Ministry of Education
Imam Abdulrahman bin Faisal University
Computer Science department

CIS 315: Communication and Networks Fundamentals
Project proposal

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Project title

Smart Student Residences: An IoT-Based Model Implemented via Cisco Packet Tracer.

Problem statement

With the development of technology and the spread of network concepts, most buildings are now not devoid of one or more Local Area Networks. Moreover, when the building is student housing, students need a network that facilitates the exchange of information and resources for them and makes communication with their peers and housing managers easier. In addition, students need a network that allows them to control their devices remotely anywhere. As a result, the network will save their time and energy which improves the quality of students' lives and enhances their studying and researching skills. Lastly, the network will provide a safe and appropriate environment for students with IoT technology.

Project goals

1. Design and implement a Local Area Network for student accommodation that meets the essential connectivity demands, prioritizing safety, productivity, and comfort.

2. Utilizing Internet of Things (IoT) technology, allowing students to control room devices through their smartphones, optimizing energy and electricity consumption.

3. Creating a Secure and safe student residence that includes smoke detector, motion sensors and web cameras in every student room with alerts sent to competent authorities and students' phones in case of any invasion or fires.

4. Enhancing the overall living experience for students with housing facilities like a modern gym, study room, parking and a garden all provided with IOT and network techniques.

5. Creating a comfortable environment for students by managing light, noise, and smart devices at specific times of the day using IOT and network techniques.

References

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