



# **SUSTAINABLE DEVELOPMENT GOALS**

**3** GOOD HEALTH  
AND WELL-BEING



# Comprehensive Wellness Day



This was an event open to the entire UPC community, and was part of the World Mental Health Day (October 10). 12 conferences were offered by the Educational Quality Department on October 6 and 7, 2021.

The activities included a round table focused on how to improve aspects of human development and ideal wellness, which allowed reaching the balance between the physical, biological, emotional, mental, spiritual and social factors.

The objective of this conference was to achieve comprehensive wellness in times of pandemic.



# Festimental



Festimental, which was a short film festival held on November 20, 2021, had as its main objective to promote the importance and destigmatization of mental health in Peru.

The Audiovisual Communication and Interactive Media Program participated in the dissemination of the festival where university contestants presented short films demonstrating their audiovisual skills. The best works that focused on mental health were awarded in the categories: Documentary and Fiction.

In addition, attendees were able to donate to the organization **dando+** to continue providing support and information on mental health.



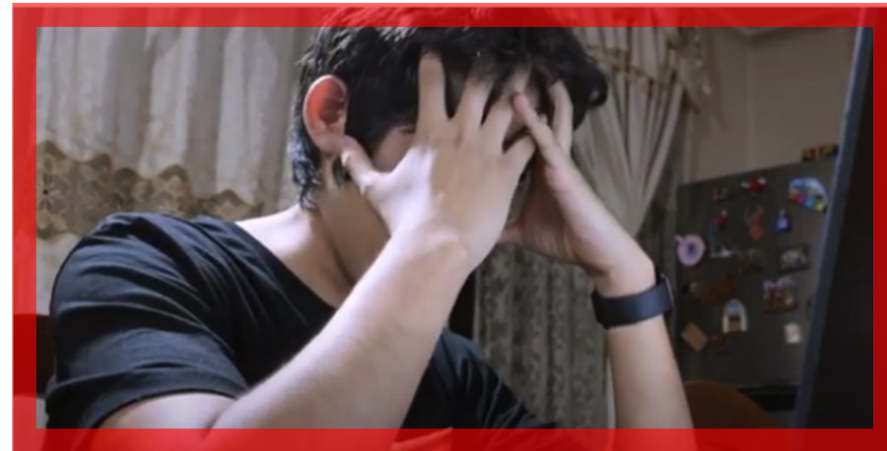
# Monitoring System to Identify the Physiological Behavior of Mental Health



This project consisted of implementing a support system for monitoring and reducing the level of anxiety in university students using a wearable application and a website.

The solution proposed by the students of UPC's Information Systems Engineering Program focused on solving a social problem such as anxiety, seeking to reduce its negative impact on people.

The purpose of the application was to monitor users' mental health status based on the detection of physiological variables. Through wearables, the heart rate was analyzed to measure the level of anxiety, and then an alert signal was sent to a specialist, who provided solutions to the patient. This system will allow people to perform and carry out their activities without anxiety-related problems.



# System to Evaluate the Medical Teleconsultation Service in Public Healthcare Centers in Peru



This project was developed by students of the Information Systems Engineering Program and consisted of implementing a specialized medical teleconsultations system in hospitals and health institutes of the Peruvian public sector. This allows the reduction of the waiting time in consultations and the updating of patients' medical information.

The objective of this application was to simplify the consultation process for users and streamline it so that they are carried out in the shortest possible time and in an effective manner.

The image displays two screenshots of a YouTube video, likely a presentation or lecture. The top screenshot shows a slide titled "CONCLUSIONES" (Conclusions) with four bullet points. The bottom screenshot shows a slide titled "OBJETIVO 3" (Objective 3) with a target diagram and a descriptive text.

**CONCLUSIONES**

- Se ha desarrollado el sistema en base a las necesidades identificadas de los usuarios.
- Se realizaron certificaciones de software en base a planes de prueba para asegurar la calidad del desarrollo y que se cumplan las historias de usuario.
- Las preguntas presentes en la encuesta se desarrollaron pensando en la calidad de información numérica que nos podrían proporcionar para validar que estamos aportando a solucionar el problema identificado.
- Se realizaron adecuadamente las ceremonias pertenecientes al framework de SCRUM (sprint planning, grooming, daily scrum, sprint review, sprint retrospective).

**OBJETIVO 3**

Validar, en un escenario de pruebas controladas, que los componentes, atributos y elementos de la propuesta tecnológica cumplan su función y realizar una evaluación de interacción y uso en un grupo de potenciales usuarios en base a criterios de evaluación tales como velocidad en la interacción con el sistema y mejora en el tiempo de uso, flujo de uso del sistema y facilidad de manejo, y calidad de atención del profesional médico."

# System to Optimize the Medical Consultation Process using QR Codes in Hospitals in Peru



This project was developed by the Information Systems Engineering Program and consisted of developing a mobile application that allows managing and monitoring the entire medical care process using QR codes.

The objective was to provide users with the possibility of monitoring and controlling, through QR codes, their scheduled appointments in hospitals in Peru.

OE 1

### Comparativo de arquitectura de modelamiento de códigos QR

	Hamming code	Umbral - $\{n, n\}$	Sudoku based Authentication	Rich Three-Layer Info
Beneficios	Puede usarse para proteger información confidencial de los pacientes cuando se transmite en canales de redes públicas gracias a su sistema de intrínseca eficiente.	Puede utilizarse para brindar prescripciones médicas únicas a pacientes dando su sistema de codificación segura y personal. De esta manera, al estar asociado a un paciente, solo este puede decodificar la información que contiene el código QR.	Puede usarse para asegurar la integridad de los datos dando su alta capacidad de recuperación y es eficiente ante todo tipo de escenarios de escaneo como bajo iluminación o cambio de tamaño de captura de imágenes de baja calidad.	Puede utilizarse para brindar información de los registros clínicos de algunos procedimientos. En este momento, puede utilizarse para brindar la seguridad entre el personal de trabajadores, para evitar la divulgación de información de pacientes así como la información logística.
Limitaciones	Se limita al límite superior de la carga útil secreta.	La insuficiencia de los puede afectar la efectividad de lectura del código QR, reduciéndose los presentes.		Pone una estructura de acceso limitada.
Esquema propuesto				

### Diseño de la Interfaces

Código QR - Cita Generada

Nueva cita

Recordo: Paga Solista

Dr. David Jose Casanova

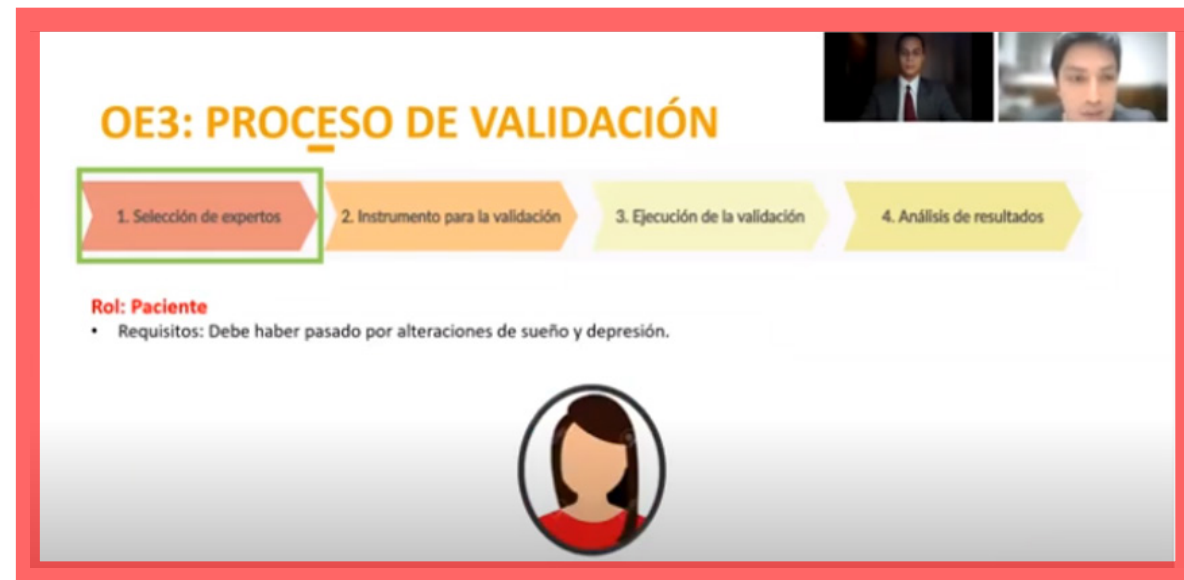
QR Code

# Sleep Monitoring System in Patients with Mild to Moderate Depressive Disorder



This project was developed by the students of UPC's Information Systems Engineering Program and consisted of developing a mobile application that allows for the implementation of a system that measures the evolution of a patient with mild or moderate depression throughout a cognitive-behavioral treatment for insomnia, through wearable sleep monitoring.

The objective was to detect if the patient sleeps properly and manages to get adequate hours of sleep, thus monitoring the patient's sleep as part of his or her depression control therapy.





# Development of an Application for Influx Reporting in Mass Vaccination Centers



The initiative of the students of UPC's Software Engineering Program was to develop a mobile application that allows them to receive information on the influx in massive vaccination centers in real time.

The problem addressed was the lack of timely information on the real-time influx level of mass vaccination centers in Peru, due to the lack of adequate capacity control in vaccination centers, high costs of existing methods of capacity control and given that there was no exact information on the level of influx in the different vaccination centers available to citizens.

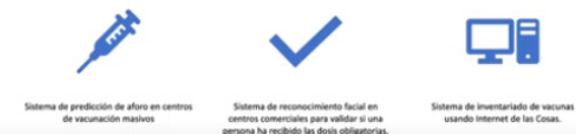
The objective of the project was to provide users with the necessary information and the waiting time required in mass vaccination centers to decide whether or not to attend said centers to be vaccinated against COVID-19.

## Benchmarking de sensores de control de aforo



	Diodo infrarrojo emisor y receptor	Sensor infrarrojo pasivo	Sensor ultrasónico
Nivel de consumo de energía	Bajo	Bajo	Bajo
Sensibilidad a la luz	Alta	Baja	Baja
Sensibilidad a la temperatura	Baja	Media, a partir de 35° Celsius la sensibilidad disminuye	Baja
Distancia	El valor de exactitud disminuye a largas distancias	El valor de exactitud no se ve afectado hasta distancias medias.	El valor de exactitud no se ve afectado por distancias mayores.

## Cartera de proyectos





# Diagnosis of the Sanitary Health Situation caused by Covid-19 and Proposal of an Intervention Project



During the months of August to December 2021, the students of the community health externship course of the UPC Human Medicine Program prepared a technical document that consisted of a diagnosis of the health situation, evaluation of the sanitary response to COVID-19 and proposal for an intervention project in five healthcare centers of the Southern Lima Health Directorate: the José Carlos Mariátegui MCC; the Manuel Barreto MCC and the Virgen del Carmen Maternal and Child Center; among others.

The objective of this initiative was to contribute with detailed information so that decision-making in healthcare establishments could be carried out accurately. In addition, the implementation of an intervention plan in the different centers allowed, through the identification and prioritization of health problems, to offer the community better opportunities for prevention and promotion.

In this way, it will respond effectively to the most common needs of the population in question.



# Intervention Project in Priority Health Problems in San Juan de Miraflores



During the months of August to December 2021, the students of the Community Intervention course of UPC's Human Medicine Program developed intervention projects on priority health problems in the communities of Chorrillos and San Juan de Miraflores, with the aim of improving the health of the population through educational projects focused on promotion and prevention.

First, the priority problems of the communities were identified through participatory strategies with key community actors. Subsequently, the students, using the logical framework methodology and advised by their professors, designed and executed an educational health project. Thanks to the support of health promoters, it was possible to contact people from the community by telephone and virtually. In each community, 3 to 4 projects were executed.

Several health prevention and promotion programs were carried out among the population, including: the prevention of type 2 diabetes, how to avoid a sedentary lifestyle through exercise and healthy eating habits, the dissemination of biosafety protocols and the benefits of being vaccinated with all the doses established by the World Health Organization (WHO) and the decrease in the prevalence of adolescent pregnancy between 14 and 18 years of age.



# Joint Activities: Nutrition and Dietetics Program with UPC's University Health Center



From January 18 to 29, 2021 and from July 12 to 17, 2021, the students of the Nutrition in the Community course of the Nutrition and Dietetics Program carried out joint activities with UPC's University Health Center. These activities were open, free, face-to-face and aimed at the community in general.

The students, who were under constant supervision of a faculty member, participated in order to put their knowledge into practice. This experience allowed students, as future health professionals, to exercise their commitment in favor of society.

Nutritional evaluations were carried out and personalized advice was given based on individual diagnoses.

CENTRO UNIVERSITARIO  
DE SALUD UPC

Modalidad presencial

**Evaluación  
y Orientación  
Nutricional  
gratuita**

- Medición de peso, talla y circunferencia abdominal
- Dosaje de hemoglobina y glucosa\*

**Del 12 al 27 de Julio**

Escribenos a [cus@upc.pe](mailto:cus@upc.pe) o  
llámanos a ☎941 060 119

\*Dosaje de glucosa en ayunas: turnos de 8:00 a 9:30 a.m.  
\*Válido hasta agotar stock.  
\*Atención válida de lunes a viernes.

# UPC's Dentistry Students carried out Virtual Intervention Projects in Primary School Students



The lockdowns resulting from the Covid-19 pandemic had an impact on various aspects of health, especially in the emotional aspect and in the oral cavity. Children were no strangers to this situation. This project was carried out between the months of March and December 2021 by the interns who were in the tenth term of UPC's Dentistry Program and had the objective of establishing favorable practices of oral and emotional health among children in elementary school at the Friendship High School in Lima and La Salle School in Piura and Cusco.

The results showed that 75% of the students reached an adequate frequency of tooth brushing with a correct technique. 100% of them recognized their emotions adequately and 80% applied the technique for the regulation thereof (traffic light approach).

Thanks to this activity, a significant change was achieved regarding the knowledge, technique and frequency of oral hygiene, as well as recognition, regulation of emotions and incorporation of recreational practices at home.



# Lecture: “Healthy Nutrition and Injury Prevention”



On December 7 and 14, 2021, the Physical Therapy Program held a lecture for parents of the CPFD Club - La Molina Headquarters.

The objective of the lecture was the prevention and promotion of health in children from 4 to 12 years of age. Parents received the necessary guidelines to provide their children with a balanced diet and to prevent injuries in minors. Two free virtual lectures were held, achieving the attendance of 21 parents in both sessions.





# Exercise Program to Promote the Health of the Elderly



From January to December 2021, the Physical Therapy Program implemented an exercise program for the elderly in different districts. These programs were focalized and implemented on a synchronous virtual modality on 3 different dates, with the aim of promoting health among the elderly. There were 40 people who benefited continuously with a total of 194 sessions, three times a week for 65 weeks with a duration of one hour per session.

All participants underwent an evaluation (test application), exercise program and virtual re-evaluation through the Facebook platform.

Likewise, 6 educational sessions were held via Microsoft Teams, with the aim of disseminating prevention and health promotion activities for the elderly. Topics on prevention of falls and frequent illnesses were reviewed. There were 37 beneficiaries.

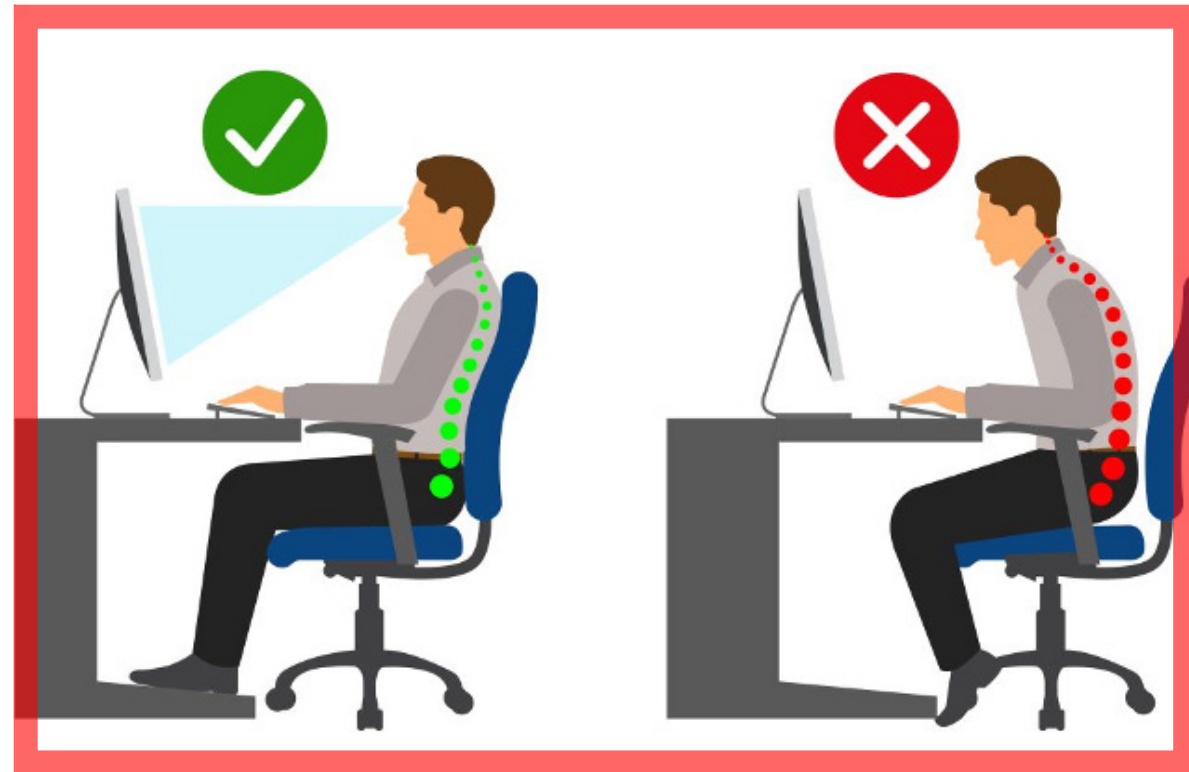


# The Physical Therapy Program held Educational Sessions on Postural Hygiene at a School in Lima



UPC's Physical Therapy Program held educational sessions on June 2 and 11, 2021, at the Friendship High School in Lima.

These sessions were held with the aim of disseminating prevention and health promotion activities. Topics on the importance of ergonomics, physiotherapy, postural guidelines and active breaks were discussed. There were 43 beneficiaries among teachers and parents.





# Free Screening and Physiotherapy Campaign aimed at Children and Adults



Between October and November 2021, the Physical Therapy Program offered the Free Screening and Physiotherapy Campaign aimed at Children and Adults. This activity was carried out at UPC's University Health Center, where tests were carried out, such as the application of postural evaluation, screening for flat feet, screening for scoliosis, screening for hypermobility in children, application of special clinical tests in adults, among others.

Additionally, information was provided about active breaks and various recommendations to achieve the objective of the initiative, which was the identification of dysfunctions in children and adults. There were 36 beneficiaries.



# Evaluation and Screening Campaign for the Elderly



In December 2021, the Physical Therapy Program carried out a free evaluation and screening campaign for the elderly in the District of Jesús María.

To meet the objective of the initiative, which was the identification of dysfunctions, 21 people were screened for blood pressure, and the SPPB and the Time Up and Go tests were applied on them.

They were provided with information on the results of their analyses and related recommendations such as increasing physical activity by providing them with didactic material.



# Evaluation Campaign at the Manucci Women's Soccer Sports Club



In August 2021, the Physical Therapy Program deployed an evaluation campaign for musculoskeletal dysfunctions and sports evaluation (chains and proprioception) at the UPC University Health Center.

This activity was conducted for the benefit of the members of the Manucci Women's Soccer Sports Club.





# Musculoskeletal Psychomotricity Evaluation and Counseling for Parents and Children



Between November and December 2021, the UPC Physical Therapy Program implemented the campaign “Musculoskeletal Psychomotricity Evaluation and Counseling for Parents and Children” in the District of Chorrillos.

With the aim of achieving a comprehensive evaluation of children and parents, postural alterations and the psychomotor profile of 20 children were analyzed, and an evaluation of musculoskeletal dysfunctions of the parents was performed. In addition, health counseling was provided to all participants.



# SILOÉ Volunteering Program



With the aim of promoting and facilitating volunteer work and the social initiative of the UPC community with the community in general, the Siloé solidarity project was present at the volunteer fair of Universidad Peruana de Ciencias Aplicadas.

Students who signed up had several sessions of the hospital clown workshop with Miss Emi and Miss Jessi to obtain adequate training in the social work of volunteering and optimal performance. UPC volunteers used their puppets for virtual visits with hospital patients.

This virtual volunteering program provided a supportive service that ensured the comprehensive health (emotional, spiritual and economic) of the pediatric patients of the Children's Hospital.

It was carried out in both academic terms and on two dates: from April to June and from September to November 2021.

