

Civil engineering

Skills, software and state of art technology





Project (times, control of development), Excel, NeoDATA (unitary cost), contracts, ERP Enterprise resource planing (storage, buys, sells, banks, accounting, clients, providers), Budget, materials Market, human resources.





Assist in the creation , modification, analysis and optimization of a design

Process of creating a technical drawing with the use of a computer

2D and 3D Modeling

Autocad- Documentation, modeling, collaboration

Example: <https://www.autodesk.mx/campaigns/inspired-by-autocad/david-romero>

BIM

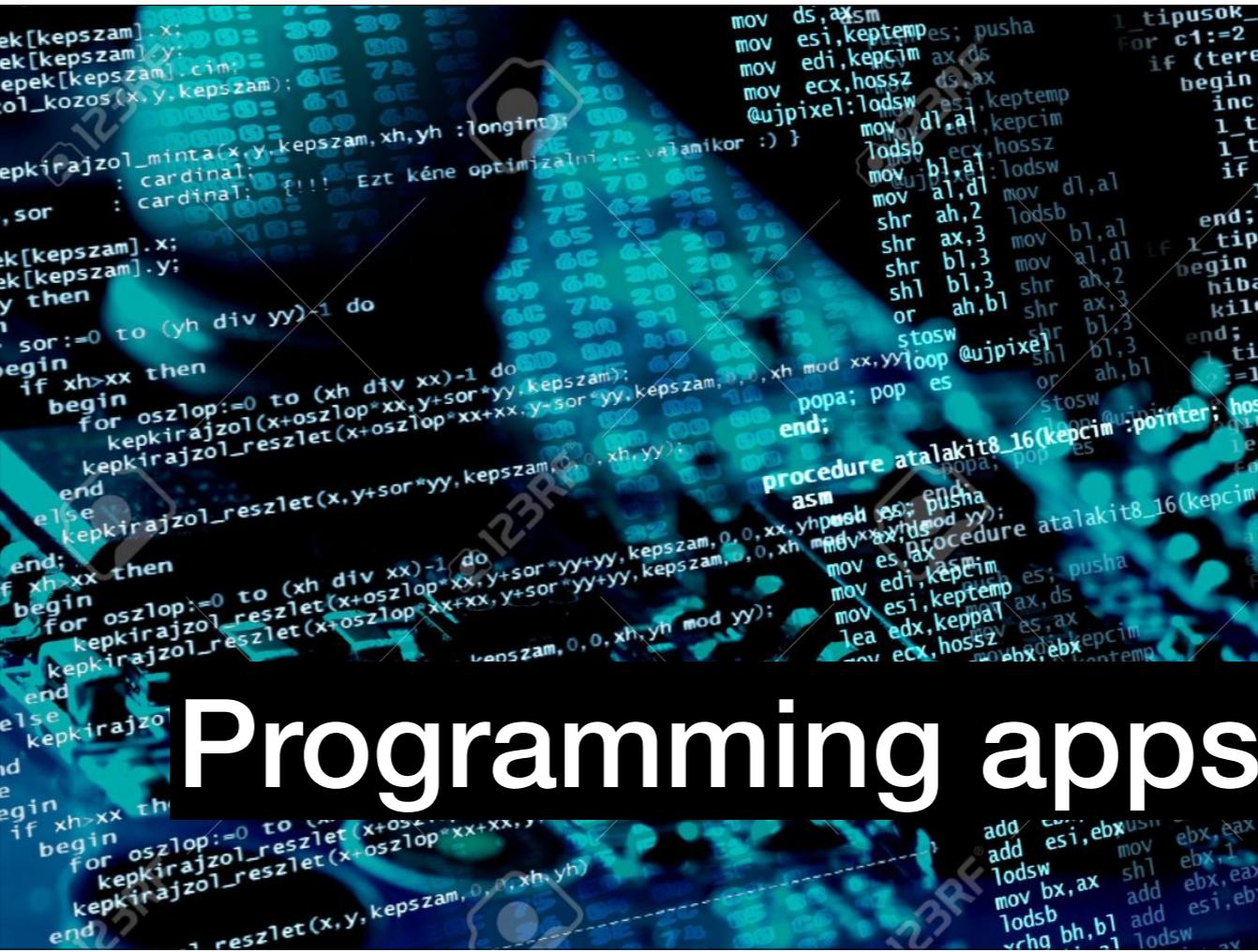


Digital representation of a physical and functional characteristics of a facility

Life Cycle: from conception to demolition. Architectural, structural and construction

MEP Mechanical, Electric, Plumbing

REVIT, InfraWorks (Geospatial), RECAP (3d scanning), OPUS 18 (ERP + Autocad conexion)



Programming apps

Fortran, Visual Basic, Data bases, Routines, Python, Stats and probability

Matlab MatCAD Scientifique calculations



Smart Cities

What is facing?

- ❖ Increased population and urbanization
- ❖ Plan and cope with environment change
- ❖ Consider the full lifespan of a project
- ❖ Sustainability and resilience
- ❖ New ways of work and regulations
- ❖ Intelligent cities, autonomous vehicles, drones
- ❖ Manufacturing innovations, advance materials

Resources

<https://www.youtube.com/watch?v=HAx7E3Bu7gA>

<https://www.youtube.com/watch?v=yI6xCrEXkvM>

<https://www.microsoft.com/en-us/internet-of-things/smart-city>

[https://damassets.autodesk.net/content/dam/autodesk/draftr/2267/
Autodesk_CE_Innovator_ebook.pdf](https://damassets.autodesk.net/content/dam/autodesk/draftr/2267/Autodesk_CE_Innovator_ebook.pdf)

[https://www.postscapes.com/trackers/video/the-internet-of-things-and-sensors-and-
actuators/](https://www.postscapes.com/trackers/video/the-internet-of-things-and-sensors-and-actuators/)

<https://www.youtube.com/watch?v=kv2hG6U4fec>

<https://www.autodesk.com/products/revit/overview>