GIS Technology for Smart School

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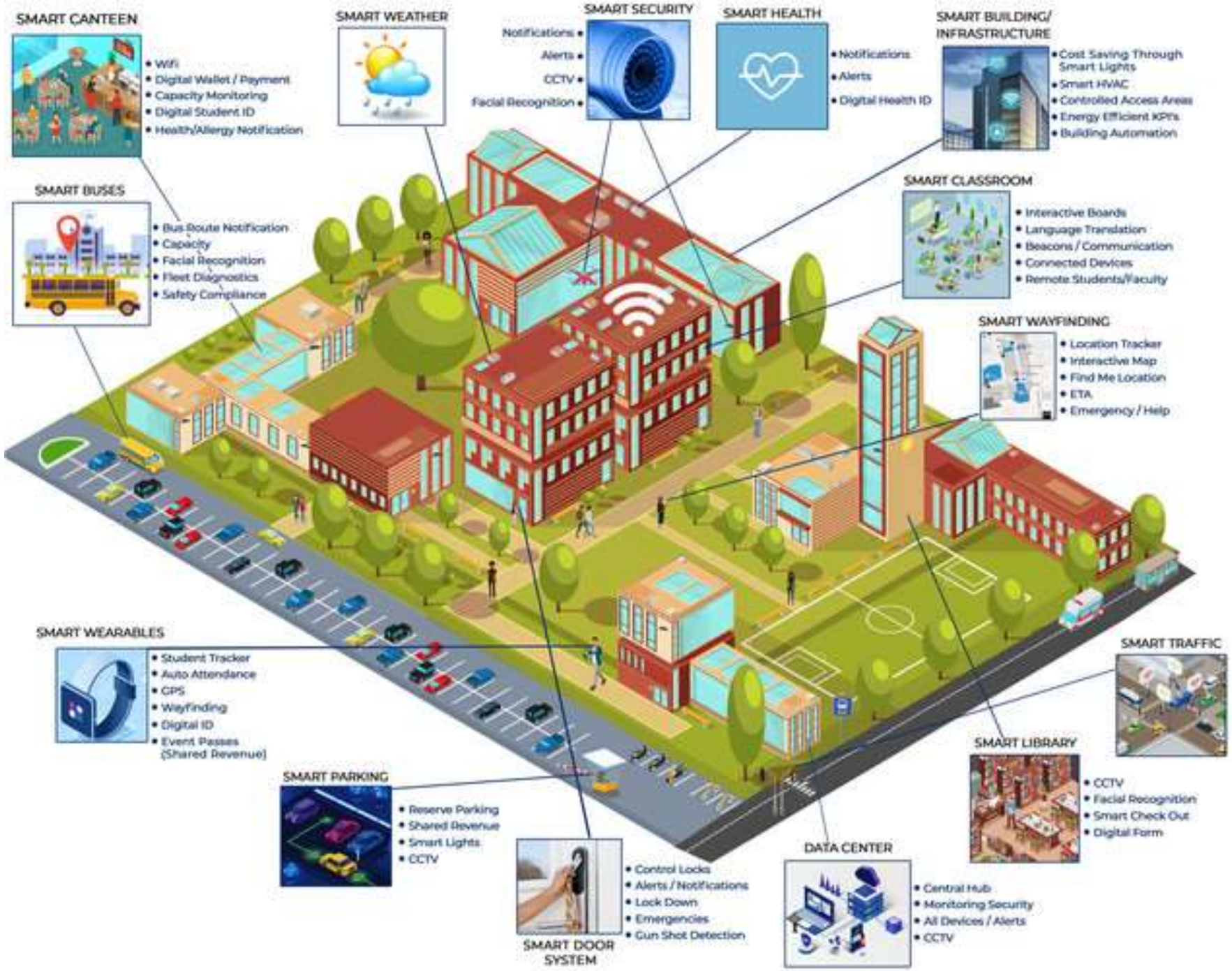
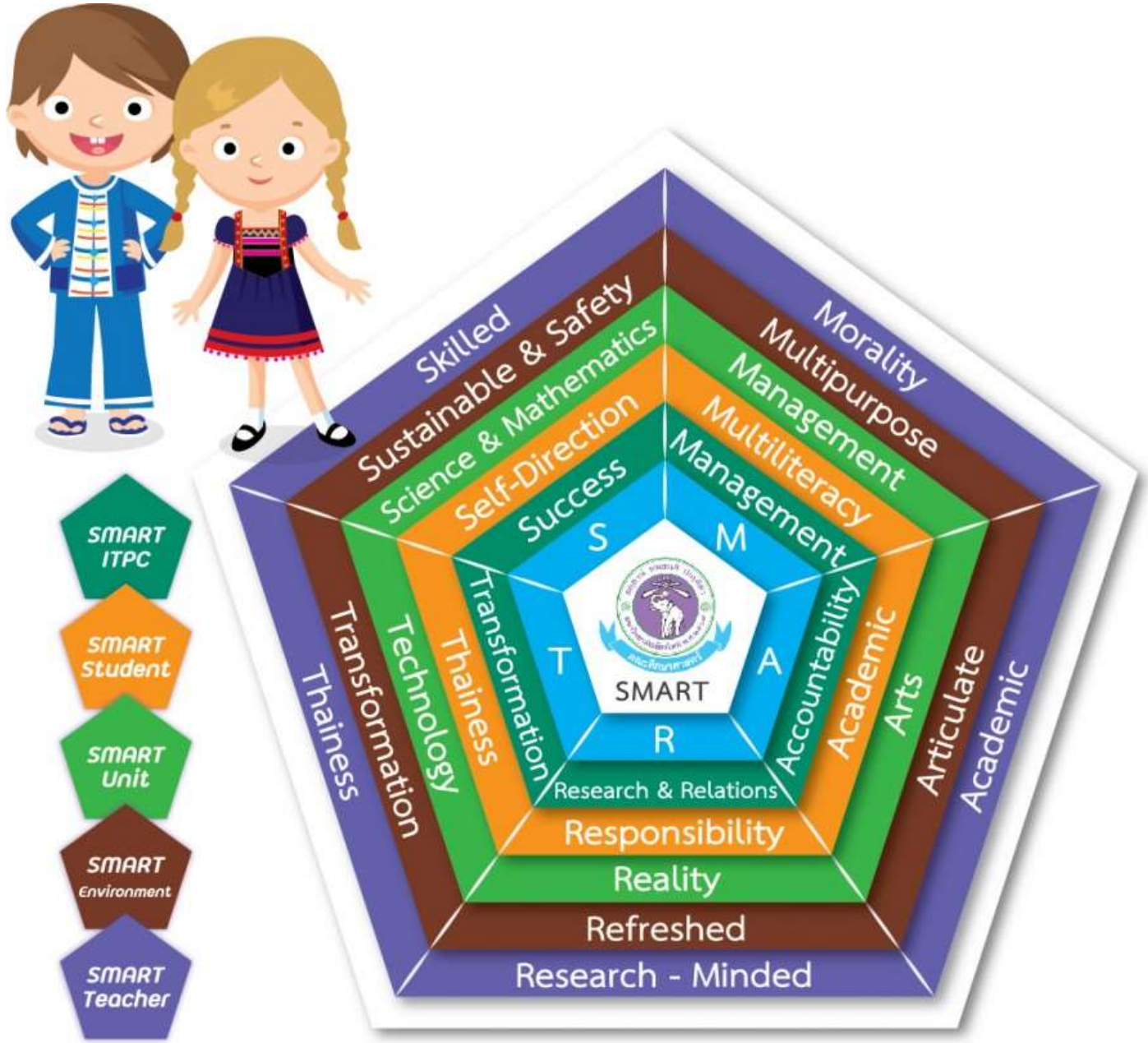
Agenda

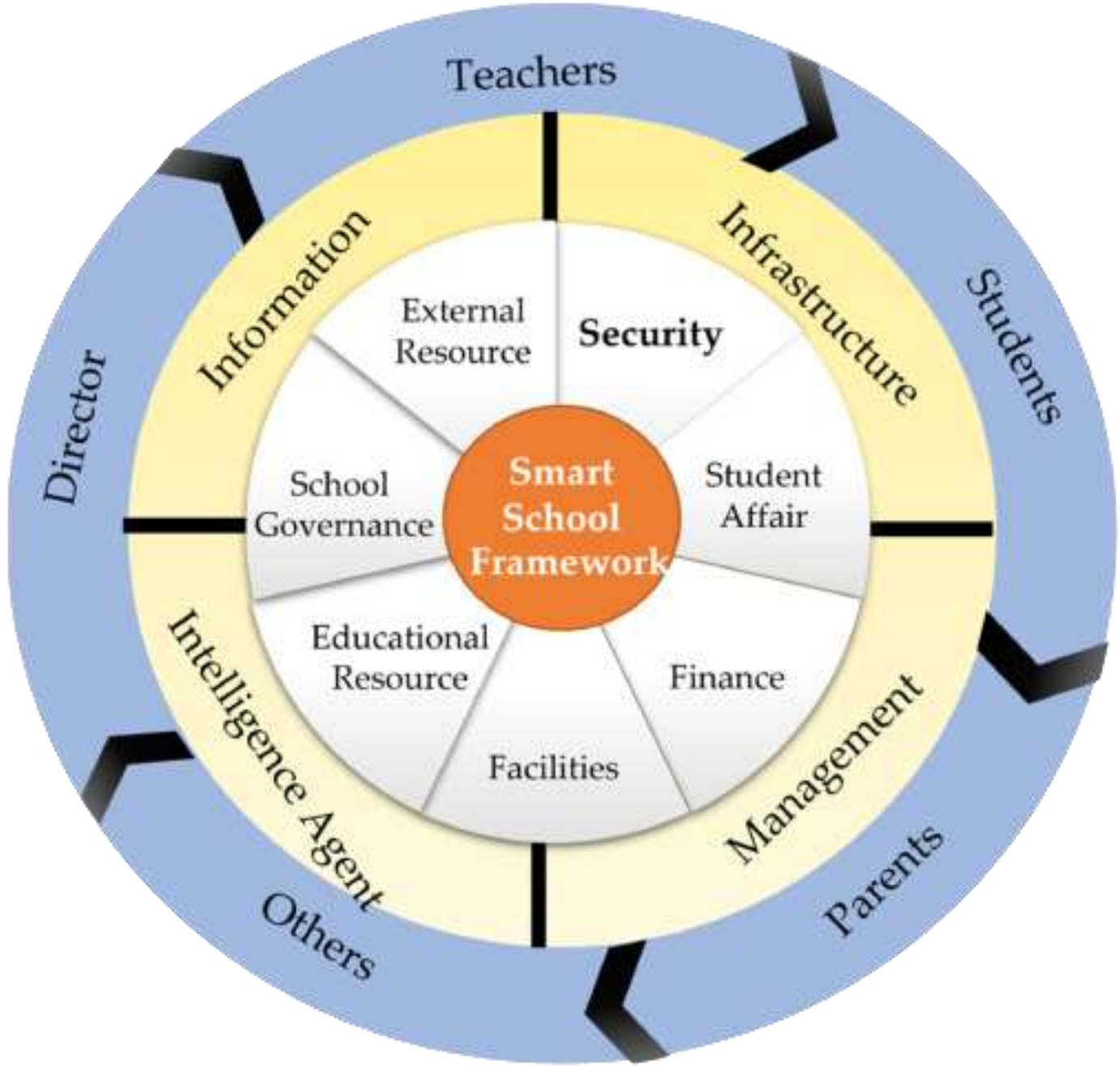
- Introduction
- 1. GIS Solutions in Smart School
- 2. State of Problem
- 3. Schools Management with GIS
- Conclusion

Introduction

Smart School Frameworks

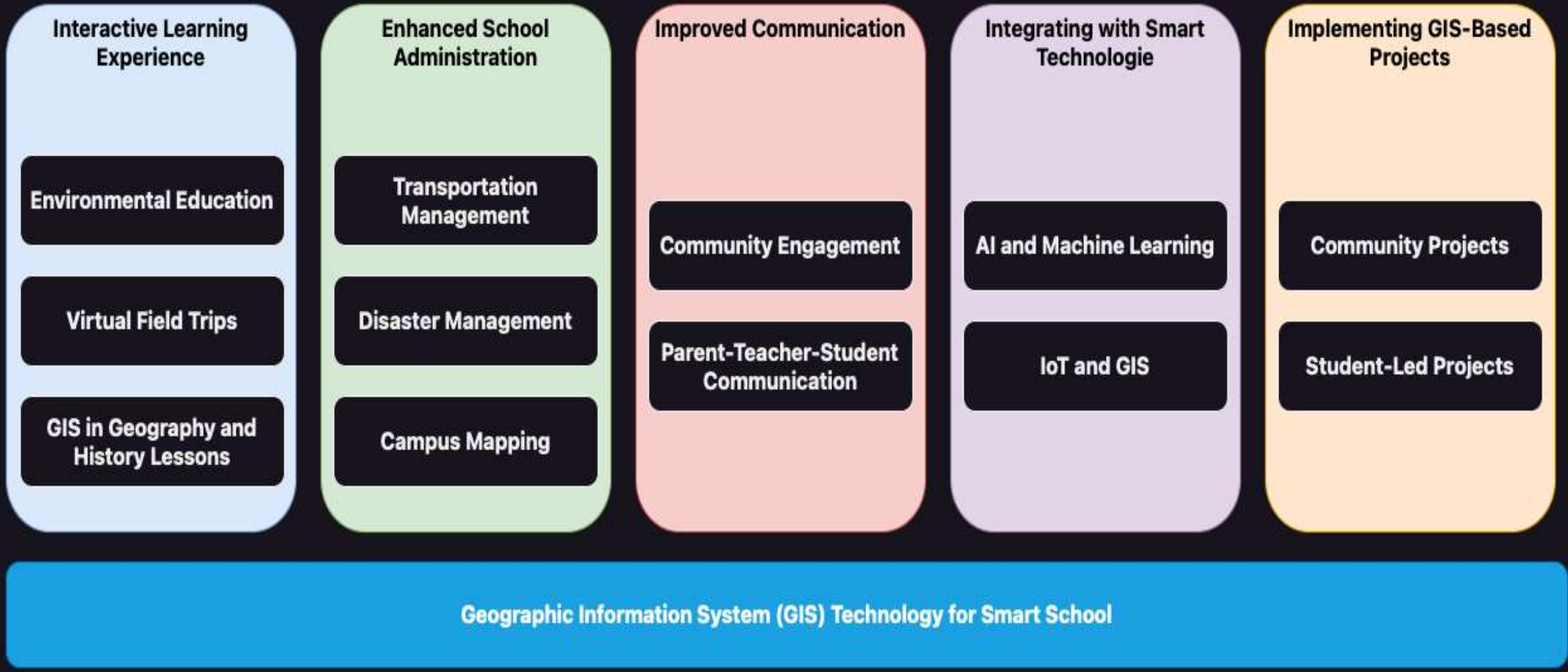

SMART CANTEEN
• Wifi
• Digital Wallet / Payment
• Capacity Monitoring
• Digital Student ID
• Health/Allergy Notification
SMART WEATHER
SMART SECURITY
Notifications
Alerts
CCTV
Facial Recognition
SMART HEALTH
• Notifications
• Alerts
• Digital Health ID
SMART BUILDING/ INFRASTRUCTURE
• Cost Saving Through Smart Lights
• Smart HVAC
• Controlled Access Areas
• Energy Efficient KPI's
• Building Automation
SMART BUSES
• Bus Route Notification
• Capacity
• Facial Recognition
• Fleet Diagnostics
• Safety Compliance
SMART CLASSROOM
• Interactive Boards
• Language Translation
• Beacons / Communication
• Connected Devices
• Remote Students/Faculty
SMART WAYFINDING
• Location Tracker
• Interactive Map
• Find Me Location
• ETA
• Emergency / Help
SMART WEARABLES
• Student Tracker
• Auto Attendance
• GPS
• Wayfinding
• Digital ID
• Event Passes (Shared Revenue)
SMART TRAFFIC
SMART LIBRARY
• CCTV
• Facial Recognition
• Smart Check Out
• Digital Form
SMART PARKING
• Reserve Parking
• Shared Revenue
• Smart Lights
• CCTV
SMART DOOR SYSTEM
• Control Locks
• Alerts / Notifications
• Lock Down
• Emergencies
• Gun Shot Detection
DATA CENTER
• Central Hub
• Monitoring Security
• All Devices / Alerts
• CCTV


SMART ITPC
SMART Student
SMART Unit
SMART Environment
SMART Teacher
Skilled
Sustainable & Safety
Science & Mathematics
Self-Direction
Success
S
M
T
A
R
SMART
Management
Multiliteracy
Management
Morality
Multipurpose
Thainess
Transformation
Technology
Thainess
Transformation
Accountability
Academic
Arts
Articulate
Academic
Research & Relations
Responsibility
Reality
Refreshed
Research - Minded


Teachers
Students
Parents
Others
Director
Information
Infrastructure
Management
Intelligence Agent
External Resource
Security
School Governance
Smart School Framework
Student Affair
Educational Resource
Finance
Facilities

5 GIS Solutions for Smart School

5 GIS Solutions for Smart School



GIS can be used to study environmental changes, such as deforestation, air pollution, and global warming. This can enhance students' understanding of environmental science and sustainability.

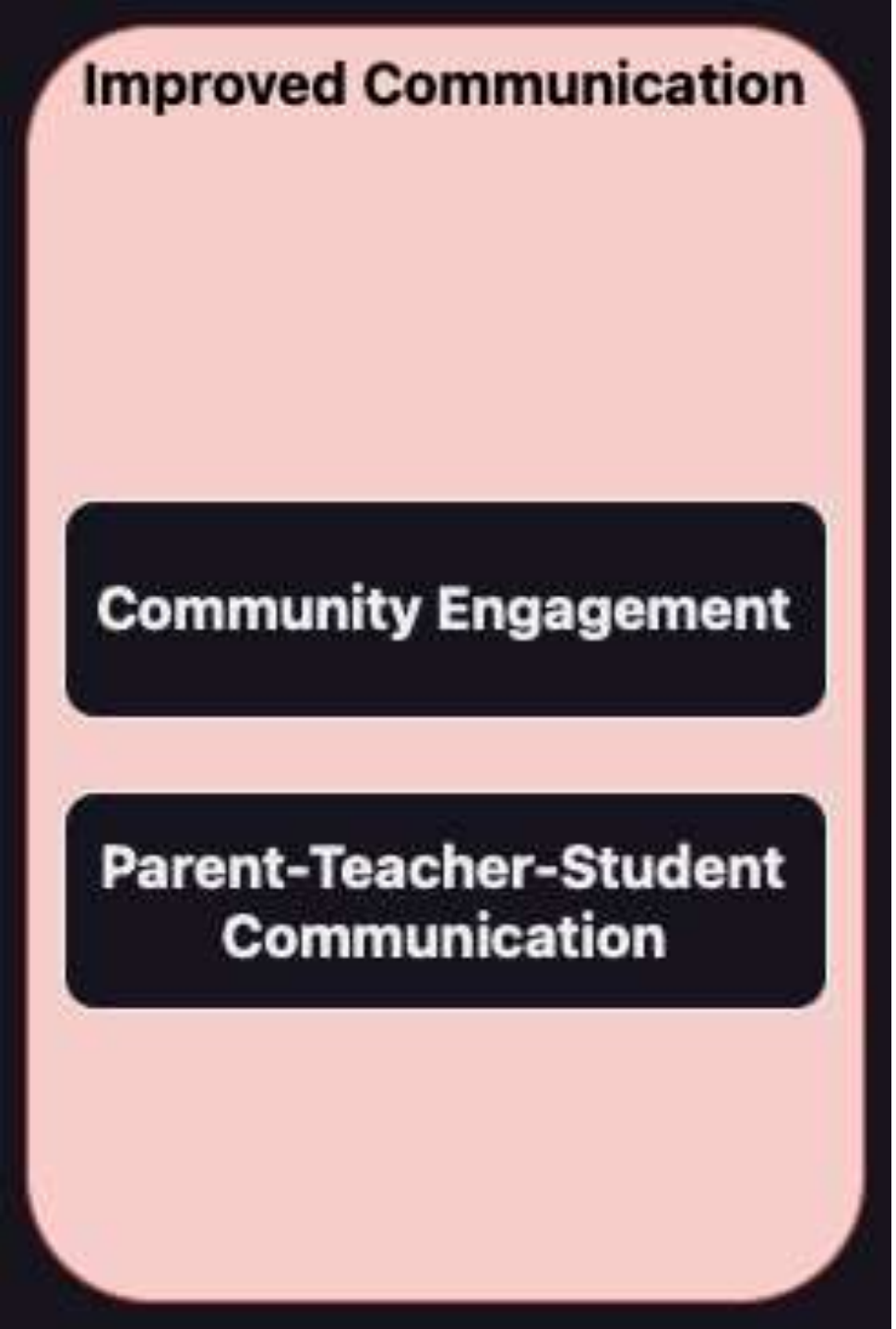
Using GIS, students can take virtual field trips to any location in the world. They can explore the topography, culture, climate, and more of different regions, enhancing their global understanding

Students can use GIS to explore geographical phenomena, historical events, climate changes, etc.

Transportation Management: The school can optimize bus routes, stops, and timings based on students' locations using GIS, improving efficiency and safety.

Disaster Management: GIS can be used for planning evacuation routes, emergency response, and safety measures, aiding in disaster preparedness.

Campus Mapping: A GIS-based school map can be created to help in space utilization, planning, and maintenance. This can show building layouts, routes, parking, green spaces, etc.

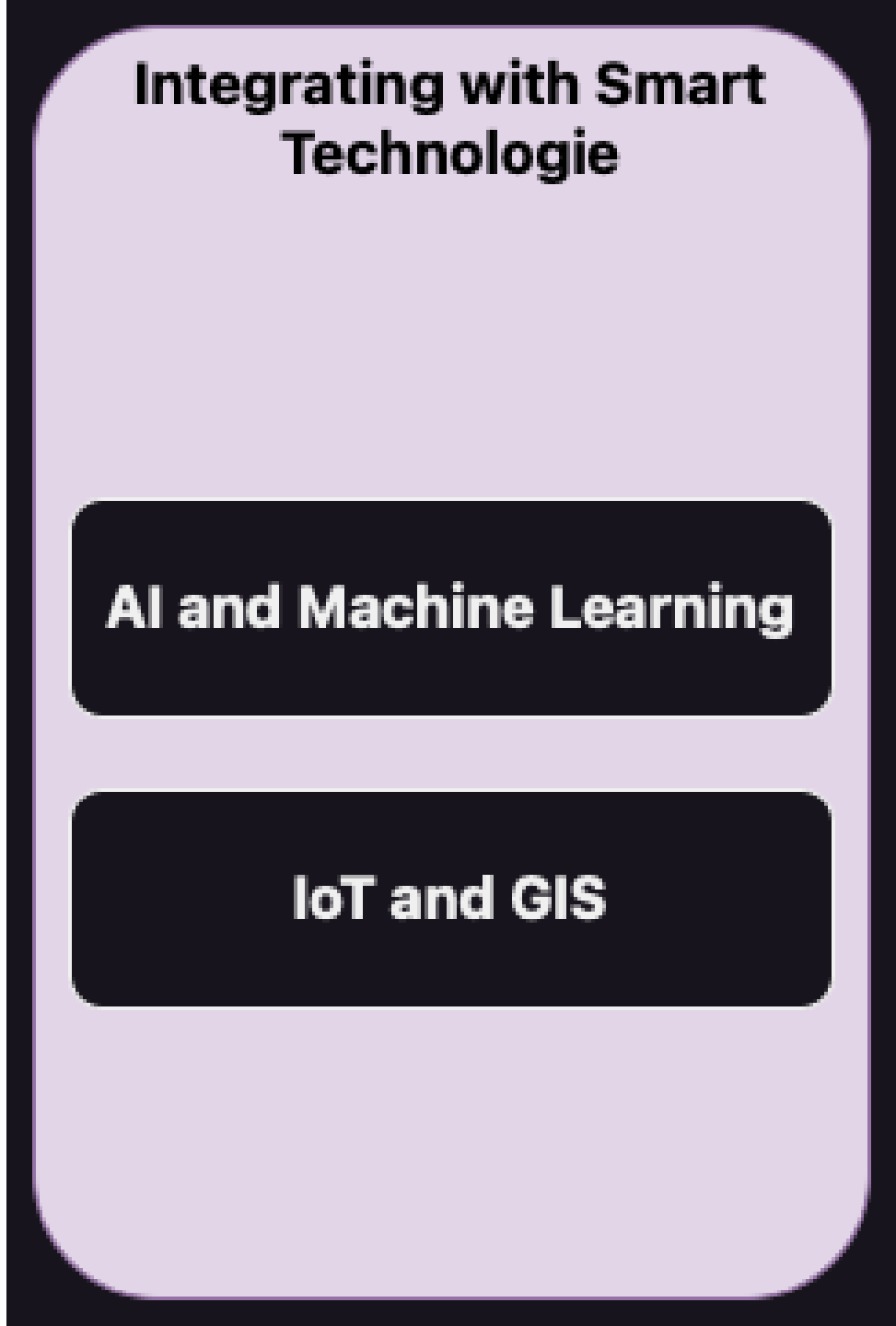


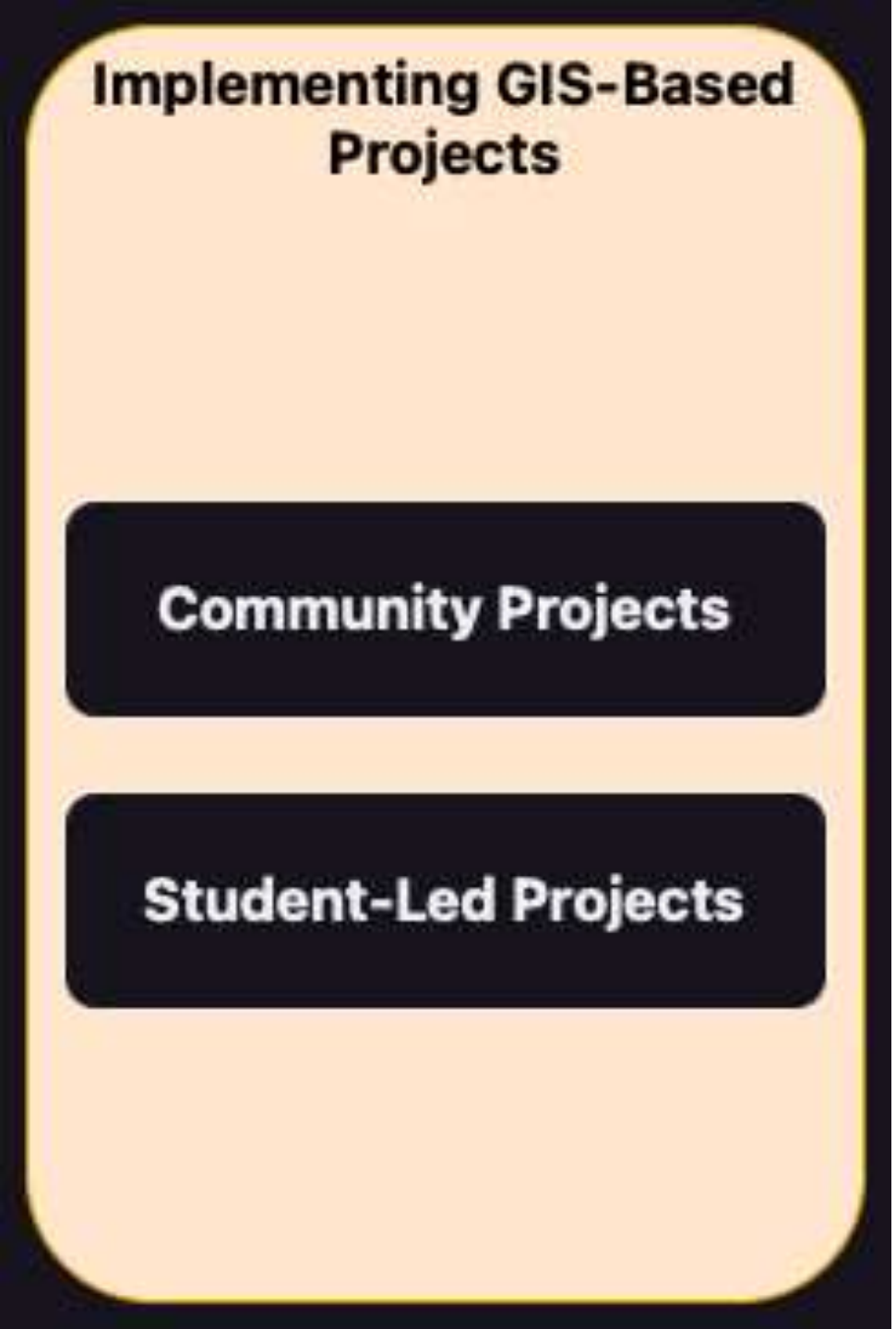
Community Engagement: GIS can share school events and updates with the local community. This can be used to promote community involvement in school activities.

Parent-Teacher-Student Communication: GIS can be used to create an interactive platform where teachers, students, and parents can communicate. Parents can easily see school buses' locations, events, and more.

AI and Machine Learning: Use these technologies to analyze data gathered through GIS. For instance, traffic patterns could be analyzed to optimize the school bus routes or campus usage patterns could be studied to better allocate resources.

IoT and GIS: Combine GIS with Internet of Things (IoT) devices to monitor various aspects of the school environment, like air quality, temperature, or noise levels in different areas of the campus.





Community Projects: Students can undertake GIS-based projects that benefit the local community, such as studying local environmental issues, planning community events, etc.

Student-Led Projects: Encourage students to lead their GIS projects, such as studying the local environment, history, or culture. This can enhance their learning, problem-solving skills, and team working skills.

State of Problems

State of Problem

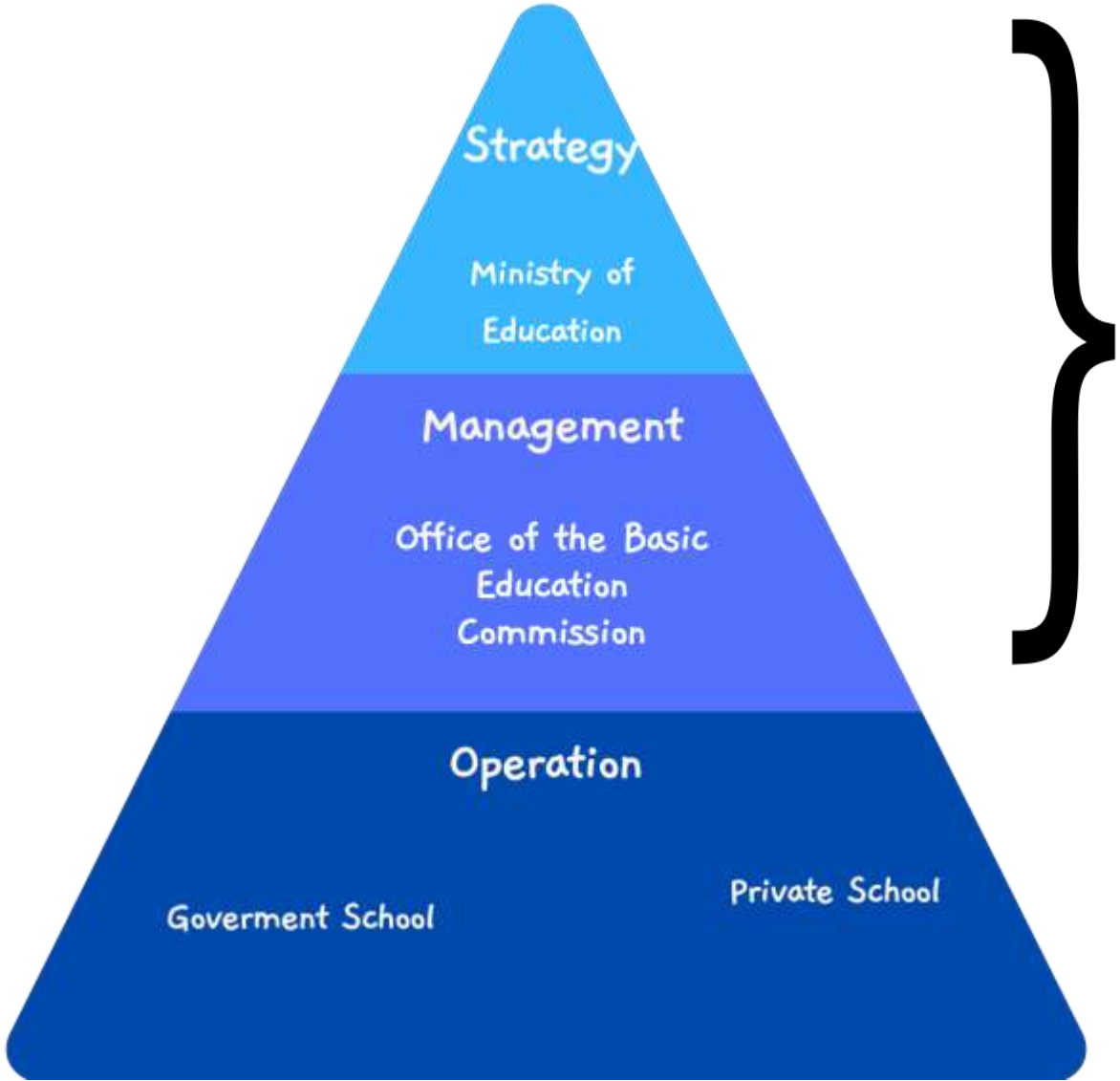
Disparities in Education

Lack of Efficiency in Management

Disparities in Education

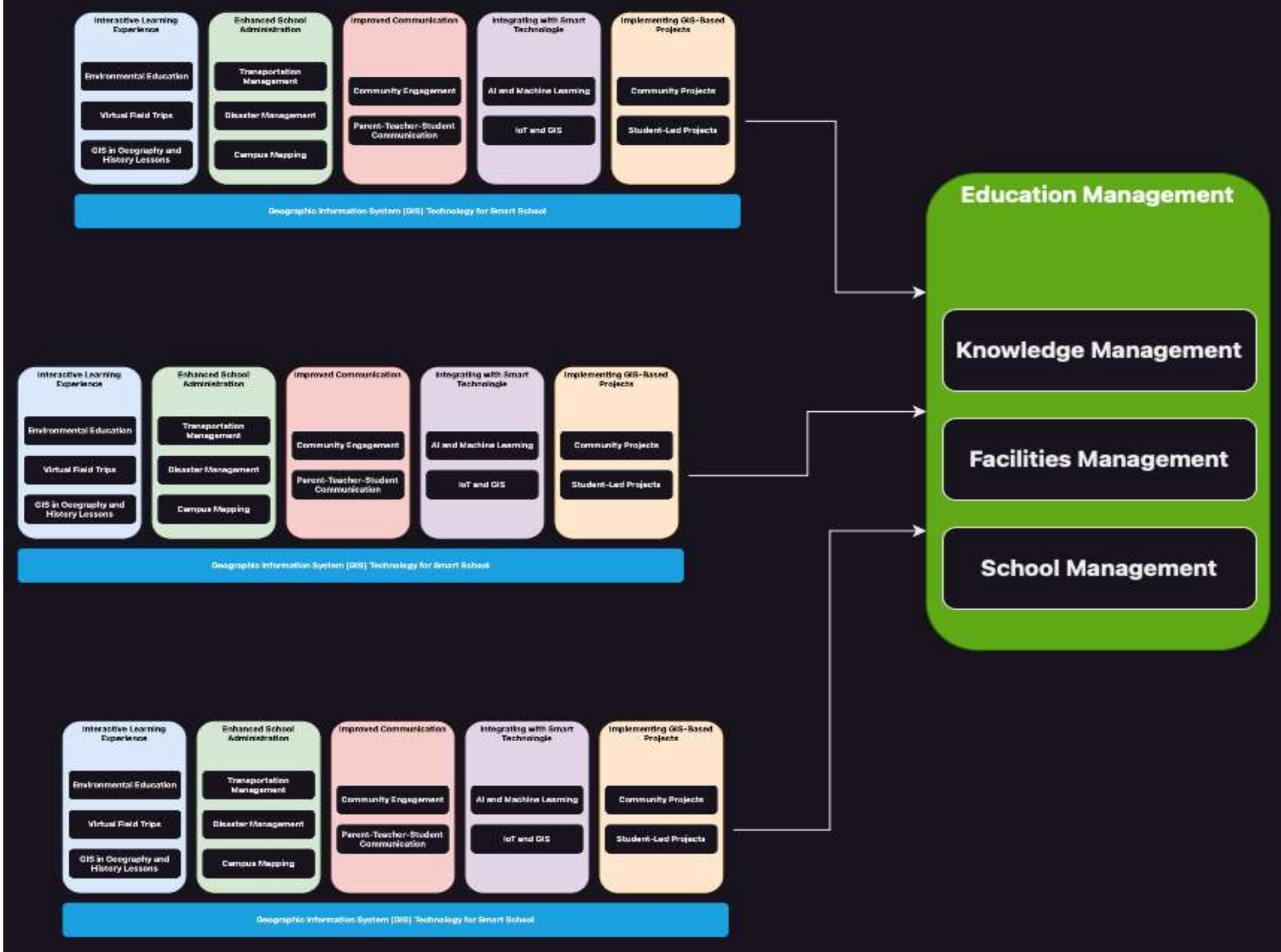
VS

Lack of Efficiency in Management



- Lack of Tools for Monitoring
- Lack of Information
- Lack of Management
- Lack of Understanding

Schools Management with GIS Technology


Interactive Learning Experience
Environmental Education
Virtual Field Trips
GIS in Geography and History Lessons
Enhanced School Administration
Transportation Management
Disaster Management
Campus Mapping
Improved Communication
Community Engagement
Parent-Teacher-Student Communication
Integrating with Smart Technologie
AI and Machine Learning
IoT and GIS
Implementing GIS-Based Projects
Community Projects
Student-Led Projects
Geographic Information System (GIS) Technology for Smart School
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Geographic Information System (GIS) Technology for Smart School
Education Management
Knowledge Management
Facilities Management
School Management

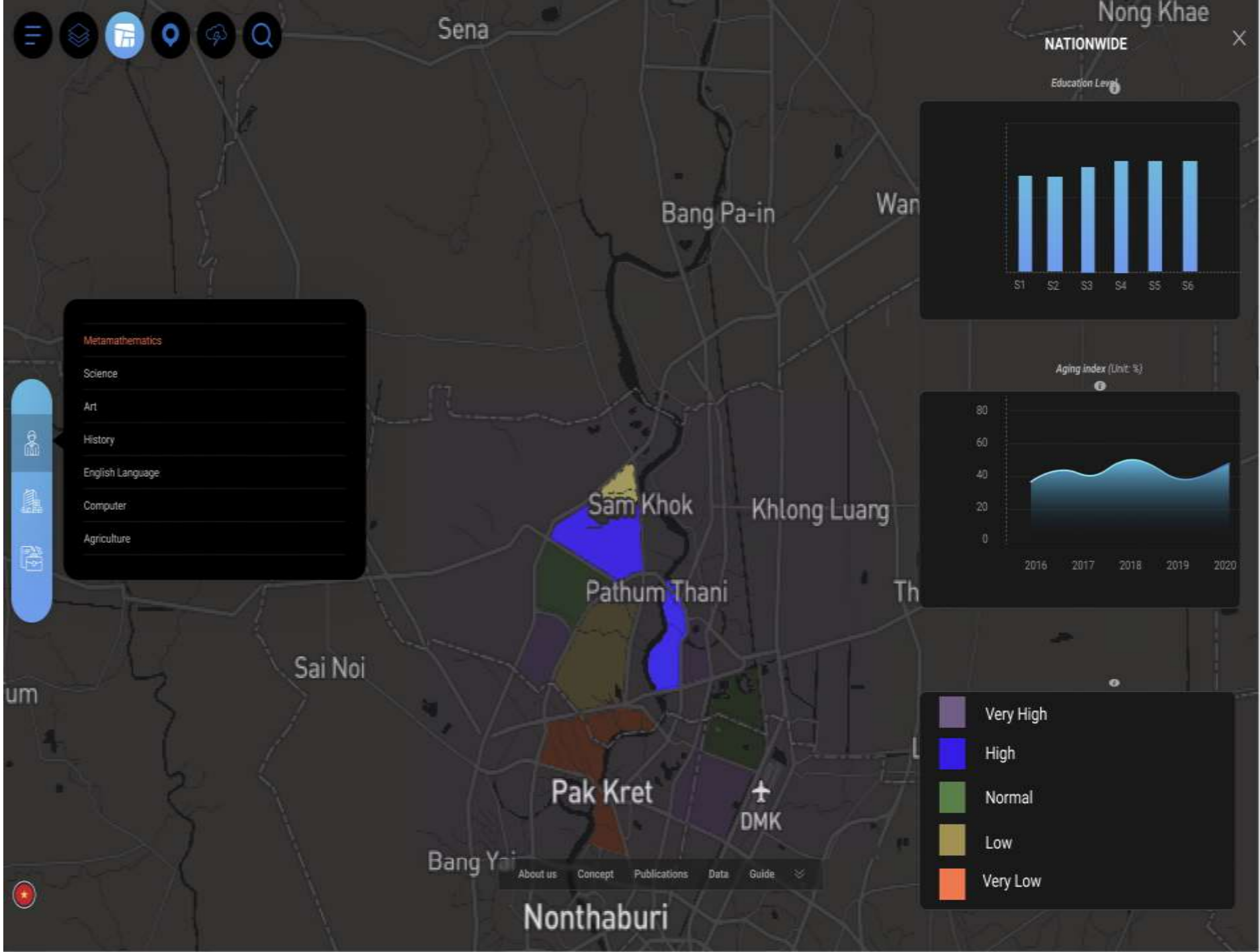
Monitor knowledge information in their own autonomous educational area, which areas have learning strengths

Analyze the need to set up a school or education center in their area.

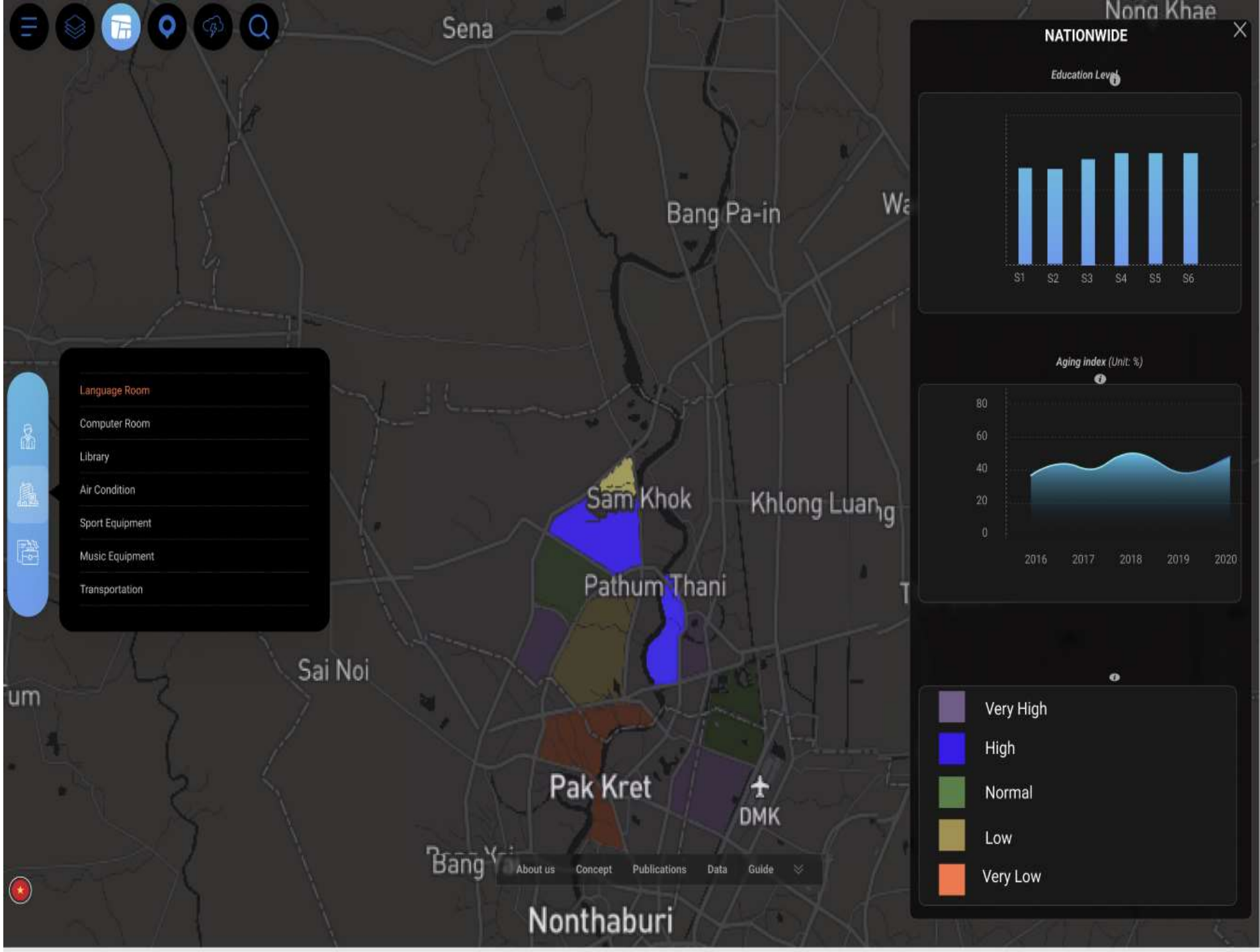
Monitor the readiness of resources for teaching and learning in the autonomous educational area.

GIS Solution for Schools Management

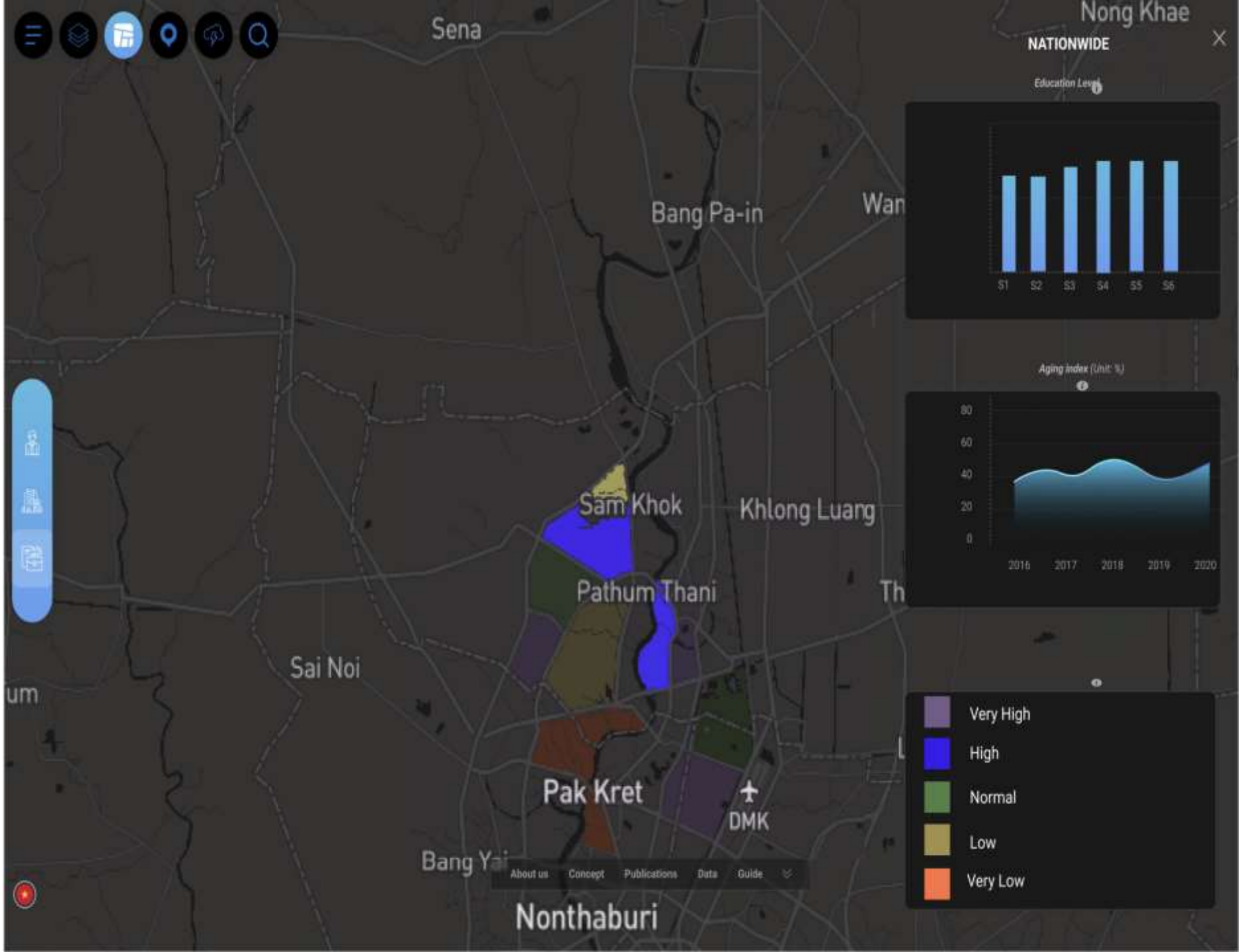
Knowledge Management



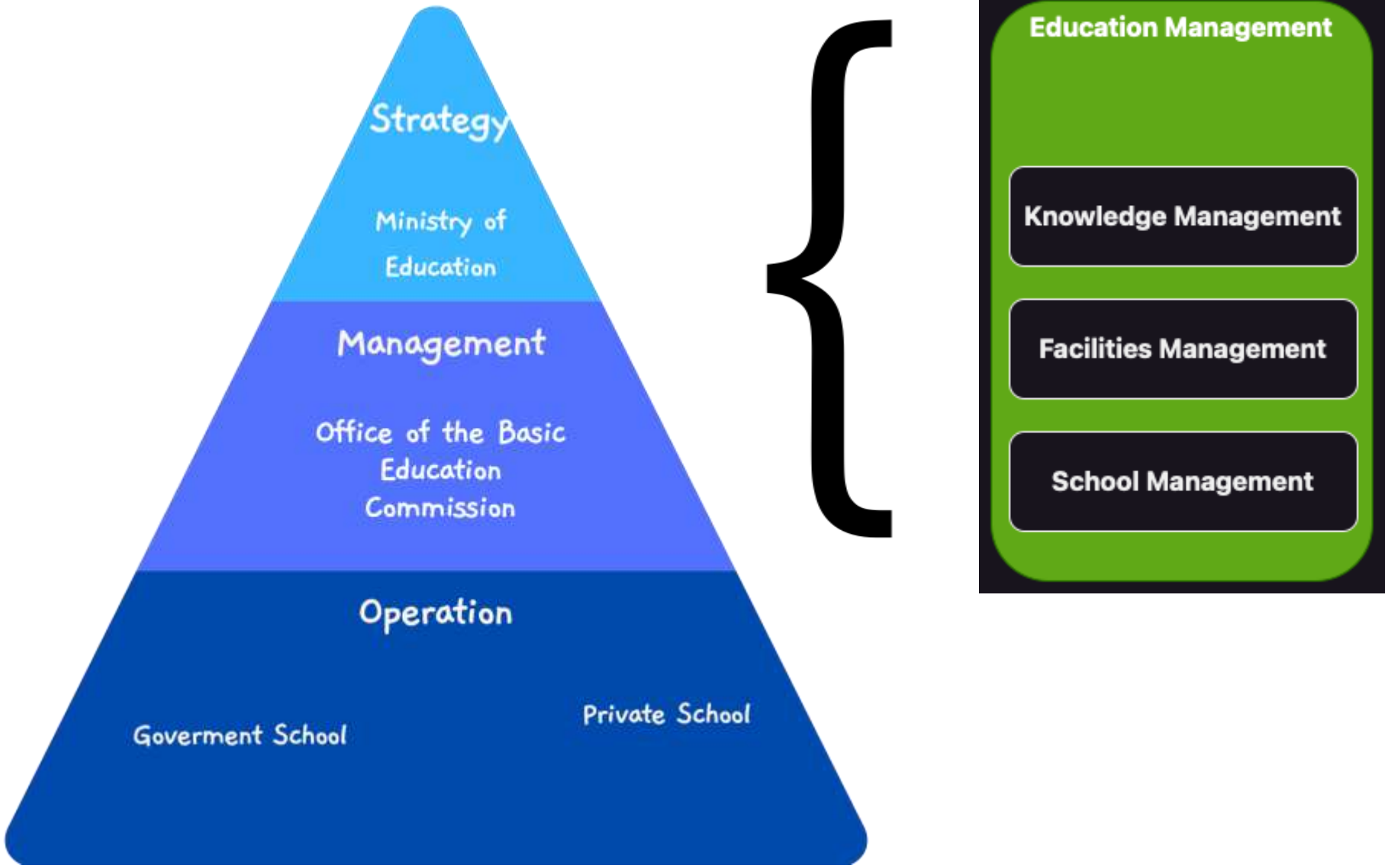
Facilities Management



School Area Management



Conclusion


Strategy
Ministry of Education
Management
Office of the Basic Education Commission
Operation
Goverment School
Private School
Education Management
Knowledge Management
Facilities Management
School Management

SuperMap

VRU
SCIENCE
TECHNOLOGY

DISE
VRU