

CENG-AP Projects



HSBS WSN

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Sponsor Company:  **AirTies**
wireless networks

Team Members

- **H**anifi Öztürk
- **S**erkan Çağlar
- **B**urak Cansızoğlu
- **S**erdar Koçbey



What is CENG-AP Project?

- It consists development of applications using AirTies AP-400

- AirTies AP-400:

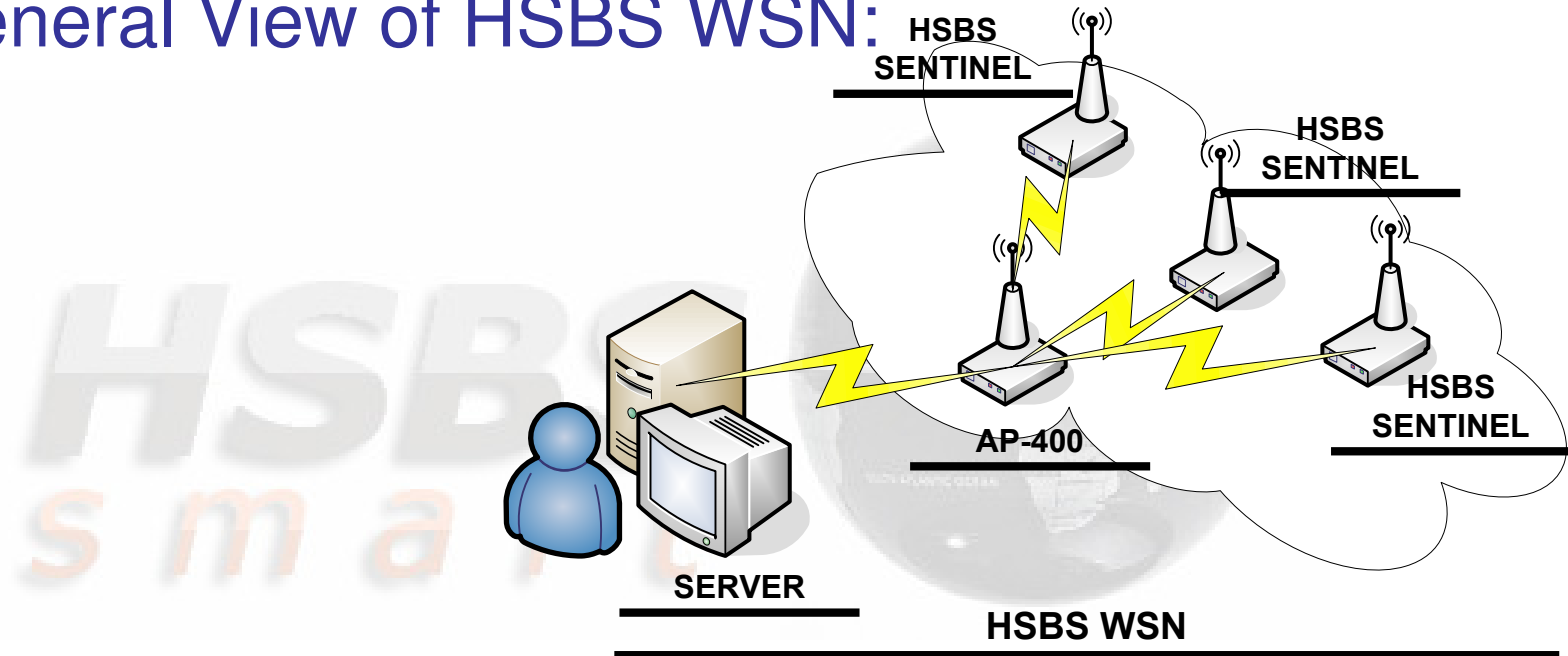
- 54 Mbps
 - Wireless Access Point
 - Repeater
 - Bridge
 - 4-Port Switch



- It has two subprojects:
 1. Network Monitoring Tool
 2. Wireless Sensor Network

What is HSBS WSN Project?


- General View of HSBS WSN:



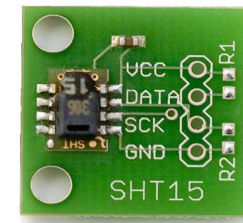
- Main Components of HSBS WSN:

- HSBS Sentinel
- Server
- The Network

HSBS Sentinel

- is the name of our wireless sensor node
- supports IEEE 802.11 protocol 
- measures humidity and temperature
- is formed by assembling SP-07 over an AP-400
 - SP-07: Sensor Integrated PIC Board
 - Main Components of SP-07:

- SHT15: Temperature and Humidity Sensor
- PIC 16F877: Microcontroller



The Server

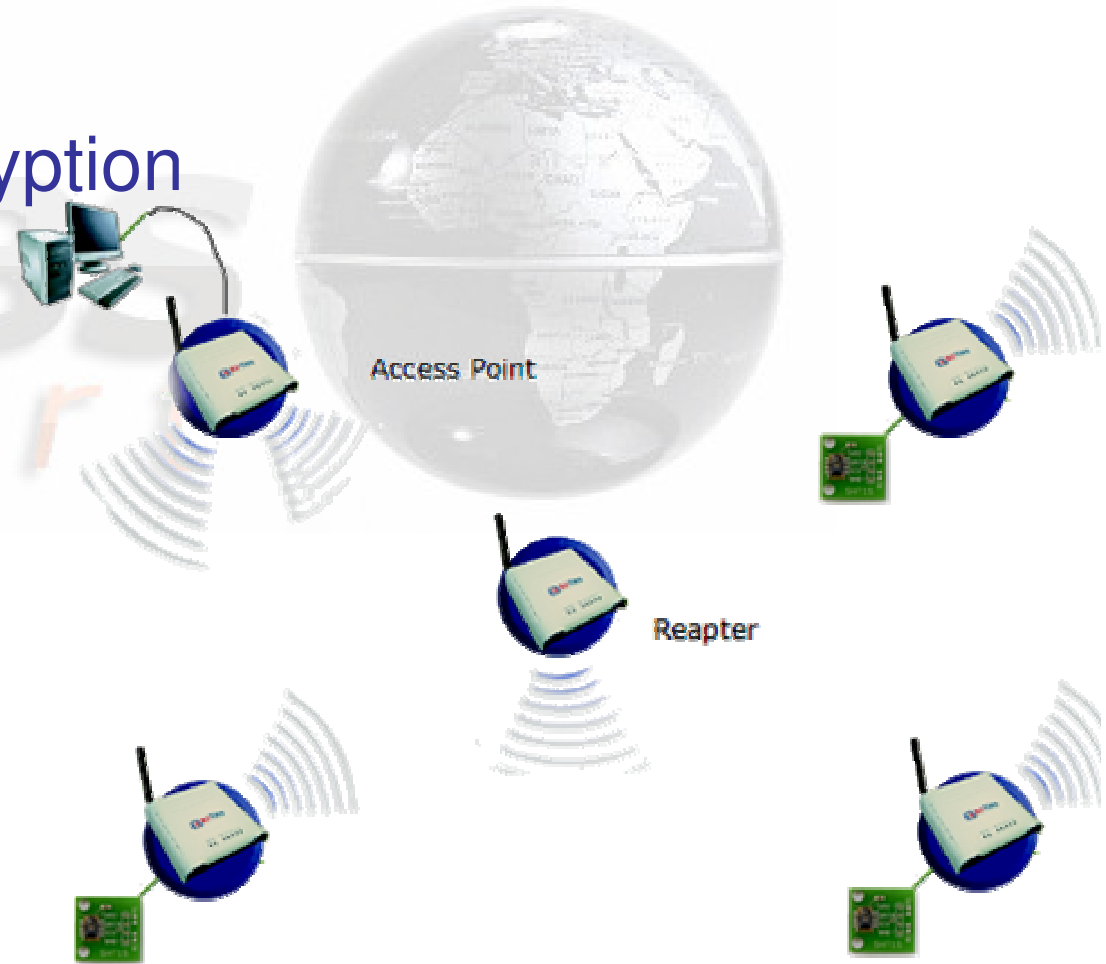
- Collects data from nodes
- Records the data
- Provides a user interface to visualize and manipulate the data
- Handles alert issues



HSBS
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The Network

- IEEE 802.11 protocol
- Mesh Technology
- WPA / WPA2 Encryption
- General View



System Overview

- PIC Module
- AP Module
- Server Module
- GUI Module

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GUI Module – Node Monitor


HSBS Smart - WSN Soft v0.1

File View Help

Node Monitor Data Analyzer Report Generator

- Node #1
- Node #2
- Node #3
- Node #4
- Node #5
- Node #6
- Node #7
- Node #8

Ping
Turn off
Turn on
Reboot

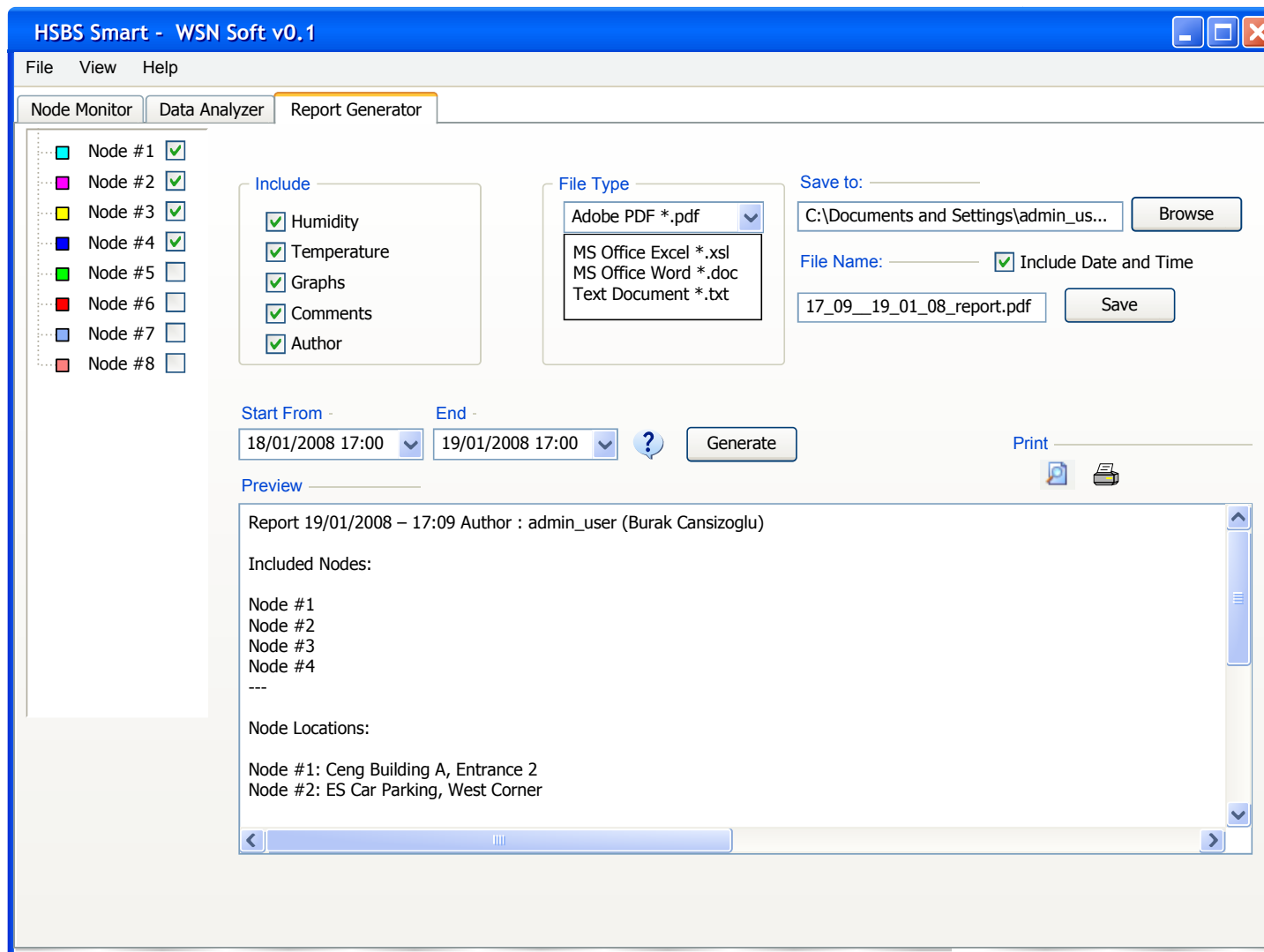


Ping Node #1...
Request-1
Node #1 (192 168 1 122) response time 198ms
Request-2
Node #1 (192 168 1 122) response time 181ms
Request-3
Node #1 (192 168 1 122) response time 95ms


GUI Module – Data Analyzer



GUI Module – Report Generator



What we have done so far:

- Schematic of SP07 is completed
 - SP07 PCB is in progress
 - PIC Module is completed
 - AP Module is in progress
 - Server Module, GUI Module are 2nd terms work.
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Thanks for Listening

➤ Questions?

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