Center for Spatial Information Science
The University of Tokyo

AIT
Asian Institute of Technology

GICGNSS

UNIVERSITY GNSS DATA POST-PROCESSING AND DISTRIBUTION SYSTEM

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ABOUT US

Asian Institute of Technology , Geoinformatics Center
14°04'56.0"N,100°36'45.3"E

WHAT WE DO

We are working on application
of geo-spatial science and
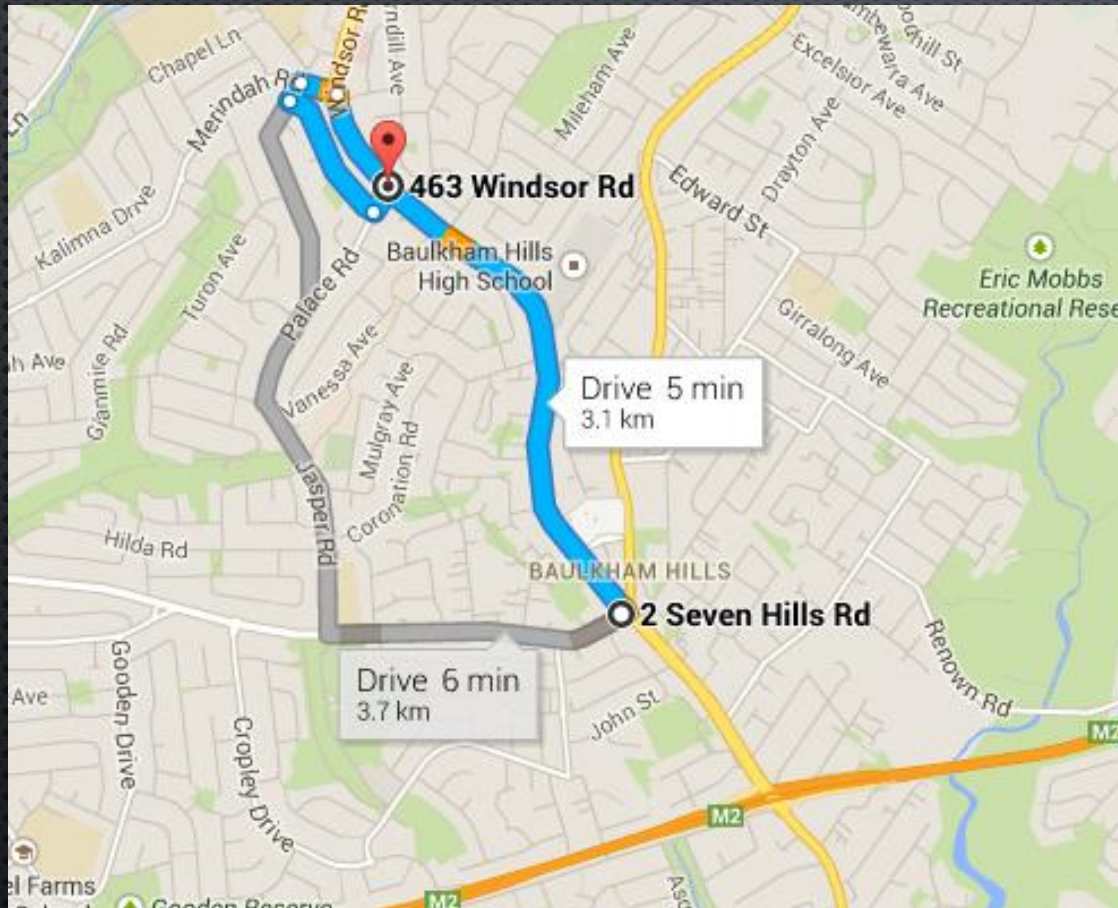technology for humanity.

FOR MORE

Please Visit:
http://www.geoinfo.ait.ac.th/

WHAT IS GNSS ?

You mean GPS?

Most of the people think GNSS Is used only for routing your car or positioning yourself in mobile mapping applications.

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THE PROBLEM ON GNSS

A. COMPLEXITY AND COST OF SOFTWARE

1. Most of opensource software run in command prompts/terminals.
2. We need Simple and powerful software.
3. Some commercial software have easy GUI but researchers do not prefer paying.

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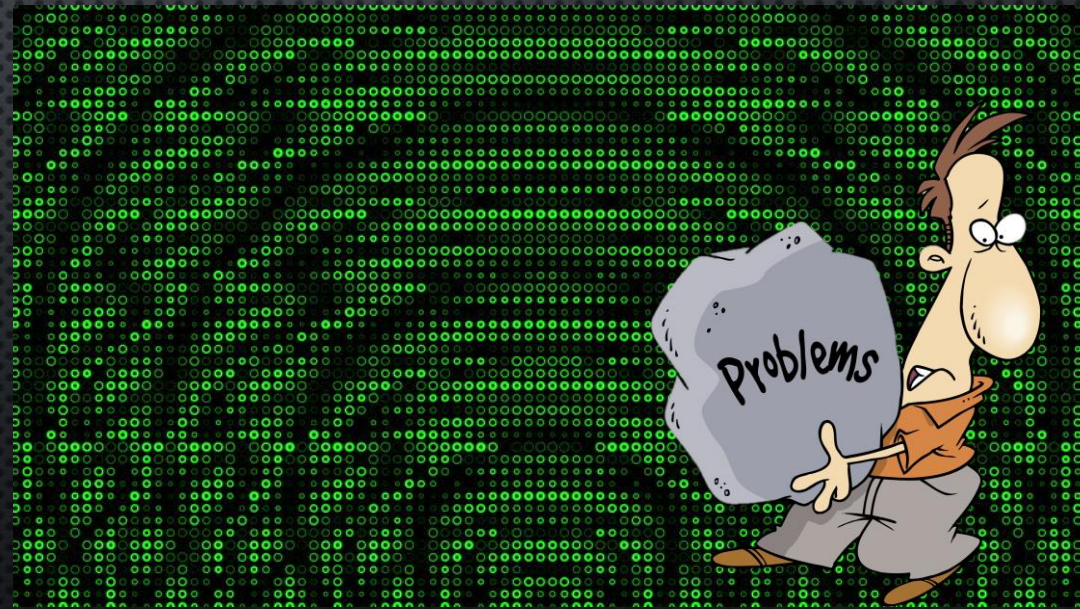
B. DATA SEARCHING & NTRIP ACCESS

1. To find CORS observation data (Base Data) for different Rover stations is a tedious job.
2. Getting RTK access from High End Receivers in real time for research purpose is also very difficult.

THE PROBLEM

C. DEVICE DEPENDENCE

Most of the software have limitation to support only specific operating systems/hardwares. If you want to process data from android phone it's a big problem.

THE PROBLEM

3. DEVICE INDEPENDENCE

Most of the software have limitation of supporting only some operating system and platforms. which make very difficult to process data using different devices.

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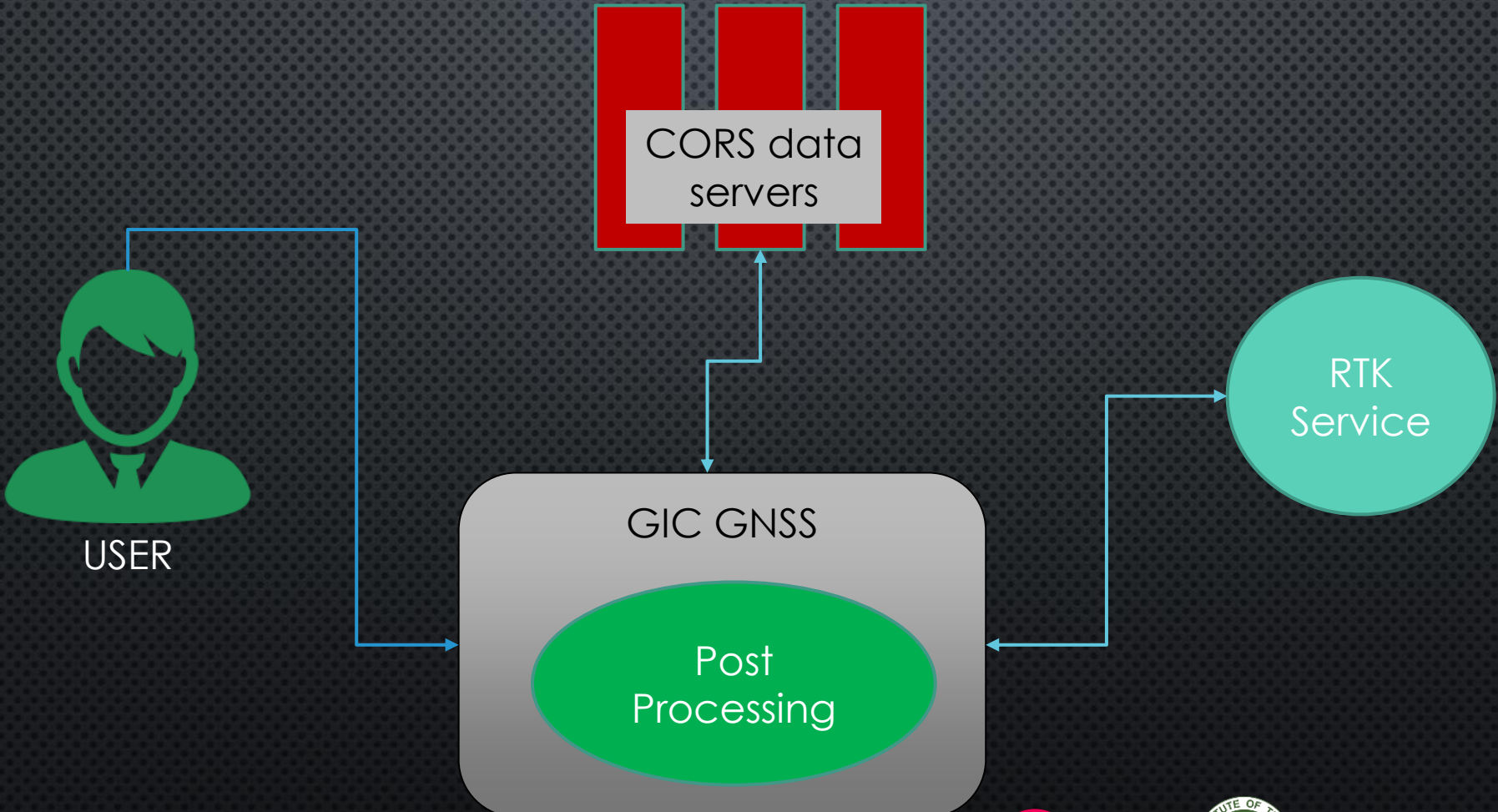
THE SOLUTION

GICGNSS is

1. Free Web based system for post processing
2. Capable of finding nearest base (CORS) station and fetch base data autonomously
3. Cloud Based system, which can run in any device with internet.
4. Hosted by university, No problems of commercialization
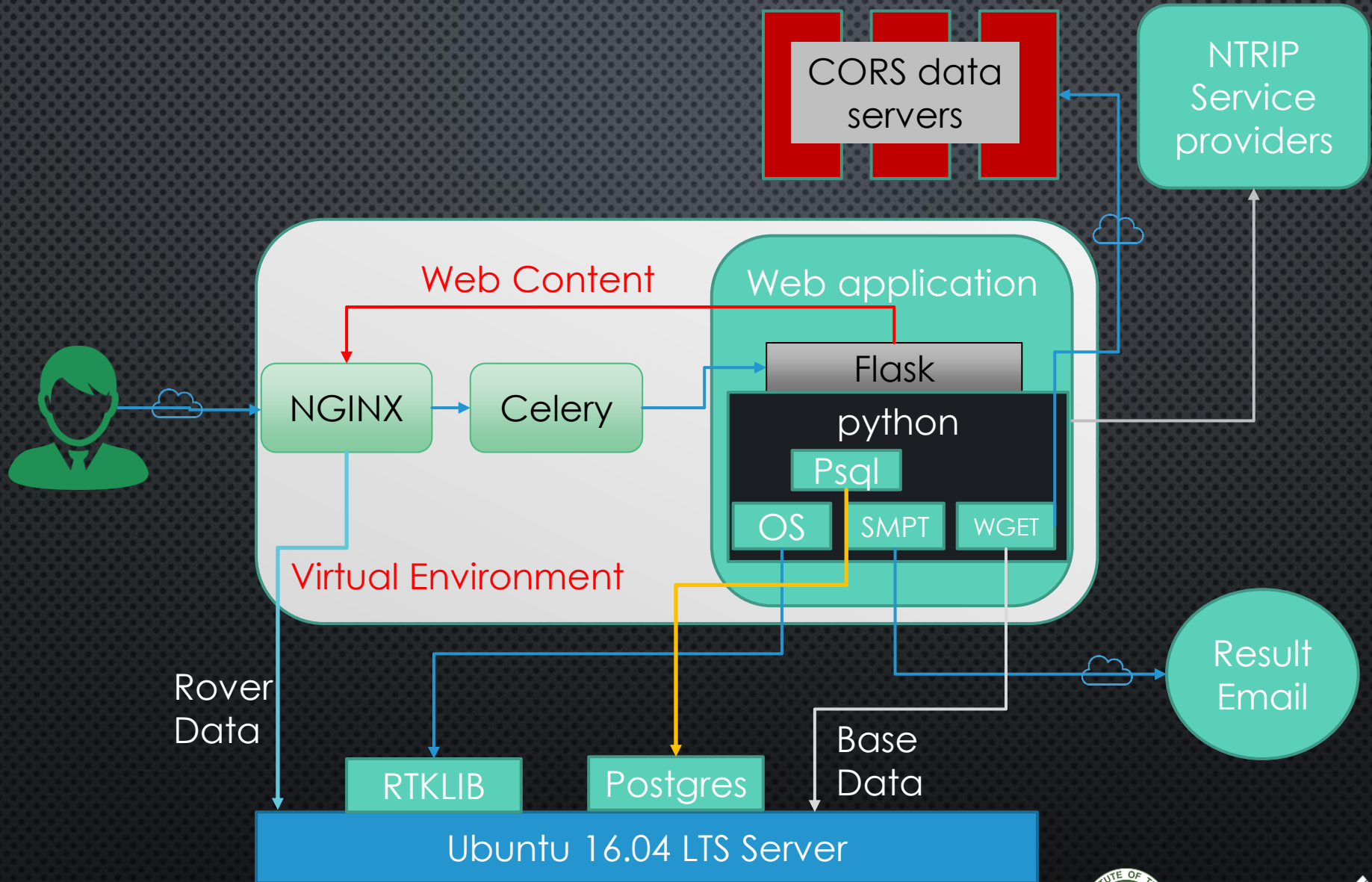
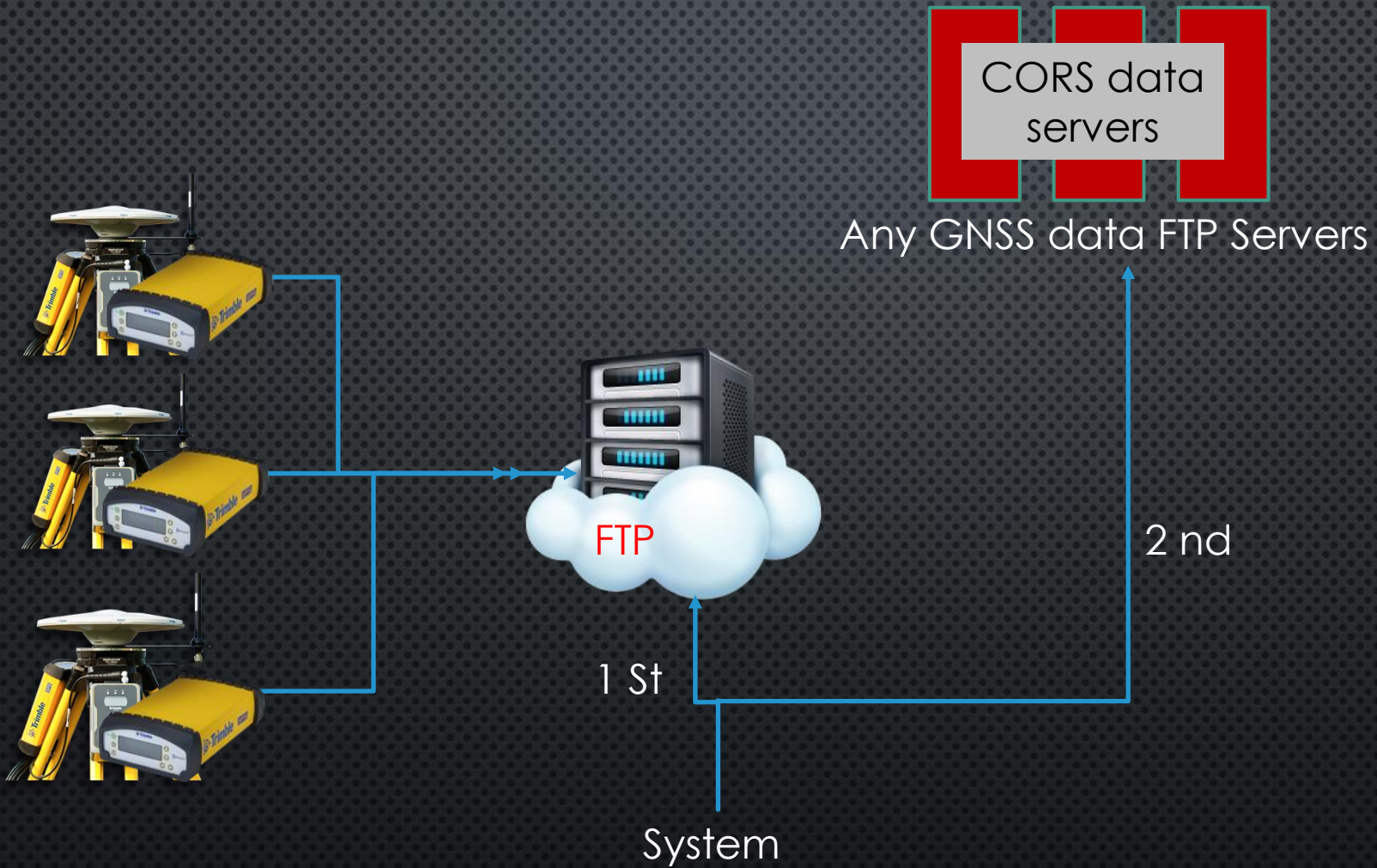# PROCESSING TECHNIQUES

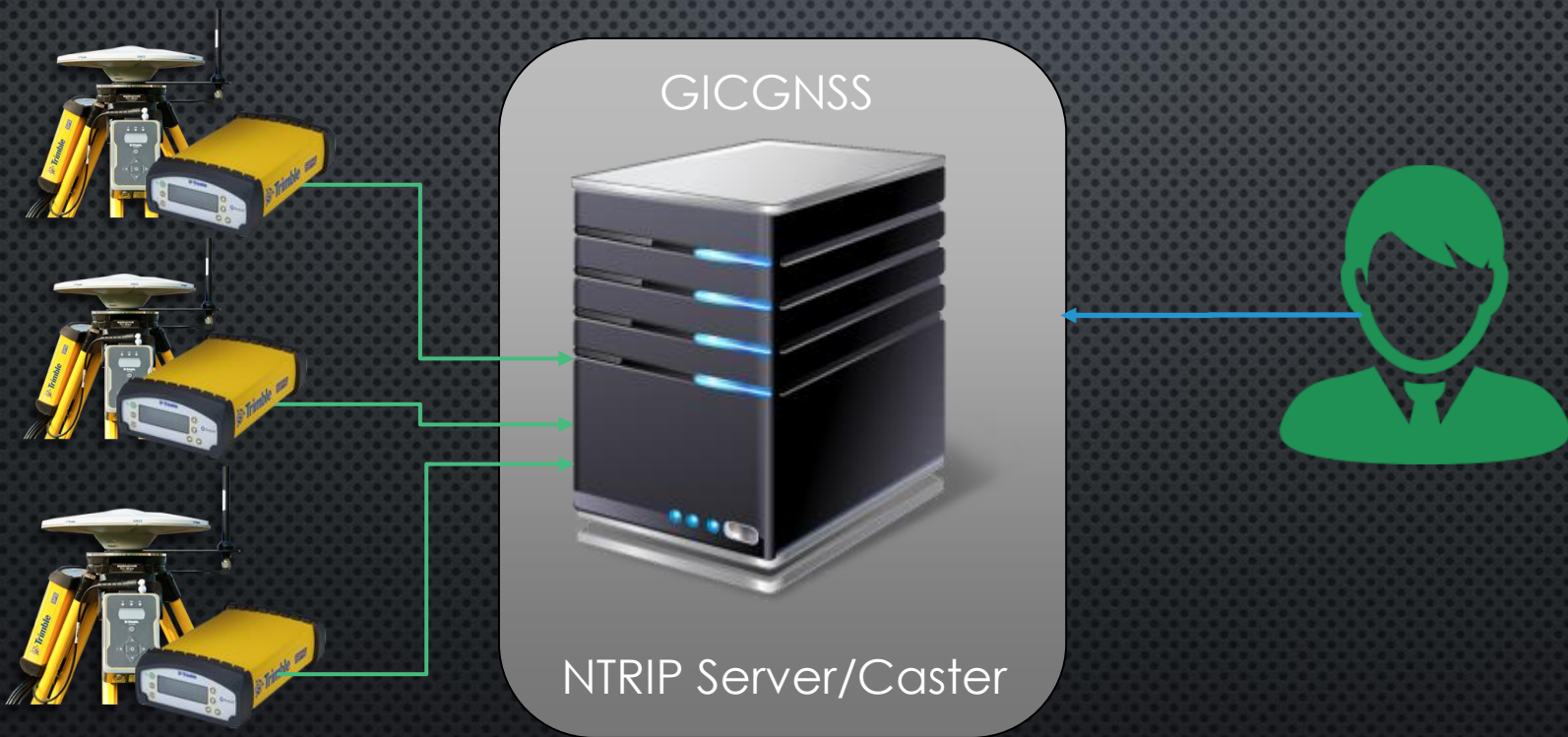- Single

- Kinematic

- Static

- DGPS

SYSTEM OVERVIEW

CORS data servers

USER

GIC GNSS

Post Processing

RTK Service

SYSTEM ARCHITECTURE

BASE DATA ACQUISITION

CORS data servers

Any GNSS data FTP Servers

FTP

2 nd

1 St

System

RTK SERVICE

GICGNSS

NTRIP Server/Caster

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DEMONSTRATION

PROS

- Free and opensource
- Managed by university(s)
- Cloud based system
- Easy post-processing
- Fast and reliable
- Based on RTKLIB post processing algorithms
- Device independent
- No need to search Base data
- Bulk processing

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CONS

- Need to add more Scientific processing options (like TEC computation)

- May have problem in processing large amount of data

- Fund for sustaining

- CORS data availability

- Lack of more "Options"

FUTURE

- To be a part of MGA network

- Add more CORS station in same network

- Faster cloud computation

- Machine learning and artificial intelligence

- Write own processing algorithm

- Provide RTK service from same website
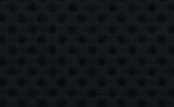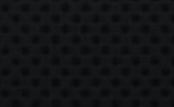
- Online RTK Processing

THANK YOU

Contact me @

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SUGGESTIONS..