TRANSFoodMERS

TRANSFOODMERS - RESPONSIBLE FOOD SYSTEM YOUTH GAME CHALLENGE

TRANSFoodMERS

Digital - Serious Game on Sustainable Food Consumption & Production Guidelines

PROJECT NUMBER: 2022-1-EL02-KA220-YOU-000089702

Ινστιτούτο Προώθησης και Πιστοποίησης Προϊόντων Αγροδιατροφης

fifty-fifty Social Innovation & Cohesion Institute

PYLON ONE

European Center for Research and Regional Development

uDevelop

Innovation and Sustainable Development Institute

Co-funded by the European Union

The Importance and Benefits of Non-Formal Education and Education Through Games

One of the main components of both individual and society development is education. Even though traditional education offers structured learning, it frequently adheres to strict frameworks that don't allow for much creativity or hands-on learning. In contrast, non-formal education values adaptability, creativity and experiential learning, which makes it an effective means of giving people real-world knowledge and critical life skills. Non-formal learning can happen in a variety of settings, such as youth programs, community initiatives, vocational training and interactive workshops, where knowledge is acquired in a dynamic and participatory way, in contrast to formal education, which takes place in classrooms and adheres to a standardized curriculum.

Learning through games is one of the most efficient and entertaining non-formal education methods. It has long been known that playing games can increase curiosity, improve problem-solving skills, and promote deeper comprehension. Learning becomes an immersive experience when education is incorporated into play, allowing players to actively explore ideas, make decisions and overcome obstacles. In particular, board and digital games provide settings where students can engage with challenging topics in an engaging and natural way. They participate in situations that demand critical thinking, teamwork, and practical application of their knowledge rather than merely passively receiving it.

There are many advantages to game-based learning. It guarantees improved knowledge retention through engagement, fosters the growth of social and cognitive abilities, and increases motivation by making learning fun. Games can be an effective tool for increasing awareness and promoting behavioral change when they are used to address issues like sustainability, climate change, and responsible consumption. Players are motivated to take action in their own lives and get a deeper understanding of real-world situations through strategic thinking, decision-making, and storytelling.

This strategy is adopted by the TRANSFoodMERS project, which educates youth about sustainable food systems using game-based learning. Giving the next generation the information and abilities they need to make wise decisions is essential in a time when environmental issues are growing more urgent. Together with related board games and outdoor pursuits, the digital game will offer an engaging way to investigate how food production and consumption affect the environment. In addition to learning about sustainability in an entertaining manner, playing these games will give players the self-assurance they need to take the initiative and effect change in their communities.

Theoretical Framework of the TRANSFoodMERS Game

The goal of the immersive and interactive TRANSFoodMERS game is to teach players about environmental responsibility and sustainable food consumption. The game places players in the shoes of a food preparer who must efficiently carry out orders while managing real-world sustainability concerns in a dynamic culinary setting. Players get a deeper understanding of sustainability in food production and consumption through integrated knowledge-based questions, decision-making situations, and hands-on gameplay.

Basically, the game embodies the ideas of sustainable food systems by highlighting the need for responsible consumption, the influence that food choices have on the environment, and the significance of waste reduction. The player must be mindful of sustainability considerations that impact food quality while they cook with a variety of components. An ingredient in the kitchen may occasionally become "unsustainable" and need to be thrown out in the appropriate receptacle. Players are introduced to the idea of food waste and the negative effects that unsustainable food production has on the ecosystem through this mechanic.

Players make decisions in real time that reflect issues with food sustainability as part of the game's experiential learning methodology. Through active ingredient management, waste avoidance, and answering sustainability-related quiz questions that pop up every 30 seconds, players implement what they've learned in a fast-paced, dynamic environment. Players are urged to consider food systems, the influence on the climate, and responsible resource management in light of the questions' multiple-choice solutions. Kolb's experiential learning theory, which emphasizes that learning occurs most effectively when people participate in practical tasks, think back on their experiences, and apply newly acquired knowledge in authentic settings, is in line with this.

Gamification of behaviour is another important instructional component of the game. People learn through observation and reinforcement in addition to first-hand experience, according to Bandura's Social Learning Theory. Players in TRANSFoodMERS have instant feedback on their actions; if an order is completed successfully, a "delivery success" notification appears; if not all of the ingredients are used, a "Game Over" screen with performance statistics appears. This feedback system encourages players to embrace more sustainable practices in their daily lives by reiterating the value of effectiveness, resourcefulness, and conscious consumption.

In addition to teaching academic knowledge, the game promotes critical life skills including flexibility, time management, and decision-making. While dealing with the problem of unplanned ingredient spoilage, players must swiftly process incoming requests, evaluate which components are available, and decide on the best course of action. This is a reflection of actual situations in the food sector, where sustainability issues call for strategic planning and fast thinking. Players learn about how food choices affect the environment and the value of reducing waste and maximizing resources by interacting with these mechanics.

TRANSFoodMERS is a teaching tool that immerses players in the intricacies of sustainable food systems, not merely a fun kitchen simulation. Through the integration of knowledge reinforcement and action-based learning, it enables players to become more conscious of their part in advancing sustainability. Players gain a greater understanding of the relationship between food, the environment, and responsible consumption through captivating gaming and interactive decision-making, which better prepares them to contribute to a more sustainable future.

The Game's Learning Goals

In addition to providing players with entertainment, the TRANSFoodMERS game aims to teach them important sustainability ideas about waste management, food networks, and responsible consumption. The game encourages players to critically consider the effects of their decisions and form habits that help create a more sustainable future by fusing game-based learning with actual environmental challenges.

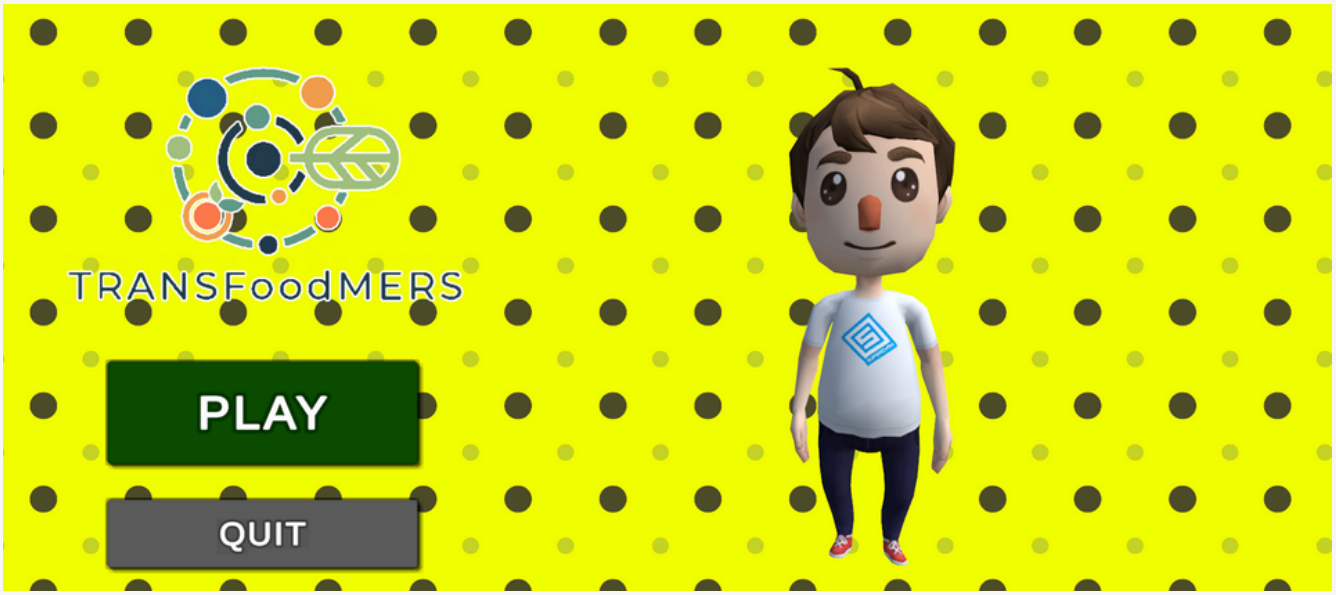
Increasing awareness of sustainable food production and consumption is one of the game's main educational objectives. Players must effectively manage ingredients as they cook meals in a hectic kitchen setting while addressing the difficulty of unsustainable food items that occur in the game. Players learn about food waste and the value of using sustainable and ethically obtained materials in their daily lives from this mechanism. Players gain a stronger grasp of the environmental effects of food production and the importance of waste reduction for sustainability by frequently making these choices in the game.

Developing efficiency and resource management abilities is another important learning objective. In order to finish as many meals as possible within the allotted time, players must prioritize orders, balance several tasks, and use ingredients wisely—all of which are simulations of the difficulties of working in a kitchen. This parallels actual issues in the food sector, where minimizing environmental impact requires effective resource use. Players who are able to use every item that is available and finish every order will understand the need of meticulous preparation, organization, and mindful consumption—skills that they may use in their everyday lives.

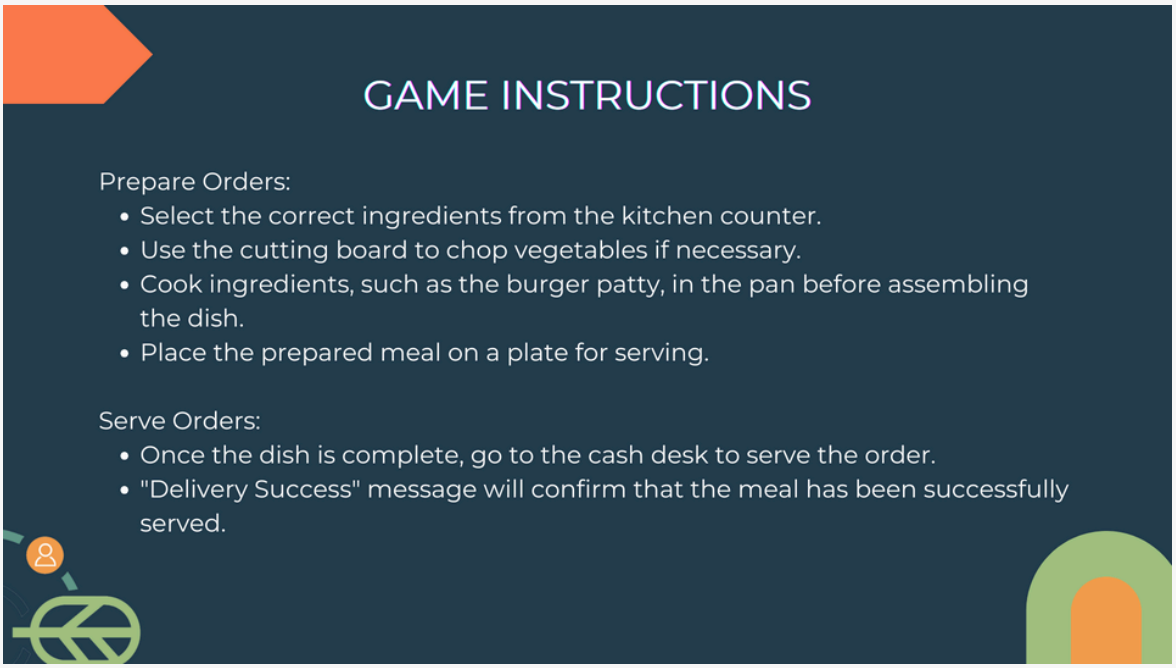
Through integrated quiz questions appearing every 30 seconds, the game not only develops practical skills but also promotes awareness about sustainability and environmental responsibility. Players are prompted to consider issues like climate change, sustainable consumption patterns, and ethical food production by these questions. Players strengthen their knowledge of environmental issues and discover how their own activities may support global sustainability initiatives by providing accurate answers to these questions. This feature of the game encourages active learning, in which knowledge is gained via engagement as opposed to passive teaching.

Additionally, by making sustainability an enjoyable and fulfilling experience, the game seeks to promote behavioural change. The "Game Over" screen highlights areas for development, while success messages reinforce positive acts. Players receive quick feedback on their performance. By utilizing reinforcement learning, this gamified strategy encourages players to form enduring habits both inside and outside of the game. Players are more likely to apply these lessons to their real-world decision-making if they have direct experience with the negative effects of waste and inefficiency.

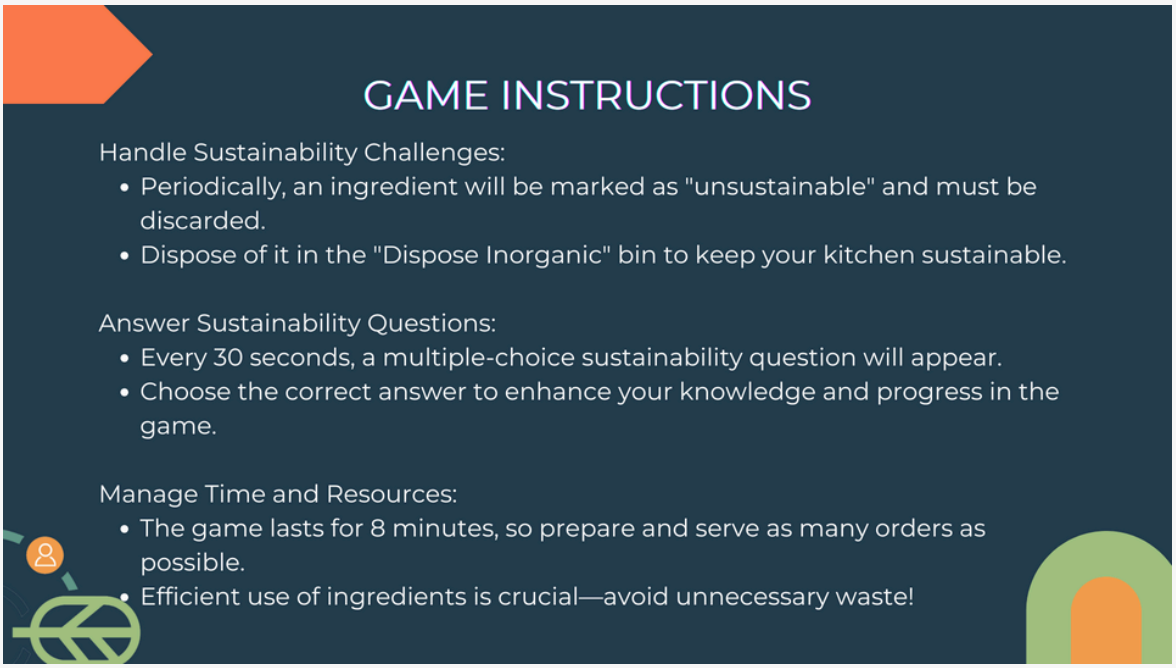
Finally, by showing how little individual actions can add up to bigger environmental goals, the game empowers players—especially young people—and fosters a sense of responsibility. Players discover through interactive gameplay that sustainability is a real, attainable practice rather than just an abstract idea. By giving users the information and inspiration to make more thoughtful decisions in their own lives, the game presents them as engaged contributors to the push for a greener future.



How to Play the Game

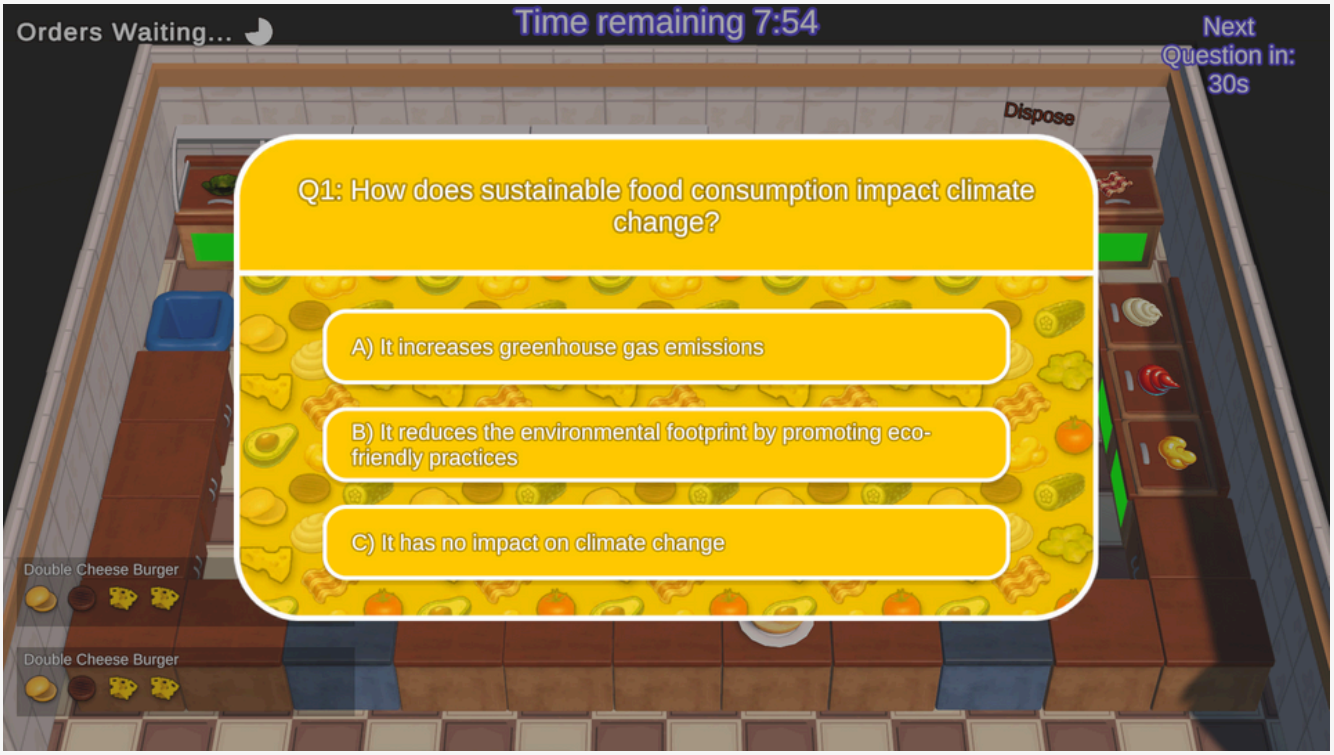


How to Play the Game



After the player clicks the “PLAY” button, a screen with the controls appears. The player can play either by using a gamepad or by using keyboard buttons. Also, the main stages of the game are highlighted. The player has to press “INTERACT” in order to start playing.

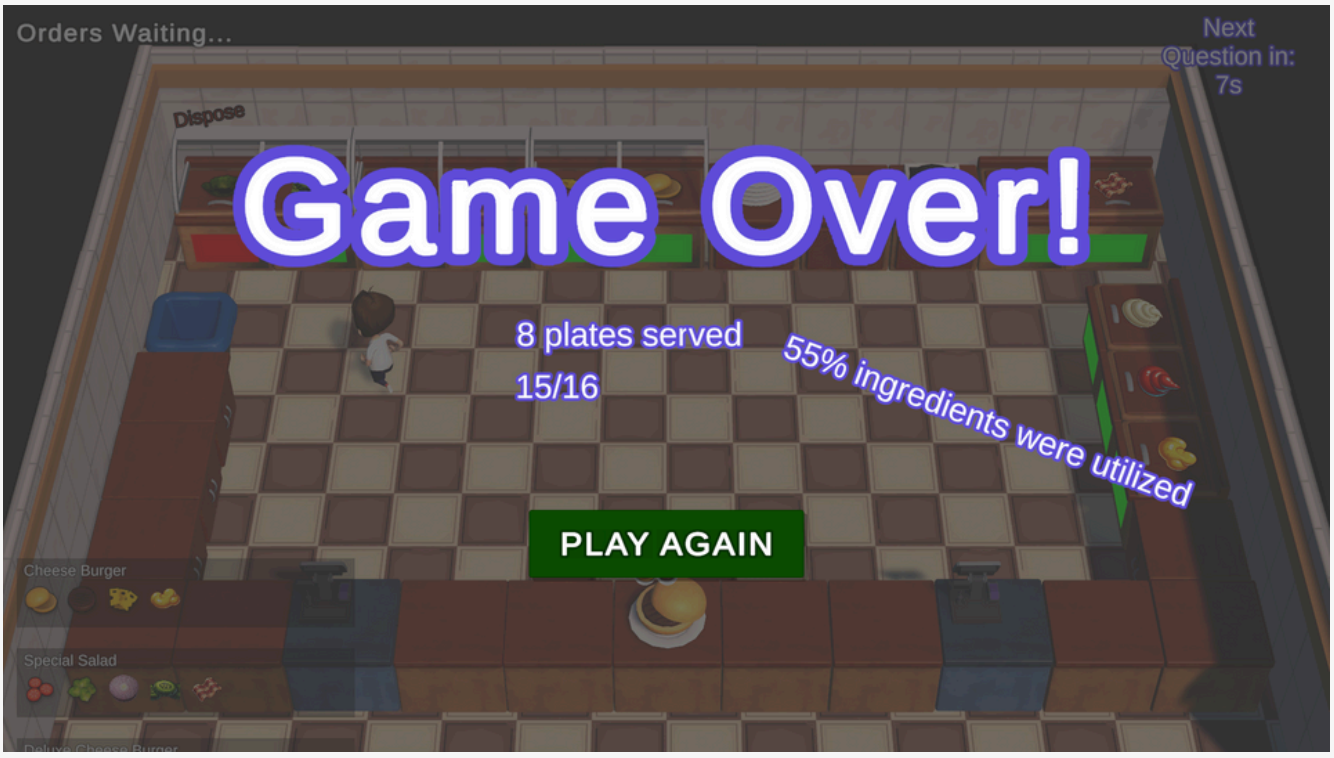
The player starts preparing the orders appearing on the left corner of the screen. Once in a while, a food on the counter will be assigned with a “Dispose” label and the player will have to dispose it in the bin in order to continue and be able to deliver the final order.



After 30 seconds of gameplay, a multiple choice question will pop up on the screen and the player has to choose the correct answer. The questions are related to sustainable food consumption and production.

If the answer is correct, it will be marked with green colour and if it is incorrected it will be marked with red colour.

When the player has the final order ready, they have to head to the cashier desk and deliver the order. Then, a sign with "DELIVERY SUCCESS" message will appear and the player will be ready to proceed to the next order.



After around 8 minutes of gameplay, the game will end and if the player hasn't managed to complete all the orders or use all the ingredients, a "Game Over" message will appear on screen, stating how many dishes were prepared, the number of questions answered and the percentage of the ingredients used. If the player successfully finished the orders and used all the ingredients a "Congratulations" message will appear.

The player can re-launch the game and play as many times as they want!

Conclusion

More than just a culinary simulation, the TRANSFoodMERS game is an entertaining and instructive experience that challenges players to consider food systems sustainability. Players learn a lot about sustainable food practices, waste reduction, and ethical consumption by effectively managing ingredients, making meals, and responding to environmental issues. The integrated quiz questions guarantee that learning occurs naturally through games by reinforcing important ideas.

Players gain useful skills like time management and resource efficiency as well as a heightened awareness of their environmental influence through this interactive approach. Whether you win or lose the game, every experience offers a chance to consider sustainability issues in the real world. In the end, TRANSFoodMERS enables users to make tiny but significant progress toward a more sustainable future, demonstrating that every decision—in the kitchen and in day-to-day living—matters.

TRANSFOODMERS - RESPONSIBLE FOOD SYSTEM YOUTH GAME CHALLENGE

TRANSFoodMERS

Digital - Serious Game on Sustainable Food Consumption & Production Guidelines

PROJECT NUMBER:
2022-1-EL02-KA220-YOU-000089702

Ινστιτούτο Προώθησης και Πιστοποίησης Προϊόντων Αγροδιατροφης

fifty-fifty Social Innovation & Cohesion Institute

PYLON ONE

European Center for Research and Regional Development

uDevelop

Innovation and Sustainable Development Institute

Co-funded by the European Union