

RAYUELA NEWSLETTER



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"Alea iacta est" - Julius Caesar 49 BC acknowledged the presence of games, even though the story of his life ended in tragedy, our project Rayuela is fighting for the opposite - protecting the youth in the world which is so unpredictable and unforgiving - online world.

According to UNICEF's report "The State of the World's Children 2017: Children in a Digital World," children and adolescents under 18 account for approximately one in three Internet users worldwide. Although these minors can be considered digital natives, in many cases, they are not aware of either the benefits and opportunities or the risks and dangers that Internet access entails. To tackle this problem, it is necessary to identify risk patterns and train minors in using the Internet and new technologies. And what better way to do this than by playing? That is precisely the purpose of the European project RAYUELA ("empowerRing and educAting YoUng pEople for the internet by pLAYing"). The project, coordinated by the Universidad Pontificia Comillas, has a solid multidisciplinary consortium of 17 partners from 9 European Union countries, including Universities and research centers, law enforcement agencies, and technology companies.

The RAYUELA project seeks to research the psychological, anthropological, and sociological factors that influence cybercrime (such as cyberbullying, online grooming, or human trafficking) and the risks associated with the use of IoT devices such as wearables, home assistants, or connected toys. An interactive adventure game is being developed to address these issues. The obtained in-game data will be subsequently analyzed to determine if specific profiles are more likely to commit or suffer some of these cybercrimes so that the law enforcement agencies, policy makers, educators and other relevant actors involved in the project can take measures to help and protect them.



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WHAT YOU WILL FIND IN OUR NEWSLETTER

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PROJECT IN A NUTSHELL



RAYUELA aims to bring together law enforcement agencies (LEAs), sociologists, psychologists, anthropologists, legal experts, computer scientists and engineers, to develop novel methodologies that allow better understanding the factors affecting online behaviour related to new ways of cyber criminality, as well as promoting the potential of these young talents for cybersecurity and technologies.



RAYUELA's main goal is to better understand the drivers and human factors affecting certain relevant ways of cybercriminality, as well as empower and educate young people (children and teenagers primarily) in the benefits, risks and threats intrinsically linked to the use of the Internet by playing, thus preventing and mitigating cybercriminal behaviour.



Project focuses on cybercrime, which has a significant cross-border impact among the EU countries, but also outside the EU. Specifically, the document is addressed to cybercrime related to children, teenagers and young adults, which happen to be one of the most vulnerable populations in the EU, who must be protected and nurtured to stay safe online.



RAYUELA proposes a series of solutions to help the EU in the prevention, investigation and mitigation of cybercrime related to online grooming, cyberbullying and human trafficking, while incorporating the perspective of gender and cultural diversity.



Dissemination of the project's activities and results are essential for the successful exploitation of the innovative solutions developed by RAYUELA. RAYUELA's innovations offer high replicability across the EU. The need to raise awareness across value chains is directly related to the success of the project.



RAYUELA's consortium brings together 17 partners from 9 different EU Member States (ES, BE, SK, EE, PT, UK, GR, LV, DE). The consortium has been built with great care, looking for a group of excellent partners with proven expertise and who can fully provide the necessary know-how in the fields addressed by the project.

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RAYUELA is being tested

June - July, 2022

During the summer months, the RAYUELA first release of the game was tested by students from Belgium, Greece, and Spain and with a group of international youngsters. The remarks of all these students are essential for the next releases of the game development. RAYUELA was tested in Ellinogermaniki Agogi Summer Camp in Greece, where thirteen- and fourteen-years old students had the opportunity to try and test the RAYUELA game prototype, which included two cyber adventures. The game pilots also took place at ICAI Tech Summer Camp in Spain, with the participants of the Development of 3D Videogame course and other participants of the Cybersecurity course. ICAI Tech Summer Camp Courses as well organized seven workshops with the involvement of 103 students in RAYUELA game prototype pilots. And last but not least, we had the opportunity to test the RAYUELA game with the group of Young Ambassadors in cooperation with Microsoft Central and Eastern Europe Headquarters. We received our first feedback for the game, which was primarily positive, with several suggestions for improving it for better understanding.

December 2022

In December, the second release of the RAYUELA game was tested by students of Greece, Belgium, and Spain. After the first phase of the validation, this second piloting phase focused on testing the three cyber adventures included in this prototype, in which the feedback provided by the students during the first piloting phase was included, and a third new cyber adventure. A total of 480 students from different age ranges (from 12 to 15 years old) participated in this second piloting phase with relevant comments and suggestions to be considered in the final release of the RAYUELA game for next March 2023.

In Madrid, the pilot was carried out within the framework of science week, in a workshop where children and adolescents learned about the risks and dangers of Internet access. In addition to testing the video game, during the subsequent discussion, we gathered a lot of information to make the latest version of the game as realistic and fun as possible.

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RAYUELA NEWS



Young Ambassadors in cooperation with Microsoft Central and Eastern Europe Headquarters

In Pallini the pilot was carried out at the computer lab of EA in the class of informatics. Six classes of the second grade of high school participated.



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In February 2023, it is planned to have the last round of the second validation phase in Greece to focus the efforts on the development of the final release of the RAYUELA game.



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UCLL piloting in Spectrumcollege Beringen December, 2022

In December 2022, UCLL participated in the cyber prevention day at Spectrum College Beringen. First grade pupils spent the whole day learning about cyber security through various game scenarios. The perfect time and place to introduce Rayuela and make the internet safer through playing. The day consisted of three back to back two-hour sessions to make sure every pupil had a chance to play. By the end of the day, more than 200 pupils had successfully registered and played the Rayuela SERIOUS game.

The students who played were enthusiastic about creating their avatars and the possibilities of the game, which painted a realistic picture of real-life scenarios. During this second pilot testing, many gave valuable insights to improve the game and discovered bugs through playing. We couldn't have wished for a more exciting and rewarding second phase of piloting.



RAYUELA 5th CONSORTIUM MEETING 5-6 October 2022

The RAYUELA team met again in the city of Tartu (Estonia) to discuss the progress and the work which needs to be done in the final phases of the project. First day was focused on hands-on workshops with the review of the work done in the previous six months. The second day was focused on project management and the plans for the last 12 months of the project. As the game is being developed and tested, we were excited to discuss the feedback from the students and how we should approach further testing and dissemination of our results. Even though only some of the partners were able to attend this meeting most of them were present, and the rest of the partners were involved through the video call.

RAYUELA WORKSHOP IN BRATISLAVA

June 6, 2022

During our Erasmus+ training course PROOF focusing on the threats of the online world, we presented the results from the RAYUELA project to 20 young people from 4 different countries. The workshop focused mainly on spotting, preventing, and fighting online activities, including cyberbullying, grooming, human trafficking, and fake news. The workshop gave us valuable feedback on the need to continue with activities like this, as most participants admitted that they had encountered some kind of the above-mentioned activities during their childhood or teenage years.



RAYUELA RESEARCH

We have had two main challenges from the psychosocial research part of the project. On the one hand, to finish translating the results of our research into realistic situations for video game players regarding the following internet risks: online grooming, cyberbullying, homophobia, fake news, and phishing. On the other hand, we have designed specific situations to measure, together with validated questionnaires, different risk factors that we have found relevant such as self-esteem, previous victimization, and social and family support.



Once some pilots have been carried out in different schools and functionalities, have been added to the RAYUELA game, analyzing the data collected has become vital. Firstly, to diagnose the game itself as a tool (e.g., time taken by players to complete it, fluency, the existence of a stage that is not clear and players get stuck, etc.). Secondly, to model the players' behavior in the game and their decisions to find some pattern that indicates the usefulness of the RAYUELA game as a social research tool. To this end, two technical approaches are chosen, one based on Machine Learning and the other on Graphical Causal Models (or Bayesian networks). Each approach has its virtues and disadvantages, so it is worth exploring both. Once this analytical phase is completed, we will discuss and interpret the results with colleagues from multiple disciplines to improve our understanding of these complex phenomena and provide helpful suggestions to LEAs and policymakers on tackling them.

RAYUELA AT THE VII NATIONAL CONFERENCE ON CYBERSECURITY RESEARCH

Palacio Euskalduna, Bilbao

June 27-29, 2022

Gregorio López and Sonia Solera attended the VII National Conference on Cybersecurity Research (JNIC2022) at the Euskalduna Palace in Bilbao as speakers of developments carried out in the RAYUELA project. The conference focused on two main areas: Cybersecurity Research and Cybersecurity Education and Innovation. This conference promotes contact, exchange and discussion of ideas and knowledge between academics, researchers, professionals, and companies.

Specifically, Gregorio López presented the work entitled "Evaluando la Seguridad y Privacidad de los Asistentes Personales Inteligentes: 'Ojo con el Juguete!"; and Sonia Solera the one entitled "Análisis de Problemas de Seguridad y Privacidad en Wearables Usados por Menores". Both report the results of a set of security and privacy tests conducted on connected devices used by young people on a daily basis. In particular, the security and privacy of smart personal assistants and wearables were tested.



YOU CAN ALSO FIND US ON INSTAGRAM AND TIKTOK!

To become more active and visible to young audiences, we decided it was time to become active on other social media platforms. Besides our twitter, facebook and LinkedIn you can also find us now on Instagram and TikTok!

For our TikTok page, we created a music campaign involving young artists producing brand-new songs to raise awareness of cybercrimes. Our goal is to run a five-month campaign, assigning a specific theme to each month:

- Fake news – January
- Cyberbullying – February
- Online grooming – March
- Cyberhate – April
- Human Trafficking – May

You will be able to find those materials on Instagram as well, where we will also upload all our activities and progress done within the project.





RAYUELA AT THE INTERNATIONAL SYMPOSIUM FOR THE MANAGEMENT OF CHALLENGES IN CYBERSECURITY

October 6, 2022

Our partner Policia Local Valencia presented Rayuela project at the "International Symposium for the Management of Challenges in #Cybersecurity ", which attracted 200+ participants, and also shared results with Polizia di Lugano

RAYUELA VIRTUALLY PRESENTED TO GREEK MINISTRY

19. January, 2023

We would like to thank you very much for the virtual presentation of the European project "Rayuela: A fun way to fight cybercrime, on 19/1/23 and, in particular, for showing us the first two adventures of this educational game which is still under development. The theme of this project, which concerns the risks faced by students on the internet, is directly aligned with the activities of our service (Department of Educational Technology in Higher Education, Youth and Lifelong Learning of the Directorate of Educational Technology and Innovation). More specifically, our department organizes the educational seminar 'Internet Safety and Addiction' every year, which addresses students of the fifth and sixth grades of primary school and students of high school. As part of the ongoing upgrading and updating of the content of this seminar, we seek to keep abreast of relevant activities, such as the RAYUELA project. Experiential approaches to learning, such as the educational 3D game, which contains interactive and interconnected stories about cybercrimes, are more readily accepted by students and achieve better learning outcomes. We look forward with great interest to seeing the final version of the game and the set of conclusions that will emerge from completing the RAYUELA project.



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PAPER ON SECURITY AND PRIVACY ON WEARABLES BY MINORS ACCEPTED FOR PUBLICATION IN WIRELESS NETWORKS

Part of the research on technological threats of connected devices widely used by minors has resulted in a recently accepted scientific paper for publication in Wireless Networks. In this paper, the research team proposes a set of tests for evaluating the security and privacy of wearables and applies them to analyze the security and privacy of a set of commercial wearables that are targeted at minors. Based on the obtained results, although the considered low-end devices are broadly speaking less secure than high-end ones, most of them present security and privacy flaws, which illustrates the necessity of regulation and law enforcement that ensures the fulfillment of appropriate security and privacy requirements, especially when it comes to minors. It will be published for open access soon, so stay tuned if you want to read all the details!

The paper "Online grooming: Risk factors and modus operandi of Spanish court sentences" has been accepted for publication in Anuario de Psicología Jurídica. The research consists of an analysis of 20 sentences in which we examined the risk factors of 65 victims and the characteristics and modus operandi of 20 offenders of online grooming. In addition, we debunk myths, hoping to contribute with evidence-based material for further prevention programs

UPCOMING EVENTS

6th Consortium Meeting in Valencia 2nd of March, 2023



International Summit on Youth and Cybercrime 1st of March, 2023

The International Summit on Youth and Cybercrime will take place within the framework of CC-DRIVER and RAYUELA projects, initiatives funded by the European Union to understand the drivers of cyber criminality and research methods to prevent, investigate and mitigate cybercriminal behavior.

Hosted by Valencia Local Police in the city of Valencia (Spain), it will provide a platform for researchers from the CC-DRIVER and RAYUELA projects to present their results and main findings, focusing on the implications for policy and practice. The Summit is intended to be a discussion forum where high-level experts in the field will share their research, best practices, and lessons learned, from a multidisciplinary approach to better tackle cybercriminality, with a special focus on young people. The audience will be comprised of policymakers, law enforcement agencies, research, industry and academia, education, and other experts in the field of cybercrime and cybersecurity.

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PROJECT DATA

PROGRAMME: H2020-SU-FCT01-2019

Sub-topic 2: Understanding the drivers of cybercriminality, and new methods to prevent, investigate and mitigate cybercriminal behaviour

TYPE OF ACTION: Research and Innovation Action (RIA)

DURATION: 36 months (1 oct 2020 – 30 sept 2023)

PROJECT BUDGET: € 4 978 040 (EU contribution: € 4 974 290)

CONSORTIUM: 17 partners from 9 European countries

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