

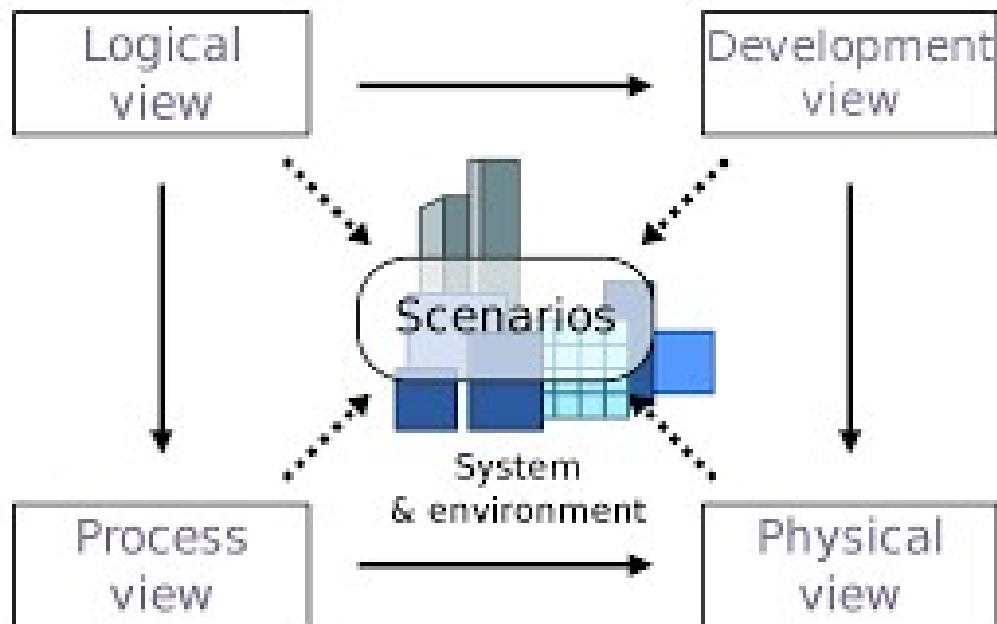
High-Innovation: 4+1 Architecture View Model

INEL4206-030

PROFESSOR LUIS B ROA PICHARDO

JOSE NAVEDO PAGAN, ALAN REYES LAZARO, IMANOL RIVERA SANJURJO

DECEMBER 12, 2022

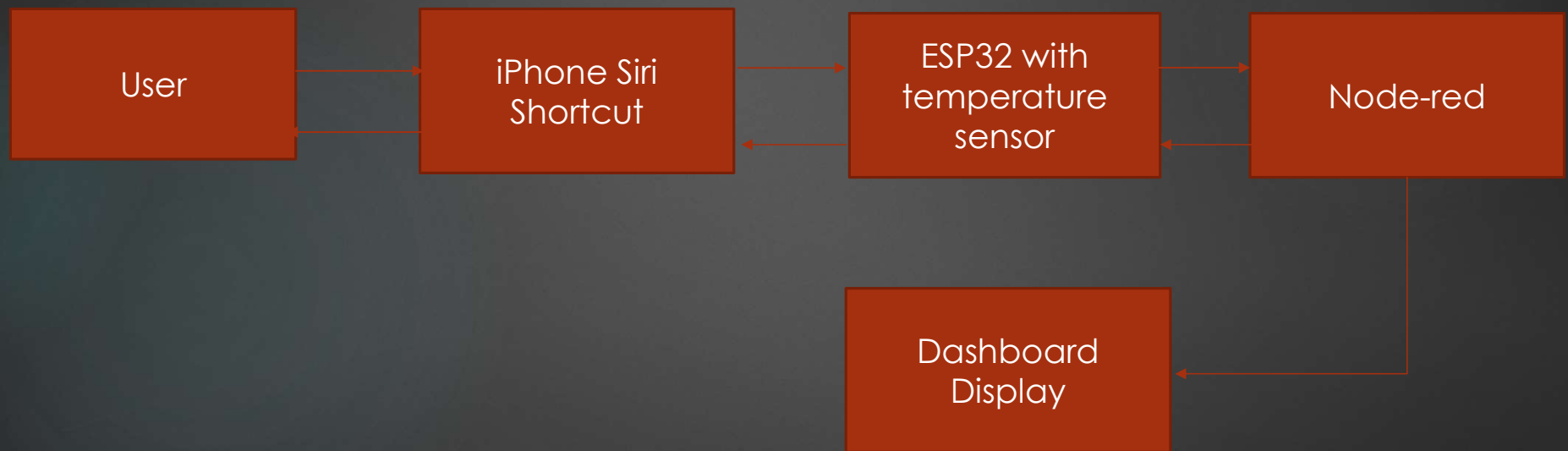


General Representation of Inquietude design

A "4+1 Architecture View Model" describes the architecture software of a system through multiples concurrent views. The views are used to describe a single system from 4 different viewpoints which are: logical viewpoint, process viewpoint, physical viewpoint, and development viewpoints. All this viewpoint simply the system design into different components and facilitates the project's overall execution and understanding for design engineers.

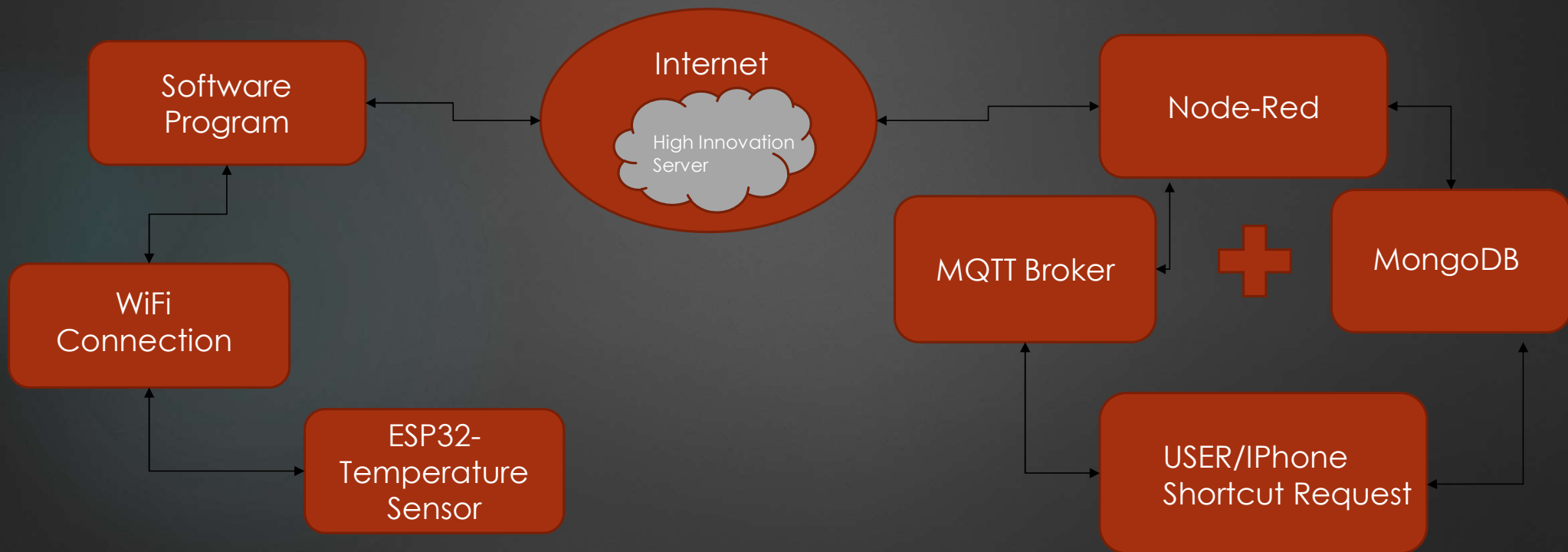
LOGICAL ARCHITECTURE VIEWPOINT

The logical architecture primarily supports the functional requirements, what the system should provide in terms of services to its users. To achieve the desired output, which is an audio information of our room temperature acquired by the program ESP32, multiple interactions must occur so the temperature status can be published via Node-red dashboard and the iPhone Siri Shortcut created.

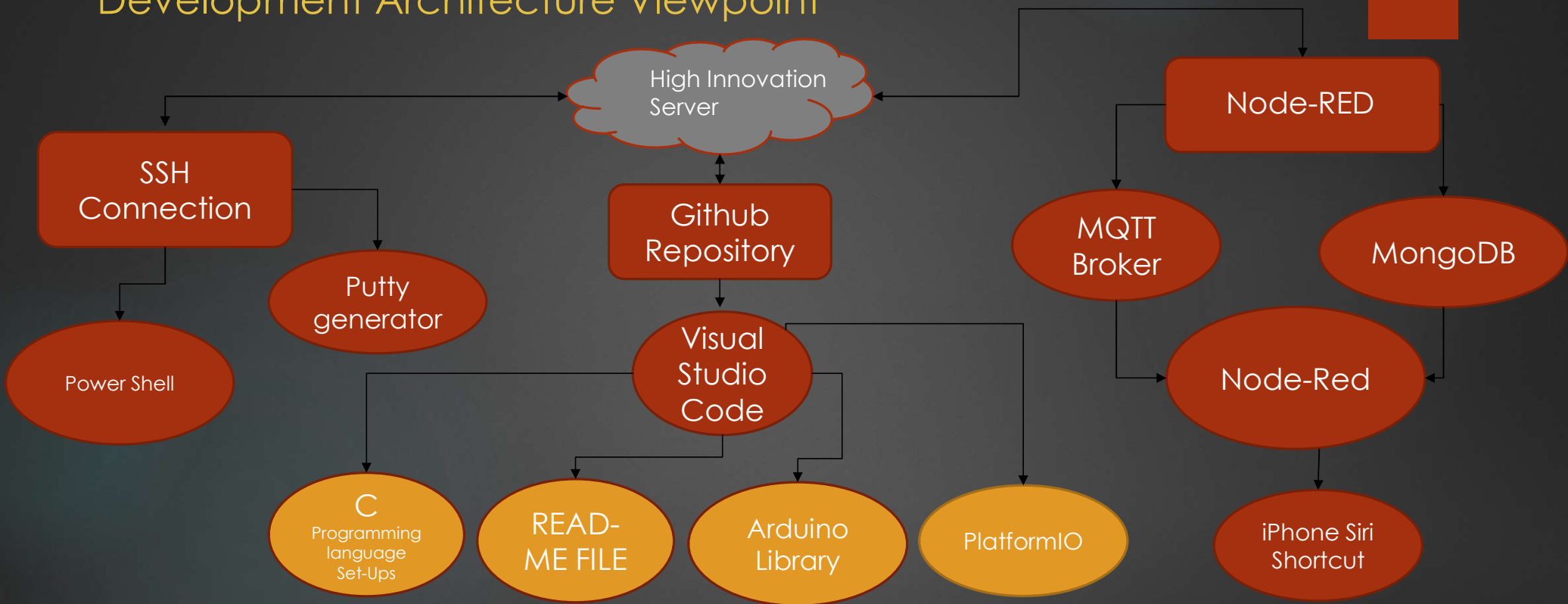


Process Viewpoint Architecture

The process architecture takes in account some non-functional requirements, such as performance and availability. It addresses issues of concurrency and distribution, system's integrity, fault-tolerance, and how the main abstractions from the logical view fit within the process architecture. The process view deals with the dynamic aspects of the system, explains the system processes and how it communicate, and focuses on the run time behavior of the system.



Development Architecture Viewpoint



The development architecture viewpoint describes the software engineering aspects of the system, software design and implementation of functionality within software components, select languages and libraries to be used, define APIs, and presents how each individual tool fulfills its function software elements.

Physical Architecture Viewpoint

A physical architecture model is an arrangement of physical elements, system elements and physical interfaces that provides the solution for a product, service, or enterprise. The physical architecture takes in account also the primarily non-functional requirements of the system such as availability, reliability performance, and scalability. For our project two main physical components are the main focuses on achieving a great availability performance, and reliability which are the ESP32 with a temperature sensor, our mobile device where a created shortcut to connect to the server, and our local machine lets us run the MQTT protocol on Node-red

