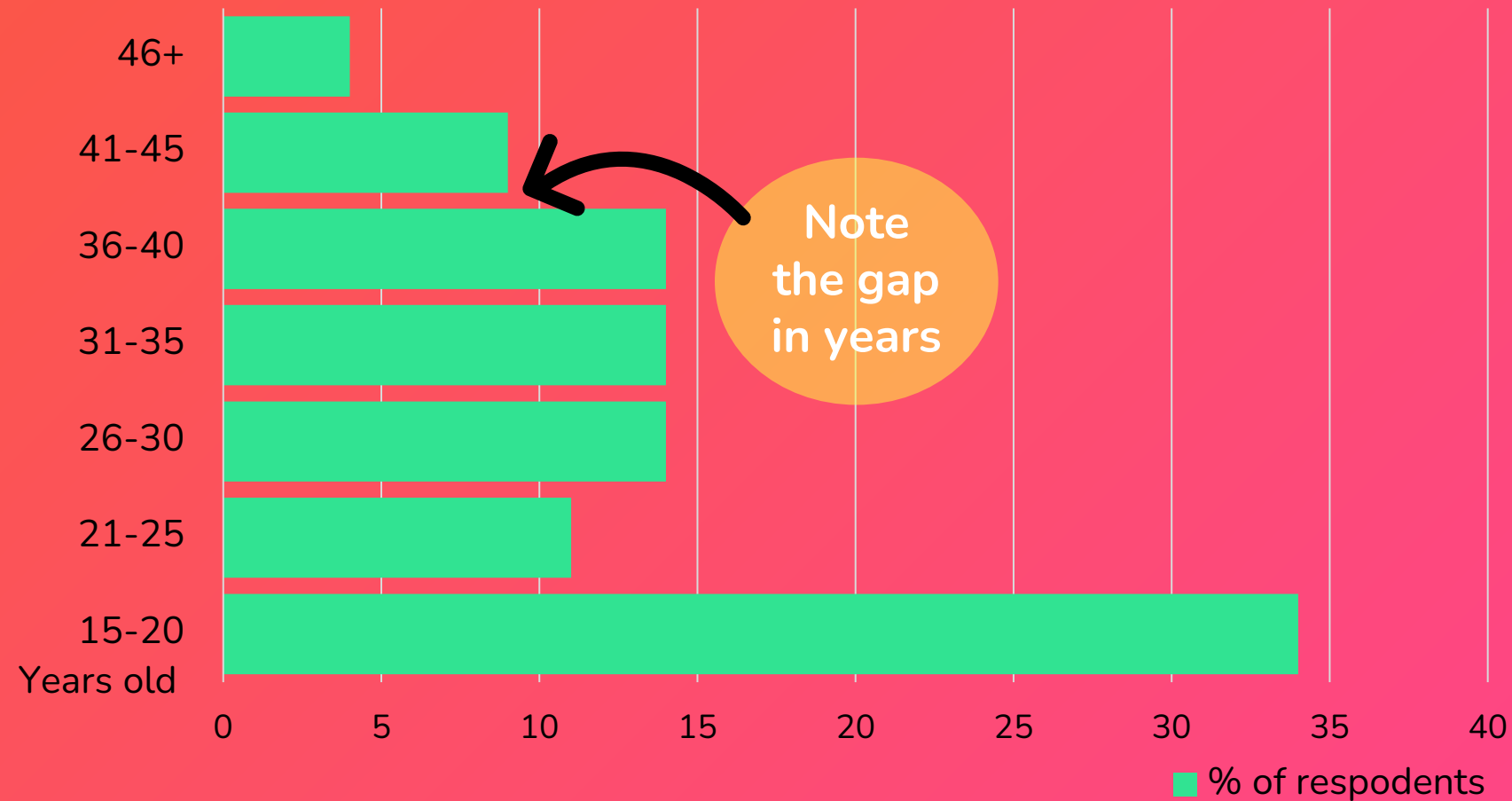
The circles present the locations of the interviewed individuals. A larger circle means multiple interviewees were from the same area.
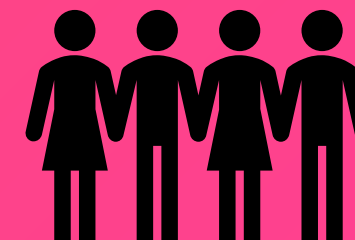
What we learned

The following information is summarized from our focus group participants, and it conveys only the thoughts and experiences of the focus group.

The following part is divided into:

1. Hobbies & interests
2. Motivators
3. Challenges

Hobbies & interests 1/2

To better understand the group of interviewees, let's first take a look at their hobbies and interests. Different life stages, professional roles and personal responsibilities shape people's hobbies and freetime activities.

Community-driven hobbies for younger respondents:

Younger participants are more engaged in hobbies that involve significant social interactions, enjoying spending time with people who share similar interests. These community-driven activities allow them to connect and build relationships through shared hobbies.

Family and home-oriented hobbies for older respondents:

Older respondents, especially those with families, place more importance on family-oriented activities. Their hobbies tend to revolve around home life, balancing responsibilities with leisure. However, family responsibilities can also limit how they spend their free time.

Work-life balance for teachers:

Teachers emphasize maintaining a healthy work-life balance. They seek hobbies that provide a complete break from their job, focusing on activities that help them recover mentally and physically, such as exercising to stay fit.

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Hobbies & interests

Types of hobbies mentioned:

- **Games (non-online):** Many respondents enjoy fantasy games, horror games, and watching related movies or TV shows. Also roleplaying games (e.g. Dungeons and Dragons) are popular.

- **Solo activities:** Some prefer solitary hobbies like gardening, canoeing, nature walks and miniature painting.

- **Online games:** Others engage in online games and games with compelling storylines, either solo or with friends and family.

- **Creative interests:** Hobbies such as storytelling, cosplay, reading comics and books, and analysing video games are popular. Some even integrate their hobbies into their professional life, like drawing which evolved into professional work.

- **Outdoor and family-focused hobbies:** Some individuals spend more time outdoors, engaging in activities like gardening, spending time with their family, cooking, and exploring music.

Physical and mental wellness:

Activities like going to the gym, walking the dog, and focusing on creative outlets like writing or storytelling are common. Cleaning, cooking, and going to the gym are also cited as regular, everyday activities.

Shifts in priorities:

Some respondents mention spending less time on gaming due to other commitments, prioritizing responsibilities like family or work over leisure. However, when they do play, they mix between group gaming sessions with friends and individual gaming based on their mood and social company.

Motivators 1/4

The summary outlines the key themes of **creativity**, **passion**, **community engagement**, **personal success**, and the factors driving **career decisions**, while also reflecting on **teaching**, **societal impact**, and the **workplace environment**.

Creativity and passion in work:

- Respondents highly value creativity and freedom in their roles, where they can **express their unique ideas and approach problems in innovative ways**.

- Many are passionate about their jobs, particularly **enjoying the process of creating engaging content** and programming games that captivate audiences.

- **The desire to combine personal passions**, such as drawing, storytelling, and gaming impact their career choice. These roles allow them to **stay true to who they are rather** than forcing themselves to fit into traditional career molds.

- For some, working in the **creative field felt like a natural extension of their lifelong interests**, like playing and designing games, and the opportunity to design interactive experiences was **a perfect fit for their skills and interests**.

Community engagement:

- Respondents are actively involved in game-related communities such as Discord groups, Facebook groups, and professional associations, where they **engage with like-minded individuals**.

- Many participate in board game design, role-playing games (such as Dungeons & Dragons), **and enjoy sharing their knowledge** with others by teaching or guiding peers through game development projects.

- They find **value in these communities**, as they provide both a **sense of belonging and a platform for exchanging creative ideas and collaborating** with others in the gaming world.

Motivators

Personal growth and recognition:

- Respondents are motivated by a **desire for personal growth**, finding areas they excel in and continuously seeking opportunities to learn and improve.

- **Receiving acknowledgment for their skills**, such as through competitions, awards, or prizes, helps them stay motivated and confident in their abilities.

Hobbies and personal interests:

- Outside of work, respondents **engage in hobbies closely related to their professional interests**, such as playing and creating video games, board games, and tabletop games.

- Additionally, they enjoy other **hobbies that allow for relaxation and creativity**, like music, cooking, spending time outdoors walking their dogs, and socializing with friends.

Motivation for teaching:

- Some respondents have taken their passion for games and creativity into higher education, where they are **committed to teaching and mentoring students** in fields like game development and programming.

- They find working with students **incredibly fulfilling**, particularly being **inspired by the students' creativity** and **witnessing their personal growth**. For them, helping students create amazing projects and reach their potential is one of the most rewarding aspects of their career.

- They also highlight the **importance of extracurricular activities and internships**, noting that companies are often very satisfied with the students they host, further enhancing their academic and professional experience.

Creative industry motivation:

- A **creative career** allows individuals to combine personal passions with work. For many respondents, this includes a **deep love for games and art** that began in childhood.

- Working in a creative industry, especially game design, feels like **a natural fit**, providing opportunities to **channel their imagination into tangible products** that entertain and engage others.

- Game research and education attracts passionate professionals, as it **combines academic rigor with their love for interactive entertainment**.

- Creative jobs were appealing because they **offered an alternative to trying to "fit" into a conventional career,** allowing them to stay authentic to **their introverted, creative personalities**.

Motivators behind career choices:

- **Family influence:** Family members working in the industry are cited as a significant factor in shaping career decisions. This provided a positive role model and fostered early interest in the field.

- **Interest in technology and gaming:** Many respondents were drawn to technology and gaming from a young age, and these early interests developed into career aspirations.

- **Creative skills recognition:** Positive feedback and recognition of their creative skills in hobby activities encouraged some to pursue the field professionally.

- **Game industry as a natural fit:** For those passionate about games, the game industry was considered one of the most viable and exciting career paths.

- **Practical considerations:** Good wages, the content of the degree program, and guidance counselor advice influenced career decisions. For some, the choice was obvious from a young age, while others discovered the field later, sometimes through unrelated jobs that spurred a career change.

- **Gender representation:** Some respondents chose to enter male-dominated fields because of the positive image of the industry, and a desire to challenge traditional gender stereotypes.

Gender dynamics in the workplace:

- While gender plays a background role, respondents believe that **different perspectives from all genders are important** in the workplace.

- **Good team dynamics** are essential for success, and they feel that **gender should not matter** in achieving positive outcomes and collaboration in the workplace.

Good workplace environment:

- **The nature of the field**, including its collaborative and creative environment, is a significant source of motivation.

- **Positive feedback** from colleagues and peers is seen as essential for maintaining high morale and job satisfaction. Good teamwork and supportive environments help foster creativity and professional success.

Societal impact and values:

- Respondents are motivated by the **desire to make a positive impact on society**, whether by creating work that makes people's lives better or by challenging societal norms.

- Some respondents are driven by a **desire to improve gender representation in traditionally male-dominated industries**, helping to combat stereotypes and create a more inclusive environment for future generations.

- They also appreciate the opportunity to use their creativity and imagination at work, believing that **creative industries provide unique opportunities to influence culture and bring about social change**.

Motivators 4/4

The summary introduces the various challenges faced by different groups – **gamers, students, industry professionals, and teachers** – highlighting issues of **gender disparity, mental health**, and **professional uncertainty**.

Challenges in gaming as a hobby:

- **Time constraints:** Many respondents struggle to find time for gaming due to **demanding personal and professional responsibilities**. Maintaining a good work-life balance makes it difficult to engage in gaming regularly, which often leads to a **decline in skills** over time. This is particularly frustrating for those who aspire to reach or maintain a higher skill level in competitive games.

- **Finding communities:** Some gamers have a **hard time finding like-minded individuals** who share their interests, especially for more niche genres or games. For women, this issue is compounded by their **insecurity in joining predominantly male communities**, where they may feel unwelcome or judged.

- **Insecurity in communities:** Female gamers often feel insecure in online gaming communities due to **gender-related criticism**. Many respondents shared experiences of feeling **excluded or criticized** simply because they are women. They are often **questioned about their gaming skills** or seen as lesser players compared to their male counterparts.

- **Social perceptions:** Gaming is still seen as an **unconventional or unproductive hobby**, especially for women. Respondents expressed frustration over how they are viewed by others when they spend time gaming. Some also feel **pressured to make their hobbies "productive",** creating internal conflict about whether gaming can be just for fun.

- **Harassment and exclusion:** Female gamers experience **gender-related harassment**, such as **unwanted romantic advances, gender-based jokes, trolling, and griefing** (deliberately sabotaging a game because of the presence of women). This often leads women to **avoid voice chat** in multiplayer games to conceal their gender, which in turn creates communication challenges in team-based games where verbal collaboration is essential.

- **Skill maintenance and gender bias:** Limited gaming time not only leads to a **decline in skills**, but women also face additional scrutiny and are often **pressured to perform better than their male counterparts** to be taken seriously. Despite their passion, they may struggle to meet the demands of competitive gaming, further intensifying their frustrations.

Challenges

Faced by students

- **Educational barriers:** Many students expressed disappointment with traditional education systems, feeling that academic programs **do not provide sufficient institutional support or adequately prepare them** for the real-world challenges of the game industry. Self-directed learning and skill development outside formal education were necessary for many to succeed.

- **Gender disparities in class:** Female students often **feel isolated or overshadowed in male-dominated classes**, particularly in technical fields. Respondents noted that **boys are typically more vocal** in class discussions, and female students' **opinions are often overlooked**. This creates an environment where women are hesitant to share their ideas or take on leadership roles in projects.

- **Class culture:** In classes with a higher proportion of female students, the culture is seen as more inclusive, with more collaboration and mutual support. In contrast, classes with predominantly male students tend to have a more **competitive and exclusive atmosphere**, making it harder for women to feel confident in sharing their perspectives.

- **Lack of role models:** One of the major challenges for female students is the **lack of female role models in both education and the game industry**. Teachers often **struggle to find women professionals to invite as guest speakers or mentors**, as many women in the industry prioritize personal responsibilities or have fewer opportunities to engage in such activities.

- **Mental health and imposter syndrome:** Many female students deal with **imposter syndrome, self-doubt, and fear of not being taken seriously** in a male-dominated field. This often hampers their ability to fully engage in their studies and pursue leadership roles.

- **Job market challenges:** After graduation, students face a **fiercely competitive job market**, with **long periods of unemployment** being common. Even highly qualified students may struggle to land interviews.

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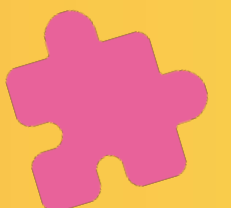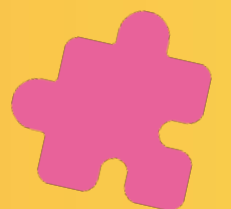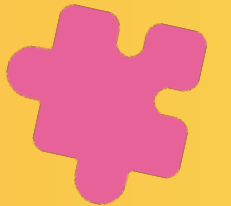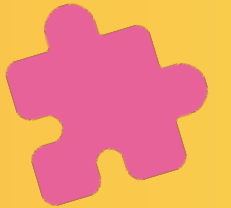
Challenges

Faced by industry professionals

- **Industry competitiveness:** The gaming industry is **highly specialized**, and professionals face **intense competition for jobs**. Many companies are **reluctant to hire junior employees**, making it difficult for newcomers to break into the field. Those already in the industry experience **constant pressure** to stay relevant and innovate.

- **Financial and resource constraints:** Many professionals struggle with **funding and resource limitations**, both in their personal projects and within their companies. This is especially true for smaller studios or independent developers, where securing financial stability can be a significant challenge.

- **Balancing personal and professional commitments:** Professionals often face **difficulty balancing their personal creative projects with the demands of their professional careers**. The pressure to meet **deadlines** and the industry's **fast-paced environment** can leave little time for hobbies or personal development outside of work.

- **Gender disparities in the workplace:** Female professionals face distinct challenges in achieving recognition and career advancement. The presence of a **"bro culture"** in a workplace creates an atmosphere where **women feel excluded or uncomfortable**. Women often need to **speak louder or repeat ideas to be heard**, and they struggle to be taken as seriously as their male counterparts.
  - The "bro culture" often includes informal behavior and unprofessional conversations, making it **difficult for women to fully integrate into office dynamics**.
  - Women in graphics or art roles may **feel limited in their career prospects**, particularly if they lack technical skills like programming, which are often seen as essential for starting a game studio.

- **Job mobility and instability:** The gaming industry is known for **high job mobility**, with professionals frequently moving between studios or cities. While this offers diverse experiences, it creates **instability for those seeking long-term roles**. Some respondents reported living in multiple cities within a short period, which can be stressful and disruptive to personal life.

- **Diversity in hiring:** Despite efforts to promote diversity, **tech-related roles in gaming still receive overwhelmingly male applications**. Hiring managers often face difficult decisions when trying to prioritize diversity, as the pool of candidates is predominantly male.

- **Mental health and imposter syndrome:** Industry professionals, especially women, often **struggle with imposter syndrome and self-doubt**. The pressure to continuously innovate, stay competitive, and perform at a high level can take a toll on mental health, leading to **burnout**.

- **Global crises and economic uncertainty:** The gaming industry has also been affected by global crises such as **COVID-19 and political instability**, which have **reduced job opportunities** and created **further uncertainty** for professionals trying to secure stable employment.

- **Family and personal commitments:** For women, **balancing family responsibilities with the demands of a career** poses additional challenges. The game industry's requirement for long hours, travel, or relocating can **conflict with family duties**, especially for those with children.

Challenges

Faced by teachers

- **Rewarding yet demanding work:** While many teachers find their work deeply rewarding, particularly the opportunity to help students grow and achieve their dreams, they also face significant challenges. One common issue is **maintaining a work-life balance**, as teaching can be **time-consuming and emotionally draining**.

- **Gender dynamics in the classroom:** Teachers in male-dominated fields struggle **to create an inclusive environment**. Female students often feel outnumbered and less heard in such classes, leading teachers to address issues of gender disparities in participation and classroom culture.

- **Limited female role models:** Teachers face challenges in **finding female role models to invite as guest speakers or mentors**, which limits opportunities for female students to see successful women in the industry.

- **Institutional barriers:** Many teachers encounter **institutional challenges**, such as **limited resources or lack of support** from academic institutions in promoting diversity and innovation in the curriculum.

Adobe Stock

Part III: Conclusions

Possible solutions for overcoming obstacles and the included risks

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What we learned

The following information is summarized from our focus group participants, and it conveys only the thoughts and experiences of the focus group.

The following part is divided into:

1. Solutions
2. Risks
3. Personas

Solutions

The change girls want to see

We asked our focus groups what kind of things they would change in the scene if they could change anything.

These solutions aim to create a more **inclusive**, **supportive** and **equitable environment** in both educational and professional settings especially in the gaming industry.

Skill enhancement:

- **Diverse skill promotion:** Encourage **learning across fields** like programming, mathematics, and game design. This helps students and professionals adapt to the highly specialized industry.

- **Self-directed learning:** Support **continuous skill development** through self-education, which allows individuals to stay competitive and relevant.

Networking and community support:

- **Mentorship and collaboration:** Build connections within the industry, **promoting mentorship** between experienced professionals and newcomers to guide career development.

- **Community support: Strengthen participation** in academic communities and industry-related networks to boost collaboration and support systems.

Solutions

Educational reforms and support:

- **Practical evaluation:** Advocate for a more **inclusive approach to qualifications**, focusing on portfolios and practical skills over academic credentials.

- **Experience-driven education:** Foster **collaboration between academic institutions and companies**, allowing students to gain real-world experience through internships and partnerships.

- **Mental health support:** Enhance **student services and provide mental health resources** to address the pressure students face in competitive industries.
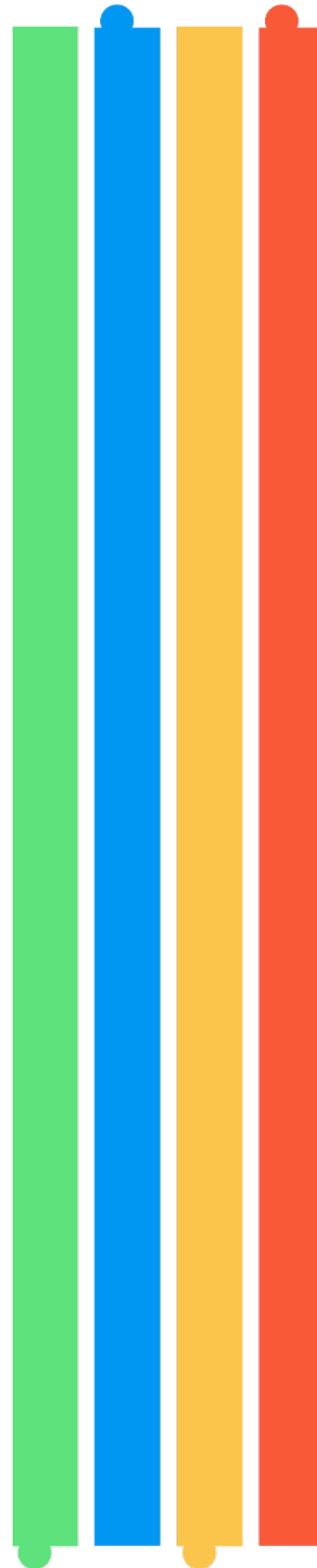
Advocacy and awareness:

- **Promote women in STEM:** Increase **awareness and advocacy for women in STEM** fields, showcasing **role models** and mentors to encourage more women to pursue careers in the gaming industry and STEM fields.

- **Tackle gender disparity:** Focus on **confidence-building programs**, teaching women to negotiate salaries, apply for jobs with confidence, and overcome imposter syndrome.

- **Challenge toxic culture:** Push for **punishments and zero tolerance policies for toxic behavior** in gaming and work environments, especially toward gender-based harassment.

Solutions

Fostering inclusivity and diversity:

- **Inclusive class and work environments:** Cultivate an **equal and respectful environment** at school and work, encouraging students to listen to one another regardless of gender, and fostering trust through **group activities**.

- **Multicultural and diverse workforce:** Advocate for a **diverse and inclusive workforce** in the gaming industry, creating **opportunities for those with less experience** and **encouraging multicultural participation**.

- **Child-friendly work policies:** Develop **more child-friendly work environments** to support women and families in the industry.
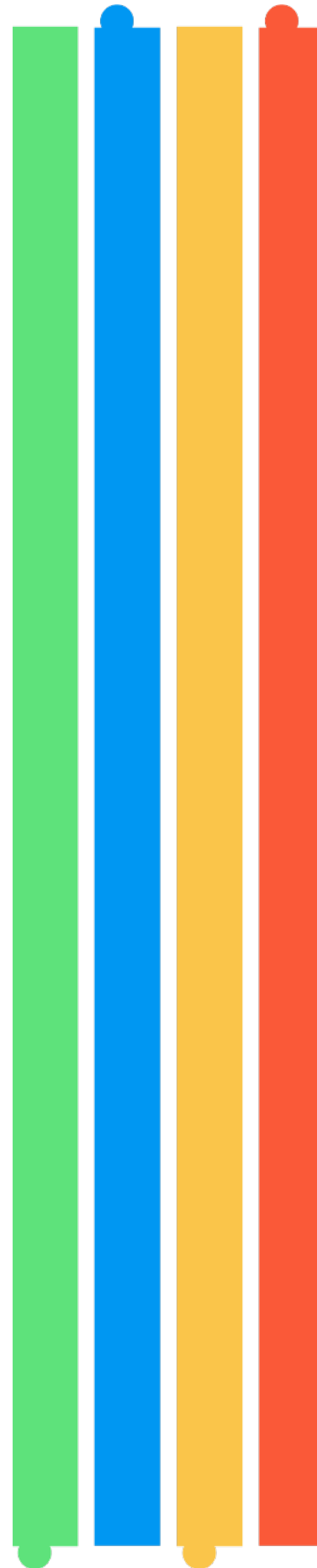
Combatting stereotypes and social barriers:

- **Break stereotypes: Encourage** young women to pursue creative industries and tech by showcasing the financial potential and career opportunities.

- **Role models and representation:** Provide **successful role models** to combat stereotypes and encourage girls to pursue STEM and creative fields.

Mental health and self-esteem support:

- **Support mental health:** Provide **ongoing mental health support** and work to **reduce the stigma** associated with mental health challenges in both academia and the industry.

- **Boost self-esteem:** Offer **programs aimed at increasing self-confidence**, especially for women, to help them overcome internal barriers in their personal and professional lives.

Risks

While the solutions offer a potentially variety of improvements in different aspects, they are not without risks. These risks highlight the need for ongoing efforts to address **career instability**, **gender disparities**, and **educational gaps** while striving to **improve work-life balance** and **ensuring fair treatment** in the industry.

Career uncertainty and instability:

- **High competition and specialization:** The video game industry is highly competitive and requires specialized skills, leading to **career uncertainty**.

- **Financial instability:** There is a significant risk of financial instability and potential **project failures**, which can impact career stability.

- **Burnout risk:** The industry's **high demands** and **stress levels** can lead to **burnout** among professionals.

Gender and diversity challenges:

- **Gender disparities:** Persistent gender disparities and bias can **limit equal opportunities** and **recognition for women** in the industry.

- **Risk of unequal opportunities:** Women may face challenges in achieving **equal recognition** and **career advancement** compared to their male counterparts.

Additional observations:

Educational and professional gaps:

- **Self-directed learning issues:** Over-reliance on self-directed learning might result in **gaps in formal education**.

- **Institutional barriers:** Navigating educational and institutional barriers can be difficult, affecting **access to necessary resources and industry entry**.

Work-life imbalance:

- **Managing responsibilities:** Struggles with balancing personal interests with professional responsibilities can lead to work-life imbalance.

- **Gender representation in education:** Efforts to **include female educators** and **promote equality** in technical education are crucial.

- **Skills disparity:** There might be **differences in technical skills** between genders, with girls potentially having less technical experience, while boys may struggle with artistic aspects.

- **Visibility in projects:** Girls might **not take as much space as they should** during larger collaborative projects.

- **Customer dynamics:** Game companies may be reluctant to **ban problematic players** due to their value as paying customers.

Personas

- A service design tool for getting to know your user-base or customers
- A persona is a reference model representative of a specific type of users
- They focus on capturing different behaviors – or in NuGamers, different motivators and challenges behind the person's decisions

But how can you use them?

- Personas are a useful tool for development and design
- They provide a fact-based context for who your target group really is and what are their needs
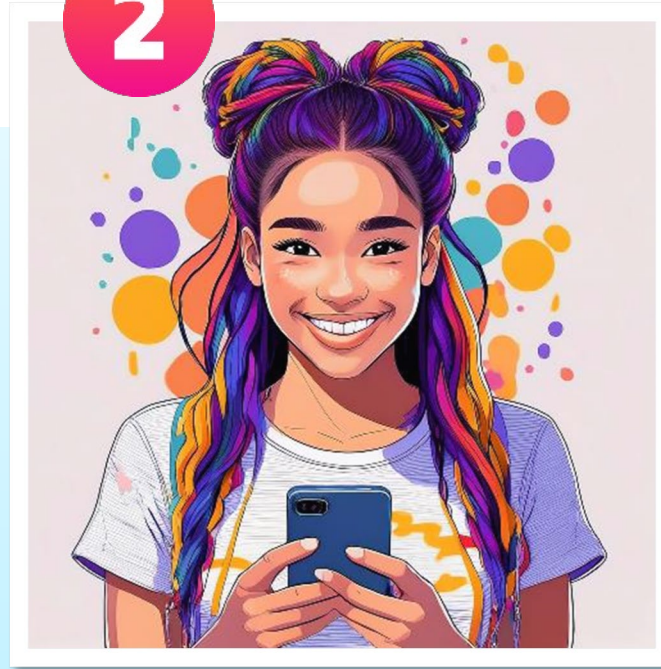- By taking the personas into account, you can create more inclusive solutions

Adobe Stock

The personas

1
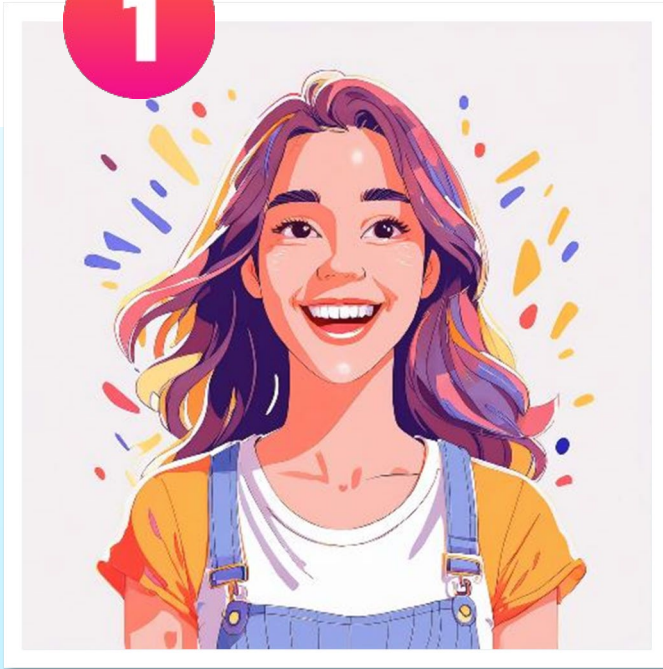
Mia, 17
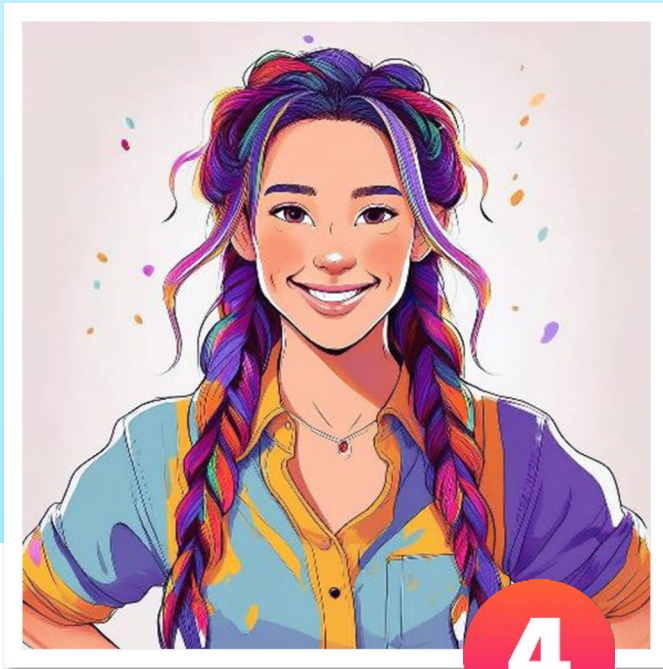Vocational school student in game development

2

Bree, 24
University of applied sciences student in game design
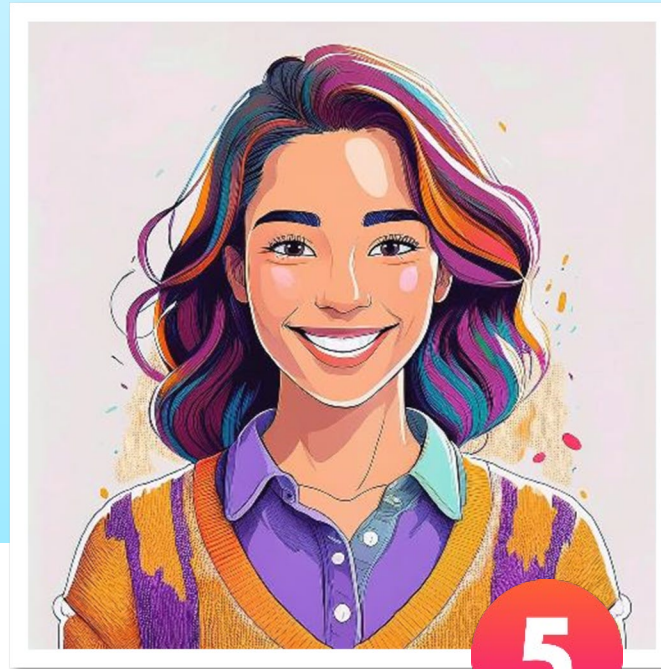
3

Nina, 27
University student in information technology

4

Clarissa, 39
Professional in game industry

5

Anne, 44
Vocational school teacher in electrical engineering

6

Ivana, 54
University teacher in game design

Images generated in Adobe Firefly

1

Mia, 17
Vocational school student in game development

- Lives in her childhood home with her parents and their dog
- Has just started her studies
- Parents work desk jobs as specialists in business: They value education and expect their daughter to go to university

Goals

- Develop strong programming and game development skills
- Continue her studies in university level
- Create a portfolio of game projects to showcase her skills
- Challenge and overcome gender stereotypes in technology fields

Motivations

- Already existing interest and aptitude towards the themes
- Interest in innovative and non-traditional education program
- Learning opportunities and networking in game projects
- Desire to challenge gender stereotypes in tech
- Good salary in programming
- Teachers are great and treat girls with respect
- Feedback from teachers
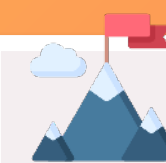
Challenges

- Initial challenge of choosing the school and program due to its novelty
- The competitive nature of admissions: Only the best gain admission
- Worry that she would be the only girl in the class
- Difficulties with teamwork and collaboration on school projects: Surprisingly strong social skills are needed for working in the field-
- Dedication and perseverance is required to succeed in studies

Hobbies & interests

- Playing since elementary school and creating video games for a few years before applying to the vocational school.
- Plays both single and multiplayer games, depending on the mood and available company.
- Always plays online games with her friends, never with strangers: doesn't feel comfortable playing with strangers
- A passive follower of game-related online communities
- Is starting to find and follow studies-related online communities and is interested in being active in them
- Participates in game-related clubs and activities in school
- Enjoys music and outdoor activities, such as going for walks with her family dog
- Is currently exploring a new coding language through an online course

1

Mia, 17
Vocational school student in game development

Solutions

- Equal treatment in studies from teachers while taking into consideration that some might not have as strong tech skills

- Women in tech and STEM presenting their jobs to girls and setting examples locally

- Encouraging girls to pursue their fields of interest at school and at home

- Fostering safe space guidelines and emphasizing their meaning in study projects

- Setting boundaries and encouraging open discussion about the group dynamics

- Group activities at the start of the studies to help students getting acquainted

Risks

- Girls are not as vocal in projects or self-assured in their skills which can lead to them being "bulldozed" in their ideas or being withdrawing altogether

- Male students might feel that females are coddled in the studies if they get special attention; This applies to anyone who requires special attention as it might irritate the majority

- Opportunities are not presented equally to all students

- Women feel that more is expected of them than of their male colleagues / classmates

- Allowing gender exclusive groups in study projects doesn't foster diversity but forcing the minorities to different groups can be stressful to them

Advice

- Embrace your interests and don't be deterred by stereotypes

- Seek out supportive communities for advice and learning more

- Focus on learning by yourself and pursue the most interesting aspects of the field

Mia's journey

"

Is a technological field really ok for girls?

Will I be the only girl in my class?

I have the support of the people around me.

I'm good at what I do and I want to learn more.

I wish more girls would consider the field as career option.

Mia was initially unsure what to study. Because of her interest and aptitude in games and technology, her study advisor suggested the game development field. The degree was fairly new, so Mia had not heard about it beforehand.

At first, Mia was skeptical about applying because of the societal pressure and gender stereotypes that computing is not suitable for girls, and because of the competition in applying to game development. Her study advisor and her parents encouraged her to apply to the field.

Her parents reminded her that it's always possible to switch careers later and that programming skills would be useful in other tech fields too.

After her application was accepted, Mia was worried that the class would consist only of boys, and she would be the only girl. She tried not to dwell on it too much and eventually decided to consider it a challenge:

Even if she was the only girl, she would show everyone that she could do this.

In her studies, Mia was glad to find out that the study advisor had been right about her aptitude towards the field, allowing her to excel in her studies. Furthermore, she was looking forward to the opportunity of studying more specialized courses.

Bree, 24

University of applied sciences student in game design

- Moved into her own apartment for university studies
- Studied social sciences but switched into game design

🎯 Goals

- Learning everything she needs to be able to start making her own ideas into games
- Becoming a narrative designer
- Better mental wellbeing and a supporting work environment
- Growth of great professional self-esteem

🥕 Motivations

- Being able to use her creativity in her studies every day
- Feels that she found "her people" in the degree
- Her skills are valued
- Feedback from teachers and industry professionals during studies
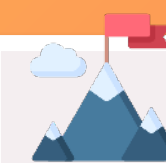
⛰️ Challenges

- Never considered game industry when she was younger
- Got into video games "late" compared to her peers and it makes her feel insecure
- Mental health challenges: Studying can be stressful, and it impacts wellbeing-
- Suffers from imposter syndrome

💬 Hobbies & interests

- Art and creating things
- Consuming movies, books and comics
- Video games became an important hobby as a young adult
- As a young adult is growing into her own person and exploring what she wants to be in the future

2

Bree, 24
University of applied sciences student in game design

Solutions

- Less stigma and more support for mental health issues

- Better career guidance in schools and encouragement for choosing the career path

- Support for finding one's own strengths and actively developing them

Risks

- Being open about one's mental health issues can impact career options negatively

- The need for accommodating one's mental wellbeing at work can be viewed negatively

- Not enough time, space and money for healing, which leads to imbalance in wellbeing and life, and even negligence of one's health

- Challenges in financial situation and the lack of paid training positions

Advice

- One should seek a career / field that fits into who they are as a person rather than trying to change themselves

- Don't forget the importance of supportive networks of friends and acquaintances, and remember to rely on them

- Check your negative habits such as interacting in echo chambers (environment in which a person encounters only opinions and views which coincide with their own, reinforcing their existing views) in social media and doom scrolling

Bree's journey

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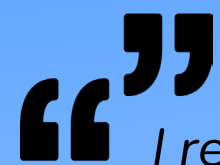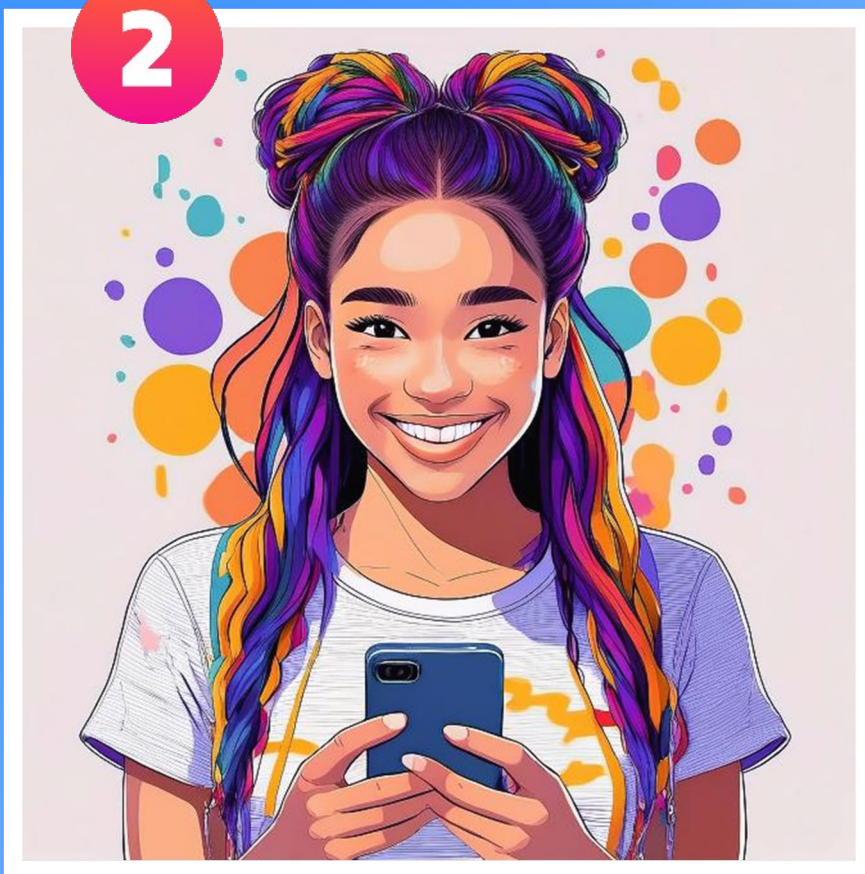
I really like art and storytelling.

There are other creative jobs besides a career in art.

I should not allow other people to pressure me into making my career choices.

The game industry is both demanding and rewarding, and it requires a lot of work to succeed.

I need to consider my mental wellbeing very carefully and do my best.

Bree has been drawing ever since she could hold a pencil and creating her own stories. She is always the happiest while creating things on her own in solitude. She lives and breathes through art and creativity, and when she can't create, she focuses on consuming movies, books and comics. As a kid, she thought that games are only for boys and none of her friends or family ever played video games.

Bree studied in art-oriented senior high school, but wasn't sure if she wanted to do art as living since it's very difficult to make a career as an artist or a writer. Being good isn't enough, you'd have to be the best and there is always someone better. Also, her family didn't consider art as a real job and encouraged her to look for degrees in healthcare.

Bree applied into university to study social sciences because it was at least more plausible career option than art. Art could still be a dearly beloved hobby. In university she met a friend, who was an avid gamer, and they started playing video games together. She became interested in how games are made and how they can be used to tell stories. She heard that it's possible to study game design that combines art, writing, design and tech.

Bree applied into university of applied sciences to study game design since it combined her interests. She has been profoundly enjoying using her creativity in multidisciplinary teams and learning new things. She thinks she probably can't become a concept artist but making graphical assets and narrative design are the most interesting areas to her.

Her current greatest concern is that finding a good place for her mandatory practical training is difficult. The industry is extremely competitive as there are lots of applicants and companies are not hiring trainees. Bree hopes to find an unpaid training position with the option to work remotely as she doesn't have the extra funds to travel to another city for the job unless it is a paid position.

During her studies, Bree has been suffering from mental health related challenges. She needs support and encouragement to overcome these challenges, defeat imposter syndrome and grow her professional self-esteem.

3

Nina, 27
University student in information technology

- Bachelor of business administration, information technology
- Avid gamer and skilled in her chosen competitive game

Goals

- Complete her degree with high marks
- Secure an entry-level position in the industry
- Continue building her portfolio of digital products
- Climb the ranks in her favorite video game

Motivations

- Interest in combining technical skills with usability
- Desire to contribute to the industry as a female and offering her point of view-
- The ability to make better digital products that make people's lives easier
- The industry changes constantly, so she must keep developing her skills
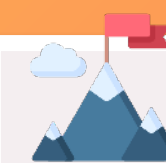
Challenges

- Limited local internship opportunities
- Balancing academic commitments with personal interests and social life
- Facing negative attitudes and behavior while gaming because she is a woman
- Feeling that sometimes she is not taken as seriously in the industry because she is a woman

Hobbies & interests

- Competitive video gaming
- Participating in and building online gaming communities
- Creating digital products that are user-friendly
- A prosperous career in technology industry as a female developer

3

Nina, 27
University student in information technology

Solutions

- Leveraging university resources and networks to find internship and job opportunities

- Participating in online communities for female developers and gamers to find like-minded people

- Use the available tools in games and communities to limit engagement with toxic players and reporting them

- Promoting positive and supportive behavior policies in games and communities

- Be prepared to go out of your comfort zone and allow personal growth

Risks

- Lone wolf mentality can be damaging to oneself

- Facing competition for limited industry positions post-graduation

- Unknowingly fostering a bubble of her own values and point of view instead of a nutritious, equally beneficial work environment for everyone

- Not reminding oneself of the state of things in the real world can be harmful

Advice

- Find the environment that allows you to grow as yourself, instead of it forcing you to change

- You are allowed to reach for your dreams, and you deserve to be treated right

- Take a look around to realize that you're not on your own

Nina's journey

> "
> *Video games are important to me.*
>
> *I want to work in technology industry.*
>
> *I prefer working on my own and remotely.*
>
> *Finding an accepting online community for gaming should not be this difficult. There should be consequences to those who mistreat others online.*
>
> *I want to make products that make people's lives easier.*

Nina is a 27-year-old university student, studying information technology and programming. She has a strong academic record and is actively involved in student projects and gaming events. She has always been passionate about games. It felt like the right fit to work in a technological industry, and to work on interactive products.

Nina is an introvert, who has found her dearest friends online through video games. Her friends live across the world, and it suits her just fine. Her father is a programmer and as a kid she often helped him tinkering with computers and building them. Math was always her favorite subject at school.

Nina started playing video games as a kid in her older brother's steps. In primary school she was the only girl who played. Boys from the class thought she was cool because of this. Gradually she got into online games and started playing in a more competitive level. Competitive gaming required finding regular team mates to play with and voice communications.

She participated in several online gaming communities, but often faced misogynistic attitudes and harassment due to her gender. For years she avoided playing with voice communications in matches with random teammates. This affected her ranking and status in the game negatively as she was not able to play in the level she wanted to achieve. As an adult she found an online community with a good and accepting atmosphere. There she is treated just as one of the team members and not looked down upon just because she is a woman.

Career in technology had always interested her. Nina studied to become a bachelor of business administration in information technology. After her studies, she had difficulties finding work. Open junior positions were rare and there were a lot of applicants, so the competition was fierce. After almost a year of unemployment, she got into a medium-sized company as a full stack developer.

In the future she wants to make better digital products to help make peoples' lives easier.

4

Clarissa, 39
Professional in game industry

- Lives alone and currently wants to focus on her career
- Background in IT
- Worked in mobile game industry for 8 years
- Has had her own company for 2 years

Goals

- Successfully develop her game development company
- Create innovative and engaging games
- Be the best team leader
- Find the best talent while promoting diversity
- Mentor young women entering the game industry

Motivations

- Passion for game development: Wants to make an impact with her vision
- Drive for entrepreneurship and team leadership
- Inspiration from successful female entrepreneurs in tech
- Believes in the best side of the community and wants to foster positive, reinforcing environment
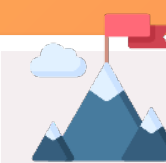
Challenges

- Issues in career progression when working for another company: Poor company leading, unfairness between remote and in-office workers, and no opportunities for advancement which lead to the feeling of being stuck
- Negative work culture in other companies: Strong bro culture led to being feeling left out and often uncomfortable
- Discouraging the crunch culture
- Finding the best talent for her company

Hobbies & interests

- Tabletop and role-playing games like Dungeons and Dragons: She is the only one of the friend group who doesn't have problems with scheduling the sessions
- Going to the gym for exercise
- Wants to spend more time on personal creative pursuits, like writing and storytelling, but feels it's difficult as an entrepreneur to take the time to use her work skills on personal projects
- Does her best in upholding work-life balance

4

Clarissa, 39
Professional in game industry

Solutions

- Teach girls to be more assertive and competitive; they need the self-confidence in the game industry

- Present successful role models

- Promote the development of diverse skills like programming and mathematics relevant to game development to girls

- Normalize the opportunities in game industry and highlight its financial potential

- Implement supportive policies for better work culture and environments, and ensuring diversity in the industry

- Promote transparent decision making: Reduce unexpected career challenges for workers

- Be active in local game developer's associations and participate in events, workshops and discussion

Risks

- Trying to change the prevalent culture and being against the working conditions can lead to suffering personal consequences and impose a risk to one's career

- The game industry can be volatile and pose risks to job stability

- Limited diversity hinders the development with under presentation of certain groups and lack of diverse perspectives in game content and development teams

- Financial uncertainty in indie developing

- Using the benefit of working remotely can unfairly hinder one's career progression compared to on-site workers

- "Woke culture" stigma: Not ensuring a balanced outcome for all groups can turn out negatively and put minorities on a pedestal

Advice

- Seek mentorship and advice from experienced industry professionals: Local and online game developer's associations are a great place to start

- Stay adaptable and open to new opportunities and challenges

- Transparent policy making and ensuring a generally fair approach in hiring decisions

- Community accepted guidelines for industry: Everyone agrees to work towards a more diverse and inclusive future

4
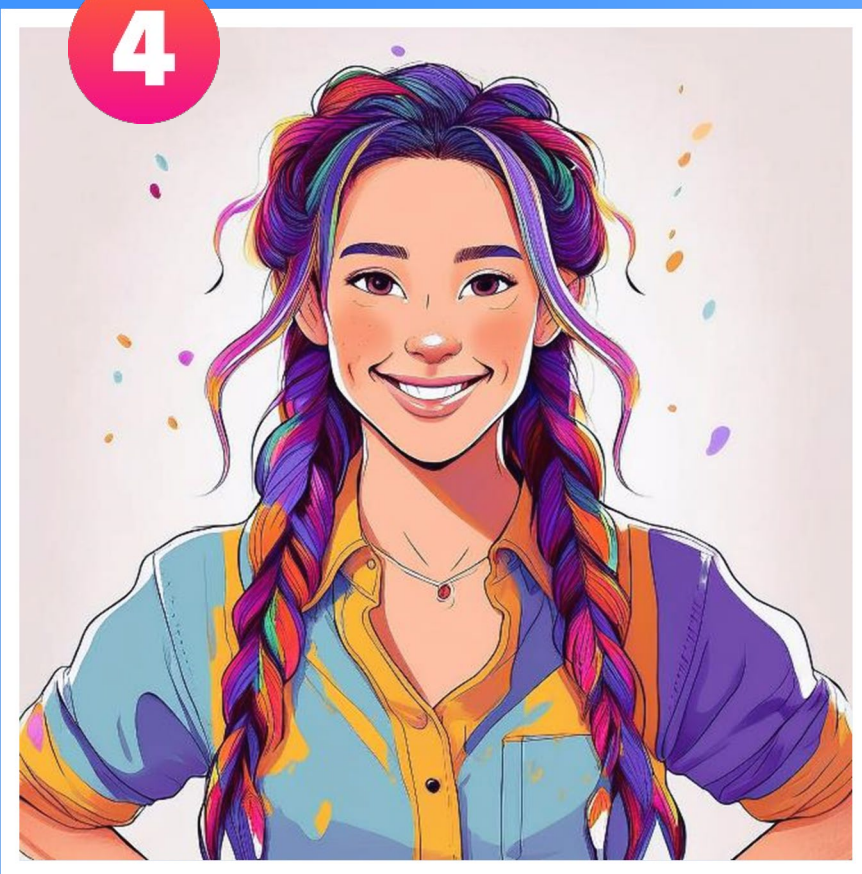
> My hobby became my work.
>
> I got fed up with the bro culture in my previous workplace, so I decided to start my own company.
>
> There are many female role models in the industry that I look up to. I want to be like them one day and be a role model to the new generation of female developers.
>
> As an entrepreneur I need to hire the best talent, but most of the applicants are men, especially in tech related roles, so upholding diversity is challenging.
>
> Pretend that you're a middle-aged white man and take his confidence and do what he would do.

Clarissa's journey

Clarissa entered the game industry almost by accident. She has a background in the IT sector in various positions and the shift to game industry happened gradually before game development degrees were widely available. She has strong management and team leading skills with a passion for creative and tech collaborative projects. After working for eight years in various mobile game companies, she started her own company.

Clarissa's experiences in other companies were varied. The prevalent bro culture made her uncomfortable as she was usually one of the few women in the workplace. The crunch methodology in projects was stressful and started to impact her wellbeing, driving her towards a burnout.

Also, as a person preferring to work from home, she realized this was impacting her career advancement negatively as on-site workers were often favored for higher positions over remote workers.

Clarissa is passionate about creating innovative games and supporting other women in the industry. As an entrepreneur she struggles finding the best talent while upholding a diverse workforce.

She believes that because so many women are in graphics, they don't think that they can start game studios because they're not programmers. She wants to show an example as a female developer.

5

Anne, 44
Vocational school teacher in electrical engineering

- Mother of two boys
- Her parents and brother are engineers, so the career choice was always clear to her
- Was a bit of a tomboy as a kid
- Lives with her husband and children in the suburbs, very middle-class
- Short commute to work and tries to bicycle as often as possible
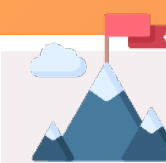
Goals

- Imparting the knowledge to students and finding ways to help them learn
- Keeping work and free time separate and being able to recover from work

Motivations

- Teaching motivated students and seeing them learn and achieve their goals
- Teaching and engineering strike a perfect balance between straightforward theory and room for creativity

Challenges

- Feels that as a woman in the field she has to always be slightly better than men
- Starting a family creates obstacles and affects career negatively

Hobbies & interests

- Spends as much time with her family as possible
- Enjoys doing things around the house; anything that is different from her day job
- To balance out the technical field, likes to do things that are traditionally considered feminine such as baking, cooking and reading

5

Anne, 44
Vocational school teacher in electrical engineering

Solutions

- Teach young people to about the importance of listening to others, no matter their background

- Educators should push for equality and treat students equally

- More family and child-friendly work environments and cultures

- Have more women represent their fields in schools

- Policies to ensure one starting a family won't cause negative consequences

- Open discussion about recruitment culture in companies

- Possibilities of working in different, more family-friendly ways e.g. shorter workdays

- See the employees as people, not as a resource

Risks

- The change in industry gender balance can be slow and requires continuous effort

- Girls choosing a male-dominated field as pioneers might face challenges in work environment

- Sharing one's personal life can affect career opportunities negatively

- Different life situations requiring flexibility from the employer should be afforded equally to everyone

Advice

- Believe in your skills and aptitudes, and pursue your interests based on them

- People are not unilateral: One can work in male-dominated fields but enjoy feminine hobbies or vice versa

- Encourage companies to set examples in making more diverse hiring decisions

- Check your prejudices and treat everyone with respect

Anne's journey

"
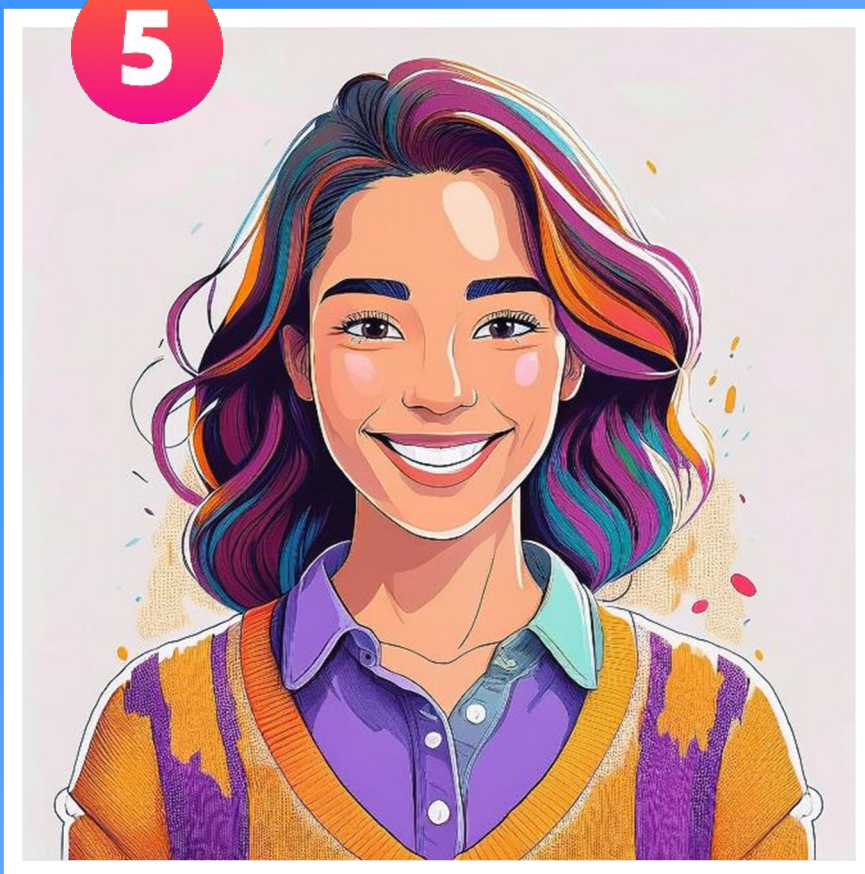
My life is nice and stable now.

Choosing a male-dominated field was never an issue for me.

Starting a family hindered my career progression more than anything else I've encountered in the industry as a woman. This felt unfair as the societal pressure and work environment weren't supportive.

I have now time to raise other peoples' children since my own are older.

I love working with motivated students. They're great.

I wish more girls would choose engineering fields. There is no reason they wouldn't thrive in them.

Anne never really thought about becoming a teacher. She studied engineering because everyone in her family is an engineer. She chose the field based on her interest. Still, she was worried that she would be the only girl in the class, and it made her anxious. Even though electrical engineering is widely male-dominated field, Anne thinks it suits women well and more girls should choose it as the occupation.

Anne's career in an engineering office came to a full stop when she got pregnant. While pregnant she couldn't work in the building sites at all as a safety measure. While she was on family leave, gradually the idea of teaching started to grow in her mind. She got her pedagogical qualification after returning to work in the engineering office. When her kid was older, she thought it was the time to start helping other people's kids to grow.

The best part of her work is seeing students learning to do things they couldn't before and helping them overcome their challenges. Teaching combines reactivity and creativity; not everything can be planned beforehand. Especially in her field learning is done by doing, not lecturing. The nature of her work is rewarding and that is why she enjoys it.

Anne is the only woman teaching the degree. Because of this she makes it her goal to go promote the degree in secondary schools so girls will see it as a real option.

Anne is a work-life balance promoter. On her free time, she focuses on anything that is not work-related. She exercises a lot and wants to stay in good shape.

6

Ivana, 54
University teacher in game design

- Lives with her husband and two cats
- Her kids have already moved out
- Strong professional background in game industry and media field
- Started teaching as a side job

Goals

- Inspire and mentor the next generation of game developers
- Promote diversity and inclusion and their importance within the game development field

Motivations

- Passion for educating and mentoring students
- Desire to bridge the gap between the education and the industry
- Special interest in the societal aspects of gaming

Challenges

- Current role was initially intended as a side job but evolved into full time position: the decision to leave the industry for teaching required a lot of thought
- Struggles with the rigid educational systems that don't cater to the industry needs
- Practical experience is not emphasized enough over formal academic qualification which makes finding part time lecturers more difficult

Hobbies & interests

- Occasionally playing games, but spends less time on gaming due to other commitments
- Prioritizing responsibilities over leisure activities
- Has an impressive balcony garden

6

Ivana, 54
University teacher in game design

Solutions

- Regularly updating the degree contents to include latest industry trends; more flexibility in studies

- Collaboration with industry professionals to provide students with insights from the field

- Advocating more inclusive policies and support systems within the university

- Use the opportunities for professional development to keep up professional skills

- Inviting more female guest lecturers to give role models to especially new students

Risks

- Degree not being future-oriented; students need the know-how of current and future trends, and the degree should allow the foresight and flexibility to adapt to future industry needs

- Disregarding self-development as teacher can impact students negatively

- Disregarding students' needs and aptitudes, but also allowing too much freedom in studies or too much imposed restrictions

- Being too involved in helping struggling students can affect one's own wellbeing

- Students being too dependent on their teacher

Advice

- Set boundaries with students for your own wellbeing

- Keep up professional networks in the industry

- Develop professional skills

- Be open to feedback and develop the course contents continuously

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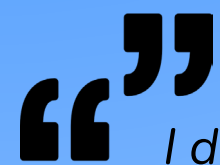
I didn't think I would become a teacher, but never say never, I guess.

The educational system should be able to better consider the industry needs because game industry evolves constantly and fast.

The students are the best and I'm often mind blown by their creativity.

We are working for a better future for the whole industry by setting good examples and practices. It's a teacher's responsibility and privilege.

Ivana's journey

Ivana is a professional game designer gone teacher. She always considered teaching a side job until she was offered a permanent position. Eventually she became the head of the degree.

Currently she teaches game design with a focus on narrative design. She considers the best part of her job to be interacting with students and seeing the creative and amazing projects they create.

Ivana tries to always find female teachers and guest lecturers to show an example and foster better gender-balance in the field. Often this has proved difficult since female developers tend to have more overall responsibilities and commitments than men in the same positions.

She would want to play more games on her free time but has other priorities like taking care of her family's two cats and the garden on their balcony.