

CURRICULUM VITAE

Personal Data

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Position

Associate Professor in Architecture and Urban Planning at High Institute of Engineering and Technology (BHI), Department of Architectural Engineering.

Education

- **Studies:**
 - Associate Professor in Architecture and Urban Planning: 2022.
 - Doctor of Philosophy Degree in Architecture: 2015.
(Future Vision for Designing the Virtual Urban Spaces).
 - Master Degree of Science in Architecture: 2012.
(The Impact of Virtual Reality Study on the Design of Urban Spaces).
- **Graduate Studies:** B.Sc. Arch, Faculty of Fine Arts, Alexandria University, Egypt.
- **Graduation date:** 2007.
- **Graduation Degree:** Very Good.
- **Graduation project:** Communication & Information Technology Center.
- **Project Grade:** Excellent.

Objective

- I am looking to develop my career towards a management role.
- In the future I would like to pass on my knowledge and innovative management techniques to others.
- I see myself achieving my major career goals within the next five years, Seeking an entry level position as instructor and architectural design engineer.

Additional Skills

- Architect with a wide range of experience in the design and implementation of residential and industrial buildings.
- Leadership skills involving managing, developing and motivating teams to achieve their objectives.

- Dedicating and maintaining high quality standards.
- Creativity and ability to work in team.
- Good communication and presentation skills.
- Problem solving Skills.
- Ability to work under pressure.

Computer Skills

General Sills:

- **Design Review**
- **Workshop drawings**
- **Schedule Time**
- **Follow-up implementation**

Software Sills:



- **3D Studio Max** (Creation, Material, Light - professional : animator " make movies ").
- **AutoCAD, AutoCAD Map (2D & 3D):** Excellent.
- **Adobe Phostshop:** professional .
- **Adobe Illustrator:** professional .
- **Free Hand:** V-good .
- **Moviemaker:** Excellent .
- **Advanced 2D , 3D ArcGIS (ArcMap, ArcCatalog , ArcGlobe, ArcScene):** professional .
- **WireFusion:** Excellent.
- **Global Mapper , StitchMaps & Google Earth:** professional.
- **Autodesk Revit:** Excellent.
- **SewerCAD :** Excellent.
- **InfraWorks:** Excellent.

IT Knowledge

- **Operating Systems:** Windows XP.
- **Applications:** Office program.
- **Microsoft Word:** Excellent.
- **Microsoft Excel:** Excellent.
- **Microsoft PowerPoint:** Excellent.
- **Microsoft Access:** Excellent.

Cultural activities

- **Other Computer skills:** Windows applications skills &Internet applications skills .
 - **Other applications:** (Adobe Premiere –Adobe After Effects-Corel draw).
- Attended many conferences, seminars, symposium and exhibitions.

Education Background:

- **Urban Environmental Design.**
- **Architectural Design.**
- **implementation of residential and industrial buildings.**
- **Landscape Design.**

Languages skills:

- **Arabic:** Mother Language.
- **English:** Fluent Writing and Spoken.

Research Interest :

- **Architectural Design.**
- **Implementation systems and construction of of architectural buildings.**
- **Environmental Studies and Applications in Architecture and Urban Design.**
- **Sustainability in Architecture and Urban Design.**
- **Green Architecture .**
- **Virtual Reality Technology.**
- **Remote Sensing in urbanism.**

Activities :

Reading: Interested in publications concerning architecture, social, economic & political subjects.

Music: Interested in Arabic, foreign, & classical music.

Social Life: Interested in communicating people and cooperating in social life for the benefit of the community.

Drawings: free hand drawing (different styles).

Training Experience

- **Tow Months Specific Traning at:** Faculty of Fine Arts (July – August 2003).
- **Tow Months at The Site of :** San Stefano Complex Project (june -July 2004).
- **One Months Traning at:**The Arab Contractors " OSMAN AHMED OSMAN& CO (August 2004).
- **One Months Traning at:** Seoudy Architecture & Planning (15 July - 15 August 2005)
- **One Months Traning at:** Montazah for Touristic & Estate Investments (10 june – 10 July 2005).
- **One Months Traning at:** Egyptian House for Architecture & Planning (August 2006).

Work experience :

Throughout the study in University 2003:2007 – Made a lot of projects in my study as:-

- Hotel in El Selslla District.
- Stadium of Borg El-Arab.
- Information Technology Center in Borg El-Arab.
- Center of Agricultural research.
- Cafe in road Alexandria –Egypt and so on.

Side by side/ graduation project : **Communication & Information Technology Center.**

August 2007- September 2008: Worked as Urban Designer/ Architect in Egyptian House for Architecture & Planning office, Prof Dr YOUSRI AZZAM "Professor in Architecture Department, Faculty of Engineering, Alexandria University" and Participated in many architectural Projects as:-

1- August 2007: ROSETTA Master Plan 2027 - General Organization for Physical Planning (GOPP) - ELBEHERA GOVERNORATE / EGYPT.

2- September 2007: Planning of new ROSETTA 750 Feddans /400 HECTars - EL BEHERA GOVERNORATE.

3- October 2007: Planning of new Alexandria / 1300 Feddans / 400 HECTars - ALEXANDRIA GOVERNORATE / EGYPT.

4-Replanning of RAML Station Area - Town Center ELRAML - ALEXANDRIA GOVERNORATE / EGYPT.

5-Restaurants Complex QAITABAY Historical Area - EL ANFOUSHY District - ALEXANDRIA GOVERNORATE / EGYPT .

6- Project Design Tourist Hotel 7 Stars - Quota district.

7- February 2007: ALEXANDRIA Master Plan 2027 – General - Rganization for Physical Planning - ALEXANDRIA GOVERNORATE / EGYPT.

8- April 2008 : Upgrading of Slum Areas of ALEXANDRIA City - General Organization for Physical Planning (GOPP).

9- May 2008 : Project Planning and Design of a Tourist Village in Ingredient 74 Northern Coast (Nice 4 village) Together with a Group of Architectural Firm Construction.

10- May 2008 : Development Project Restaurant and a Cafeteria Five Secrets - land of the International Garden.

11- May 2008 : Project Design and Creation of an Apartment Building for Wipko Company Employees - Region SMOOHA.

12- Interior Design of Theater for the New World School - DUBAI / UAE.

13- June 2008: the Project to Establish a Housing Complex Commercial Administrative in BAHARI Region - Neighborhood Customhouse (Mack Company Real Estate Investment).

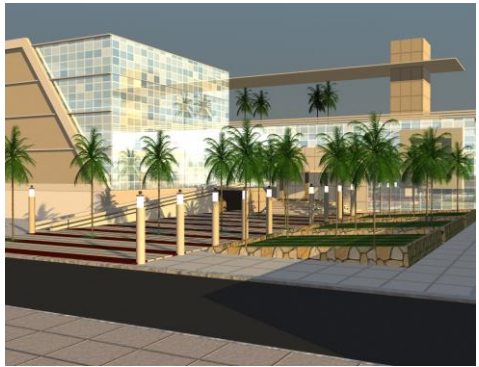
- September 2007: February 2009 (After graduate of University), Worked as demonstrator in the Faculty of Fine Art, Department of Architecture.**
- September 2010: February 2012 Worked as demonstrator in Pharos University, the Faculty of Engineering, Department of Architecture.**

- **September 2012: February 2013, Worked as Assistant lecturer in the Faculty of Fine Art, Department of Architecture (Open Education).**
- **September 2013: June 2015, Worked as Assistant lecturer in the Arab Academy for Science, Technology & Maritime Transport, College of Engineering & Technology, Department of Architectural Engineering & Environmental Design.**
- **September 2015: June 2016, Worked as lecturer in the Arab Academy for Science, Technology & Maritime Transport, College of Engineering & Technology, Department of Architectural Engineering & Environmental Design.**
- **September 2015: 2021, Worked as Assistant Professor at High Institute of Engineering and Technology (BHI), Department of Architectural Engineering. Beside, i supervised various teaching materials in architectural education at four levels in the Higher Institute of Engineering and Technology (BHI), which are:**
 - Building Technology 1 (AR213)
 - Visual Studies 1 (AR214)
 - Architectural Design 1 (AR221)
 - Building Technology 2 (AR223)
 - AutoCad Drawings (AR224)
 - Architectural Design 2 (AR311)
 - Engineering and Technology (HS316)
 - Architectural Design 3 (AR321)
 - Architectural Design 4 (AR411)
 - Architectural Design 5 (AR421)
 - Interior Design (AR423)
 - Landscape Architecture (AR521)
- **I have also published several scientific researches in architecture as:**
 - 1. The Influence of Using Vertical Solar PV in Rationalization of Energy Consumption in Residential Buildings (3-5 April, 2018) - ICCAE-12-2018.**
 - 2. Visualizing the Underground Hidden Cultural Heritage (15–30 April, 2018)- ISBN: 978-88-909-1165-1.**
 - 3. Applying GIS Technology for optimum selection of Photovoltaic Panels "Spatially at Defined Urban Area in Alexandria, Egypt" (16 November 2018) - doi:10.1016/j.aej.2018.11.005.**
 - 4. Restoration and Development of Urban Heritage Sites, (Rehabilitation of Middle cities and Heritage towns).**
 - 5. استراتيجية الحفاظ المستدام للموروث البنائى بين التكامل البصرى وكفاءة الاداء الوظيفى**
 - 6. Regenerative Design of a Defined Urban Space Using CityGMI Model.**
 - 7. The Future of Architectural Education in Egypt " Architecture Pedagogy Focuses on Educational Concepts and Approaches".**

• **Selection of Projects in the Field of Public Building:**



Graduation Project : Communication & Information Technology Center.



Center of Agricultural Researches



Tourist Hotel 7 Stars in Quota district



The New Alexandria University

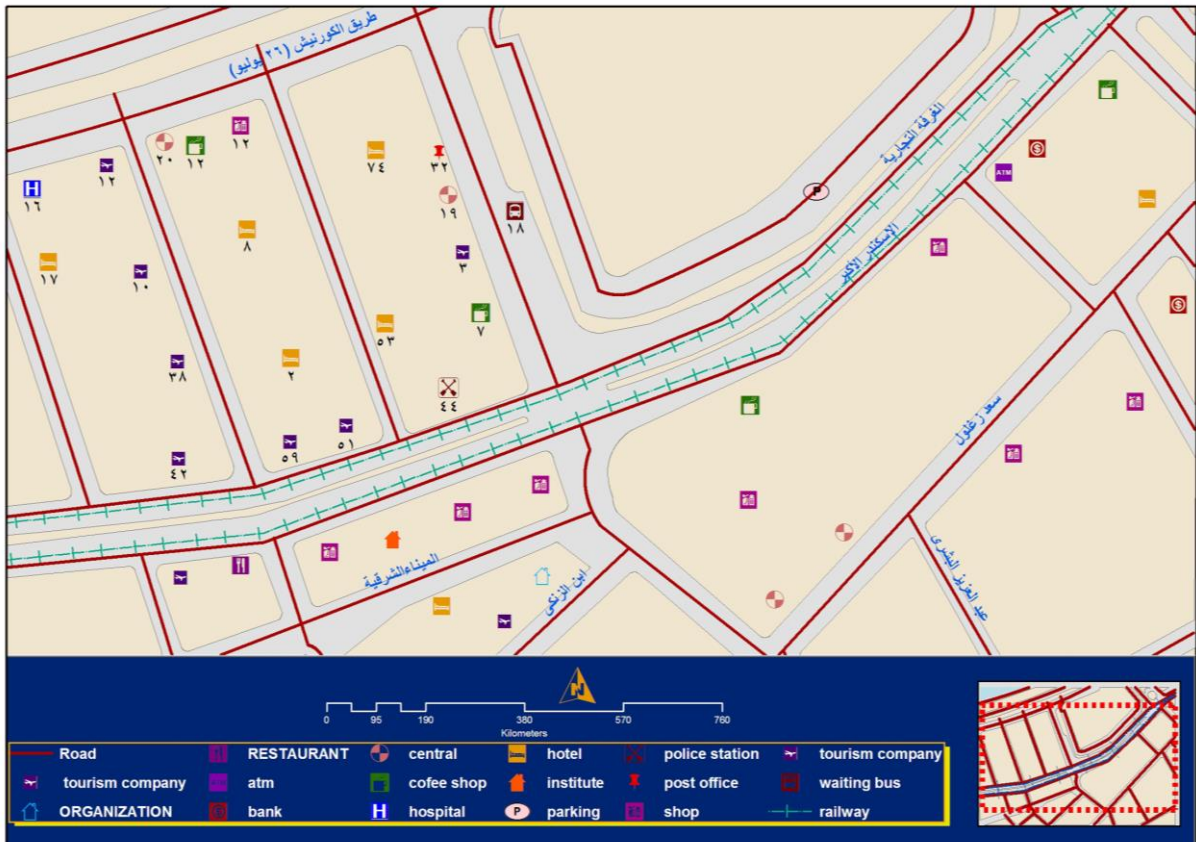
Selection of Competitions Projects:



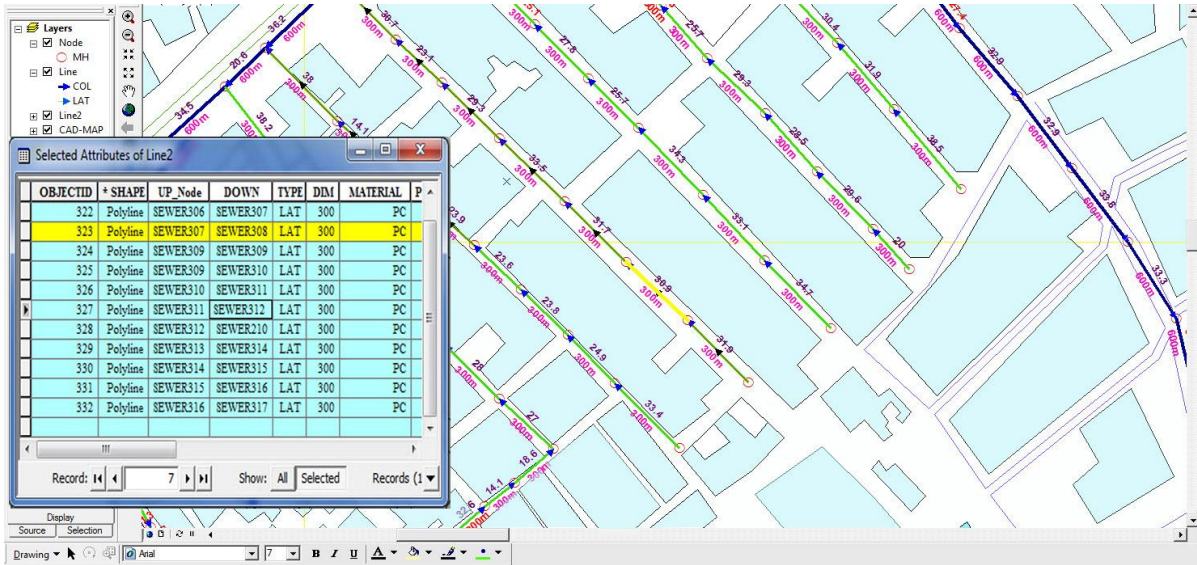
UIA Competition in Torino for portable building.



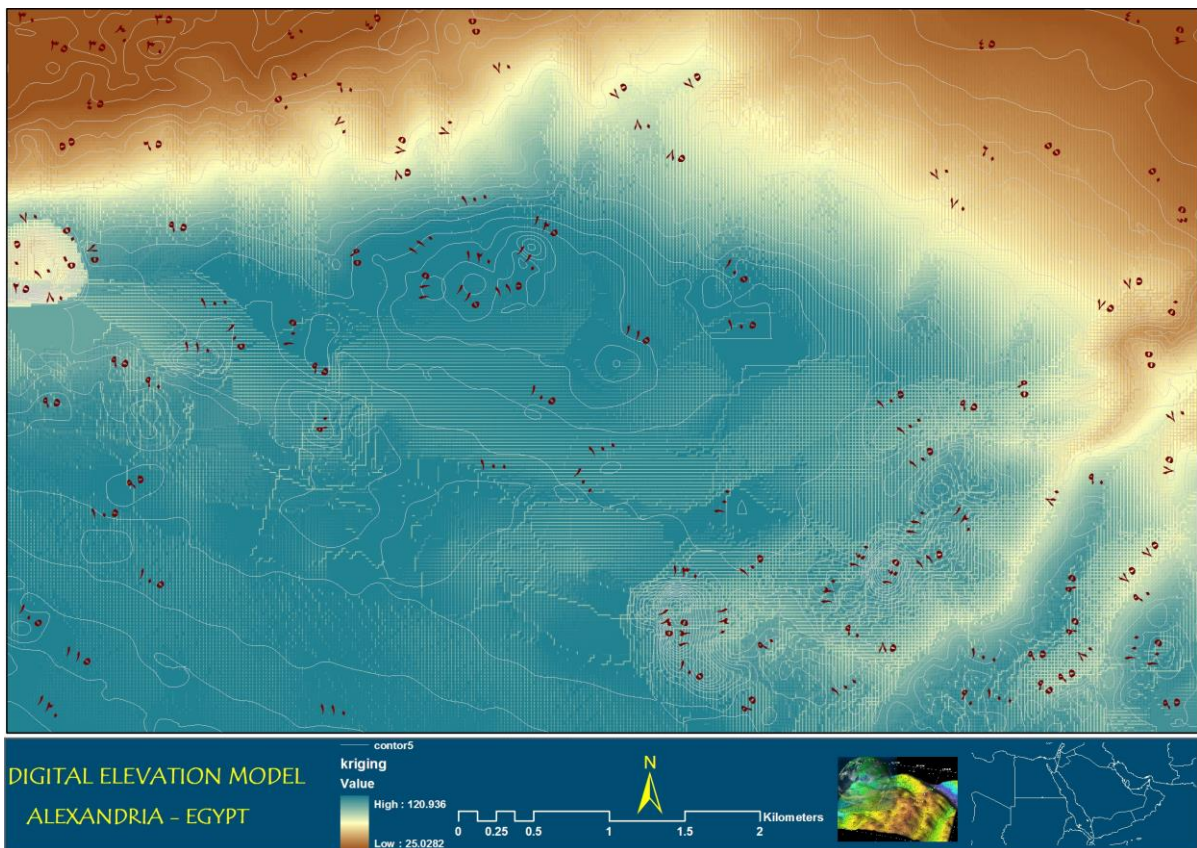
Planning and Design of a Tourist Village in Ingredient 74 Northern Coast (Nice 4 village) Together with a Group of Architectural Firm Construction.



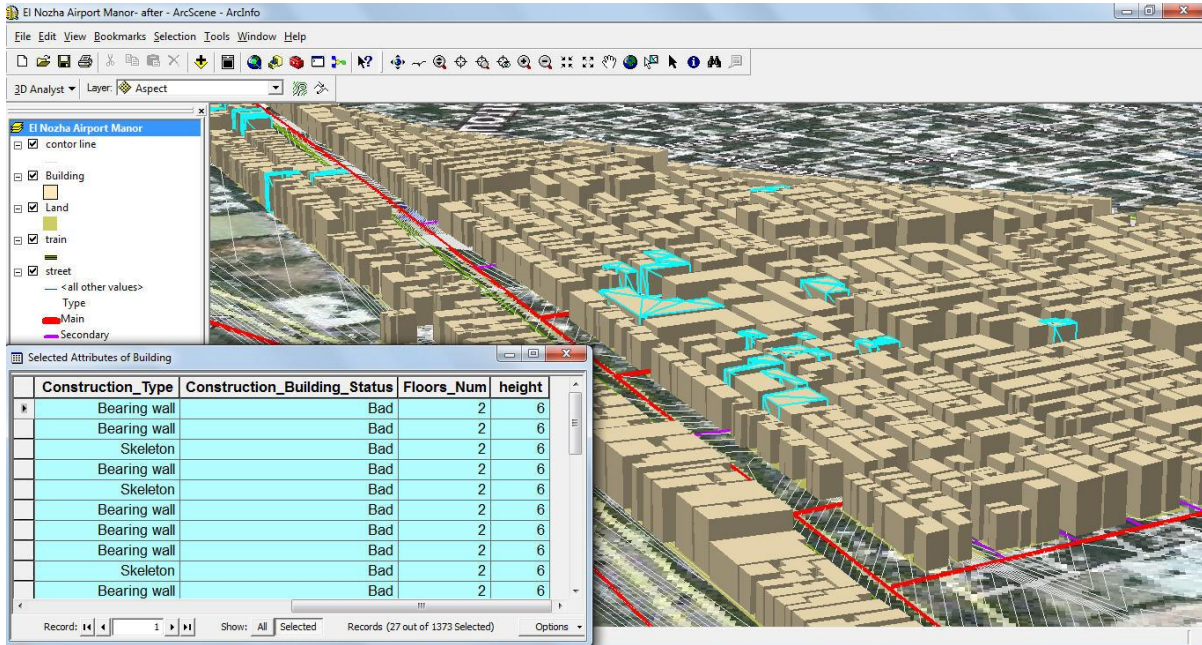
Planning of Al Raml Station Region in ArcGIS.



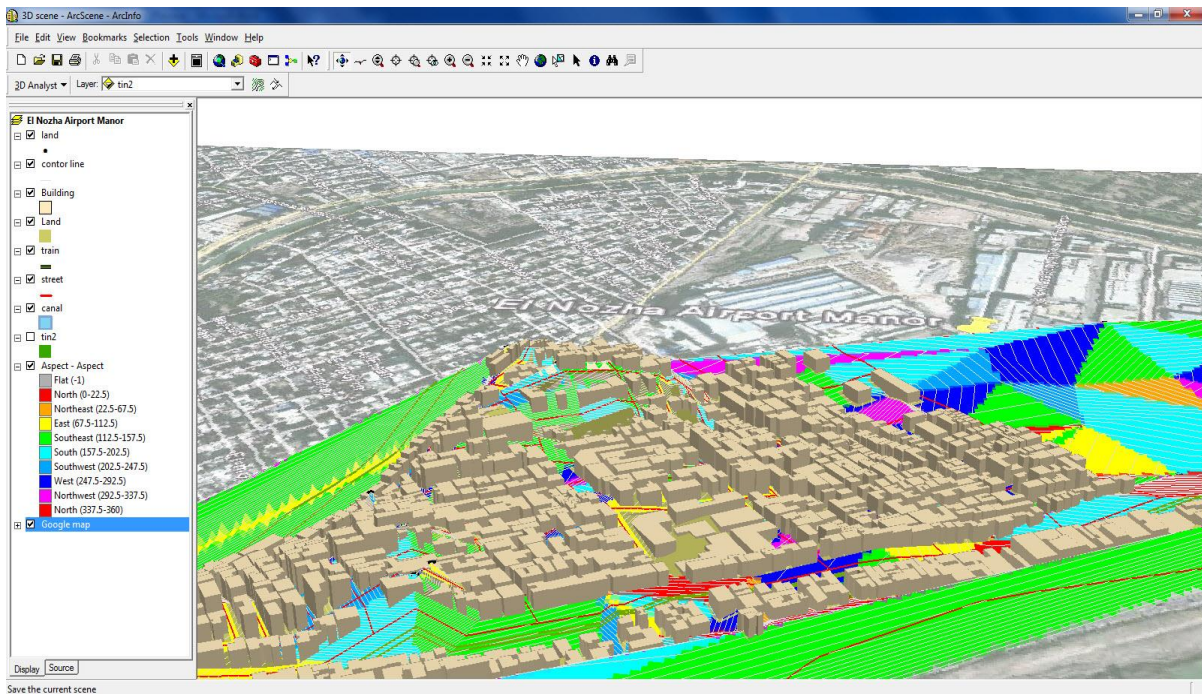
Planning of Sewer Network in ArcMap.



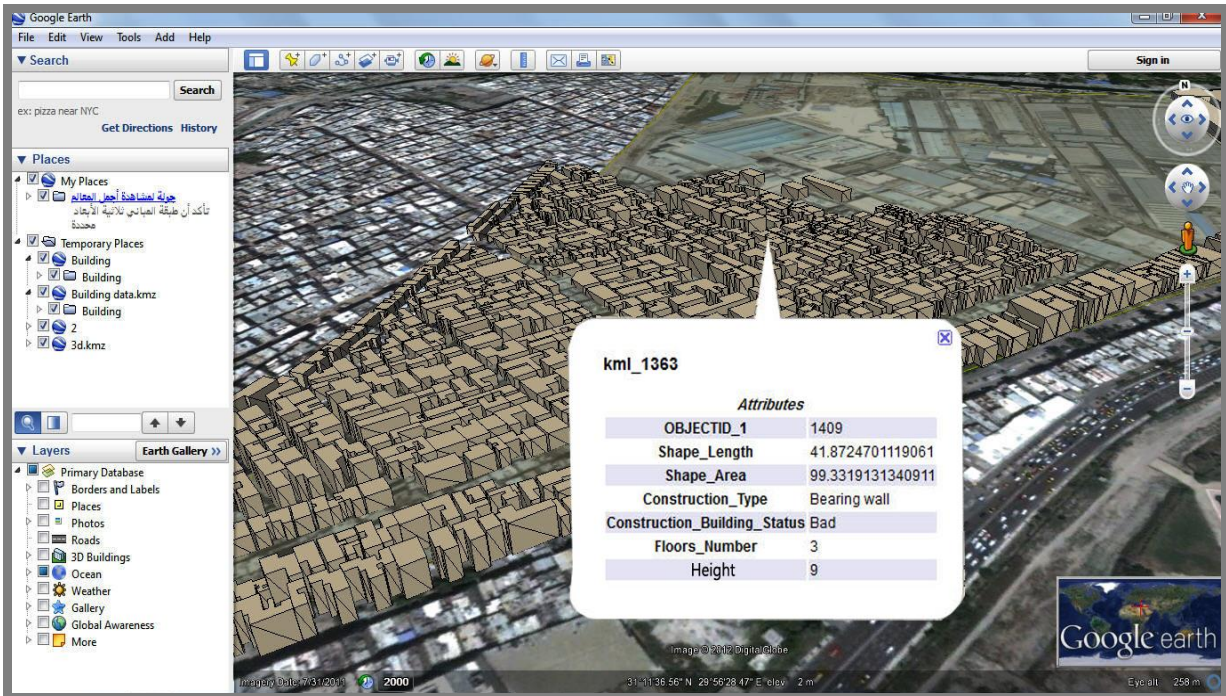
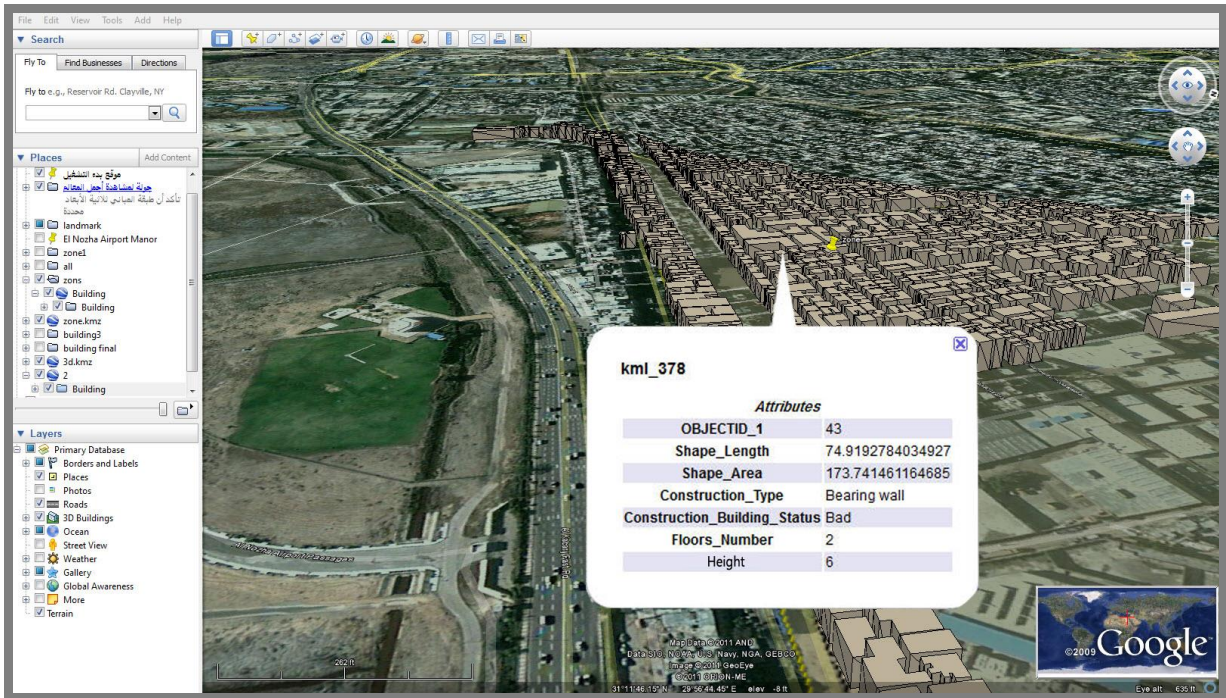
Creating Contour Map in ArcMap.



3D Planning in ArcScene.

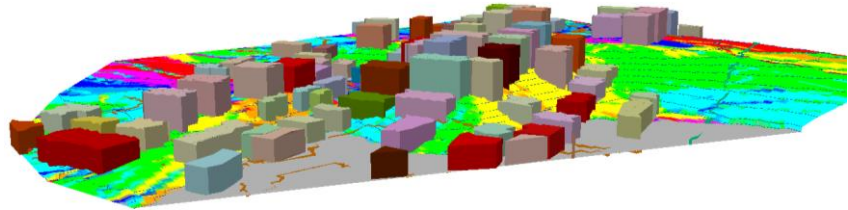
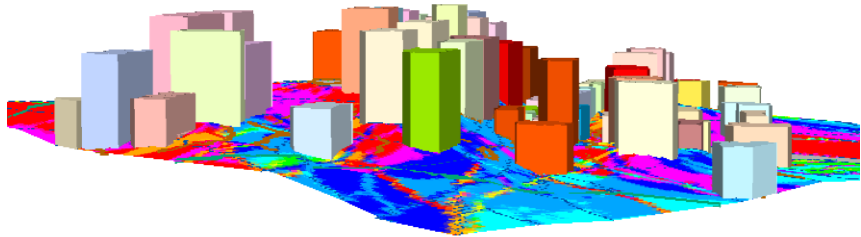


3D Analysis in ArcScene.

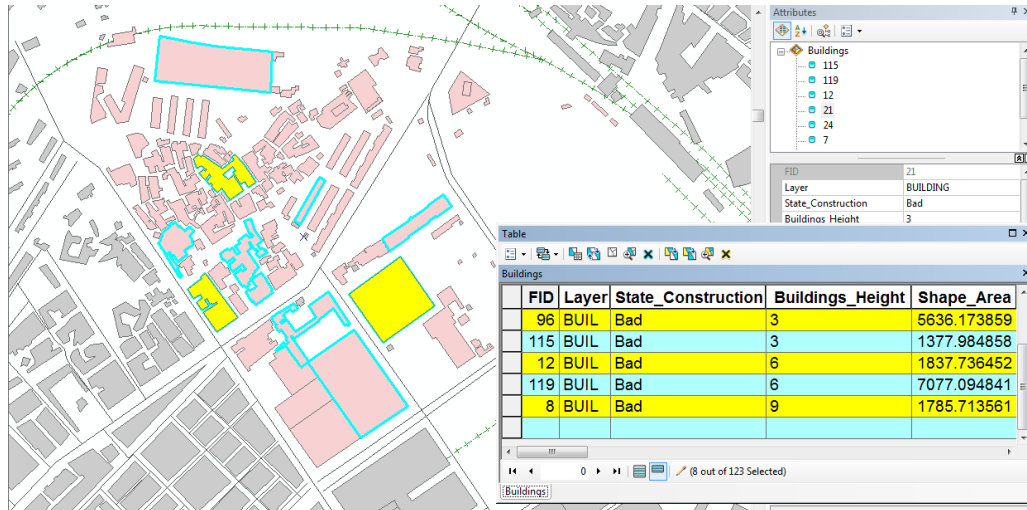


3D GIS model is added in Google Earth with all attribute data tables.

- aspect_scene
 - Flat (-1)
 - North (0-22.5)
 - Northeast (22.5-67.5)
 - East (67.5-112.5)
 - Southeast (112.5-157.5)
 - South (157.5-202.5)
 - Southwest (202.5-247.5)
 - West (247.5-292.5)
 - Northwest (292.5-337.5)
 - North (337.5-360)
- buildings
 - T0
 - 34.0168462761
 - 45.1782633008
 - 63.5493062385
 - 128.389580255
 - 134.514731988
 - 142.406602822
 - 189.718034914
 - 199.188928654
 - 237.812958812
 - 272.064850414
 - 324.474009428
 - 372.703502133
 - 386.120343926
 - 400.736798412
 - 497.570711128
 - 625.342309812
 - 688.11505923
 - 1390.17242362
 - 1679.62970356
 - 2042.73567572
 - 2736.48179115
 - 3865.7190828
 - 5328.55919595
 - 6994.58305228



Visualizing the Estimated Solar Radiation Consumption for Each Colored 3D Building Using ArcScene Software.



Proposed virtual model of historical Kom El-Malh site.

Top: Visualizing Georeferenced buildings in a base Map of Kom El-Malh in ArcMap software according to WGS1984.

Below Left: The Suggested reconstructe d virtual model of Female funerary statuette momnuments found on the the Gabbari Necropolis dig site called "Concubine of the Dead". Ptolemaic Era, 2nd century BC using Autodesk 3ds Max software.

Below Right: Proposed virtual model of tourism area after reconstrucion process. **Source:** Researchers.

Selection of Published Papers in the Field of Urban Planning and Urban Design:

1- The Influence of Using Vertical Solar PV in Rationalization of Energy Consumption in Residential Buildings

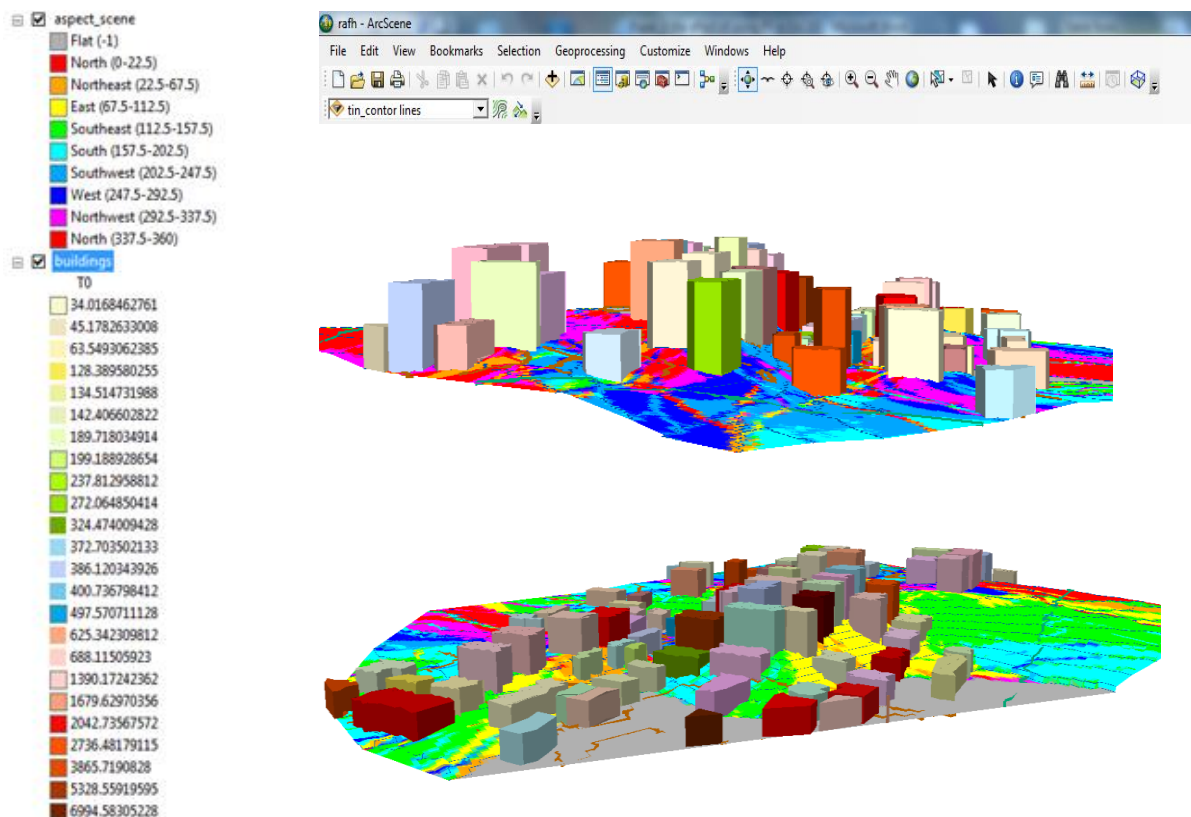
Abstract

As a result of repetitive terroristic attacks in Rafah city, the Egyptian government had to evacuate Rafah to eradicate terrorism. It is planned to build New Rafah city at a distance from the borders.

So if we are going to build a new settlement why not to build it right?

The aim of this research is to build new Rafah city convenient to their occupants by fulfilling both psychological and physical comfort.

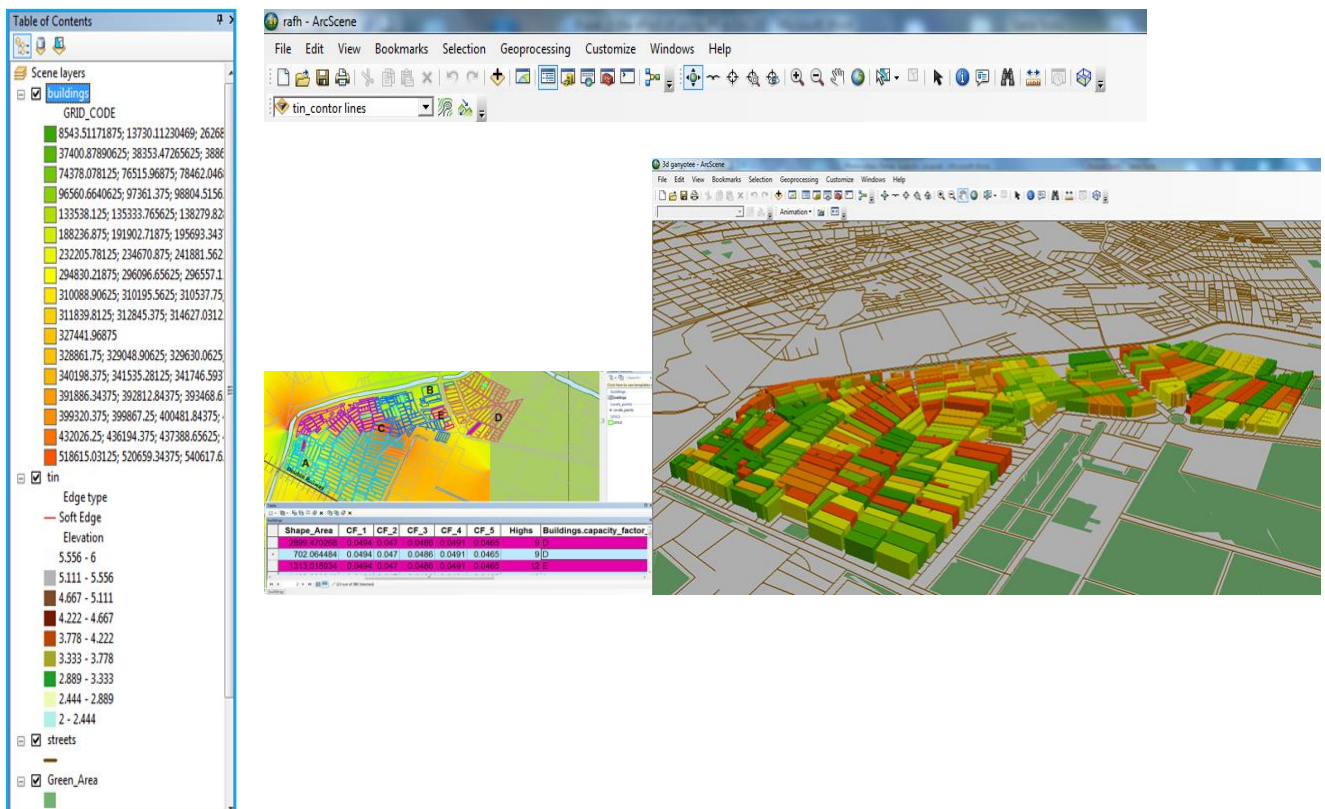
This paper demonstrates a number of climatic and energy characteristics of building in the desert of the hot arid region. It presents proposed techniques for using vertical solar Photovoltaic Panels (PV) that installed on building facades. Designer can find out suitability for putting PVs installation in the façade surfaces of buildings using Google Earth imagery and environmental analyzes on ArcGIS software for the spatial and attribute data of buildings in this defined urban study area. The approach entails modeling the solar irradiance characteristics of the site by fitting the probability distributions of the solar irradiance data measured during the day. Thereafter; it could be estimated the solar radiations factor according to analysis of different designs of PV modules. The module with the highest average factor is identified as the best suited module for the given site.



Visualizing the Estimated Solar Radiation Consumption for Each Colored 3D Building Using ArcScene Software.

2- Applying GIS Technology for optimum selection of Photovoltaic Panels “Spatially at Defined Urban Area in Alexandria, Egypt

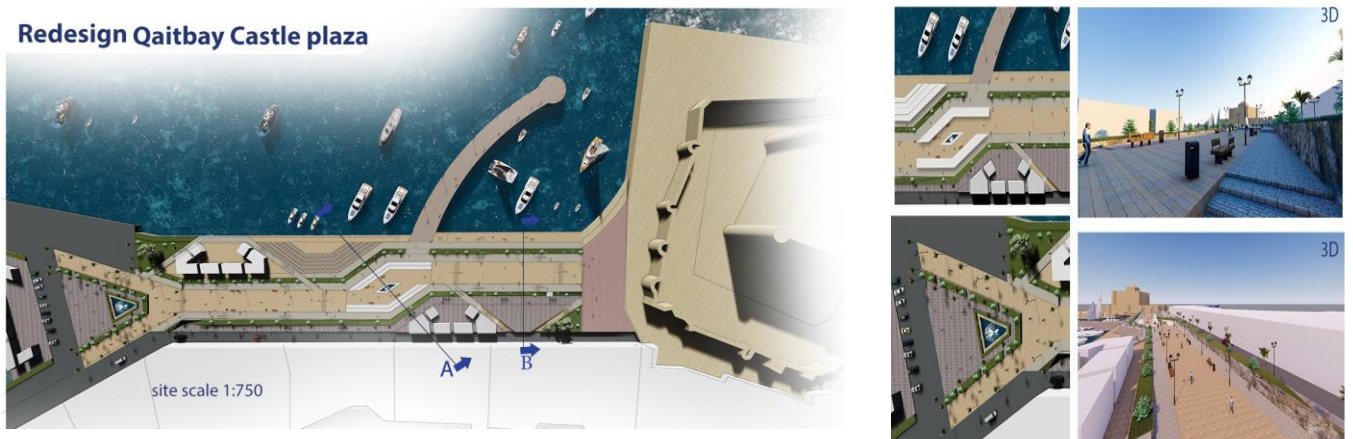
This paper introduces an improved method to specify the potential areas at buildings' top surface for installation of photovoltaic (PV) power units in a defined urban area (UA). Additionally, optimum selection between various (PV) modules is addressed. The proposed approach is based on spatial data analysis and implementation of probabilistic approach (PA) in order to compute the power capacity factor (CF) of the PV modules. According to this estimation, the module with the highest average capacity factor is selected for installation at the defined UA. A dedicated case study is proposed and implemented through three main stages. In the first stage, the spatial data of studied buildings are analyzed based on digitized SIR-DS using Google Earth imagery and ArcGIS software as a Geo-Model. Thus, the planner defines the potential areas for installing PV modules which are linked with the buildings' database. In the second stage, various PV modules produced by different manufacturers are compared together based on the concept of the highest average CF estimated. In proceedings, firstly, a mathematical modeling of solar irradiance data-set (SIR-DS) is presented using statistical probability distribution function (PDF). These data are approved by the Egyptian Meteorological Authority, and collected over a long-term period (7 years). Then, the most fitted PDF in matching with the measured data is then utilized to determine the average output power of each PV module. After that, the CF is estimated for all modules analyzed, such that the module with the highest average CF over the year is identified. Finally, the last stage integrates the results obtained from the prior stages. Accordingly, this paper introduces an effective solution for the optimum selection between different PV modules at a given UA, in addition to specifying the potential areas for PV system installation which are subjected to the studied buildings' database.



Visualizing the exposed SR in Grid-Code for each building based on colored 3D model using ArcScene software.

3- Restoration and Development of Urban Heritage Sites (Rehabilitation of Middle cities and Heritage towns)

There are various restoration methods and techniques that would help specialists whether planners, designers and archeologists to study historical sites and their valued heritage buildings in various cities at Egypt as Alexandria governorate which is considered as one of heritage towns. One of these techniques is Virtual Reality (VR) that could be used to improve the field of Virtual Heritage (VH) which is directed towards accurate representation of historic structures in urban heritage sites, objects or artefacts. Besides, using Geographical Information System (GIS) and Google earth model to define these urban heritage sites accurately with all database related to the specific area under study. Digital models of historical buildings and its urban spaces only give a sense of precision for their historical values. Yet, human attitude and cultural traditions remain a gap in current research and advanced technology in heritage visualization. So, Virtual Heritage Environments (VHE) suffers from the lack of ‘thematic interactivity’ due to the limited cultural heritage content and engaging modules largely used in photorealistic systems. So, this paper focuses in using various digital restoration techniques and methods to investigate and incorporate a cultural-feed into digital platforms of VH especially at Alexandria in Egypt as Qaitbay castle plaza. This site discusses a conceptual and practical workflow for the development of virtual heritage platforms as a research area, educational purpose. The study includes engagement tool of historic conservation in Alexandria, brings historic spaces and buildings to users in detailed studies whether researchers or students.



The proposed Interface of VT/IM model for redesigning of Qaitbay castle plaza.

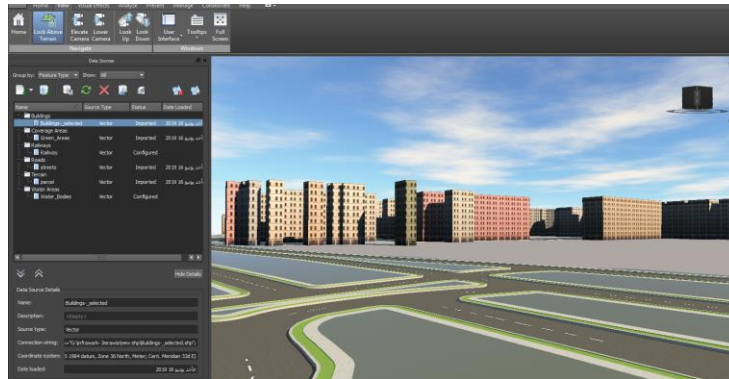
Top: The proposed site plane for the Qaitbay Castle.

Top Right: the proposed paths with various patterns, landscape areas and various services as shops, cafeterias, cafes at a public historic plaza.

Below: The vision of Qaitbay Castle from all the visible visual angles.

4- Regenerative Design of a Defined Urban Space Using CityGML Model

Unplanned urban areas are flawed by lack of the supplemental services e.g. infrastructure, educational buildings, worship places, administrative authorities, and appropriate road networks. Thus, the goal of the paper is proposing a new method for the spatial analysis and redesigning of a defined urban space (US) rendering it to be smarter and sustainable. Starting from these assumptions, the paper is attempted to develop a methodology for procedural modeling of building the regeneration process starting from the planning to the design of the US under study with the aid of City Geography Markup Language (CityGML) application. The proposed solution is shown to be capable of meeting the increased population needs better than the traditional re-planning methods. In this track, a software interface incorporating InfraWorks and ArcGIS software programs is utilized to regenerate a new smart urban area with the involvement of all respective urban features within the CityGML model replacing that of the conventional unplanned area. Moreover, a unified geodatabase is adopted to enhance the design flexibility by integrating data from diverse sources, in addition to attaining higher accuracy. To verify the effectiveness of the proposed solution, a detailed case study has been applied on Amarwi area, which is located at Alexandria governorate in Egypt in the Montzah District validating the re-planning competency and outperformance.



A comprehensive design for the spatial data of the regenerated 3D Amarwi study area including planned road networks using the proposed CityGML model addressed through InfraWorks software realized in four LODs.



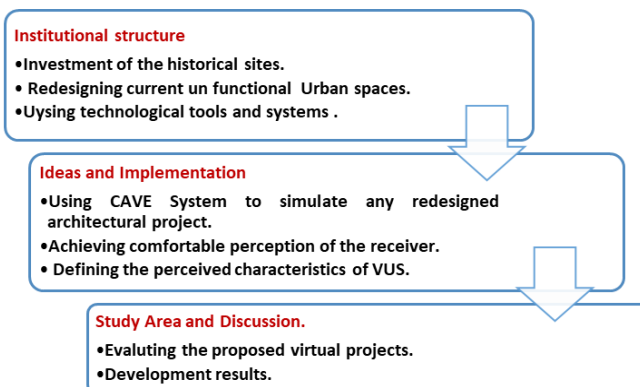
Symbols of regenerated 3D buildings with proposed green spaces, urban services, and served streets in Amarwi study using InfraWorks software in LOD1.

5- The Future of Architectural Education in Egypt," Architecture Pedagogy Focuses on Educational Concepts and Approaches

Architectural education in Egypt is not used the advanced methods yet e.g., digital studio, simulation methods, and virtual reality technology. Thus, this paper proposes a new method for updating the future education of architecture to be more qualified and smarter for architectural students such as applying virtual reality technology (VR). Furthermore, VR depends on various tools and systems such as, Computer Aided Virtual Environment (CAVE system) that presents the third dimension of space to be realized with all details. The proposed method is shown to benefit the architectural students, whether at the level of study or in keeping pace with the labor market in the future. In this track, virtual education can be applied specially in particular theories and history of architecture. Therefore, the architectural students can improve their sense of spaces, proportions, materials, textures, lighting, masses of buildings and all other needed functions. Moreover, VR model of historical site is proposed in this paper as a case study by using the CAVE system to enrich the architectural education especially in the course of architecture history and at the local level in Egypt. Therefore, architectural students can perceive all the design principles in 3D virtual environment (VE) as the perception of different spaces by immersing in virtual world. This saves time and effort instead of visiting the real sites under study besides saving the cost of travel and transitions. A detailed case study has been applied on Elselsla area, which is located in Alexandria governorate in Egypt. This study area is selected to be re-designed as a renovation of historical area with competency and outperformance according to the architectural theories and design principles.



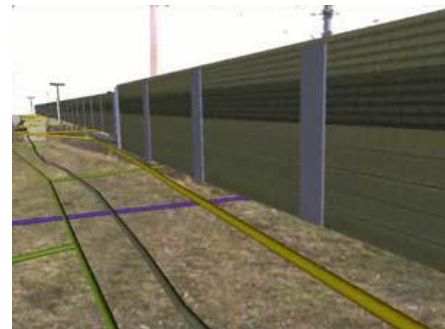
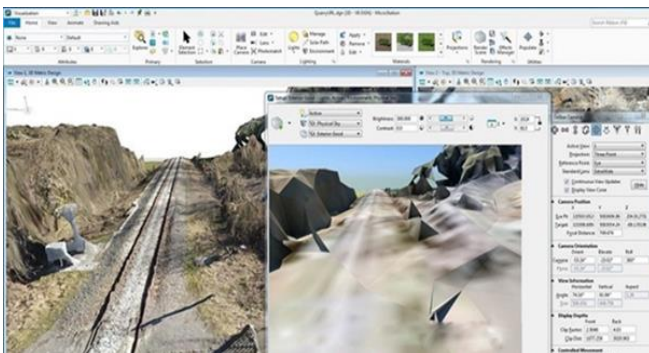
Architectural students using CAVE System after its operation in the lectures of the architectural theory by navigating into the proposed historical site of Elselsla and then evaluate it.



The Proposed Framework concerning the Upgrading Architectural Education.

6- Developing 3D Geospatial Model using Advanced Surveying System

This paper presents a new methodology to connect the surveying process directly with accurate geodatabase at 3D Geographical Information System (GIS) for any urban space without re-entering the surveyed data. This procedure conserves time and effort in studying and developing various urban projects whether current or extended. Additionally, the proposed approach is based on integrating the used surveyed systems with the appropriate geospatial surveyed software side by side using Building Information Modeling (BIM) for studying all details of the architectural objects into a geo-context. Accordingly, a dedicated proposed framework is suggested to develop the urban studies especially the development of the 3D geospatial models. The latter explores the importance of spatial relationships in surveying systems for different urban spaces that comprise a multilayer of analysis. Firstly, the spatial data of studied urban space is analyzed based on the database extracted from the surveyed systems used. Then, exporting this digitized data to ArcGIS software to build and analyze the urban space under study as a geospatial Model. Thus, the planner defines the required functions and urban needs that are to be implemented in the study area. Secondly, using advanced geospatial surveyed software based on the concept of the highest reality and accurate database to link with the geospatial model. Finally, the last stage integrates the results obtained from the different surveyed systems and software used. Consequently, this paper introduces the effective contribution of the appropriate integrated system with an accurate geodatabase that redounds to taking appropriate planning decisions to develop or re-plan the presented urban project.

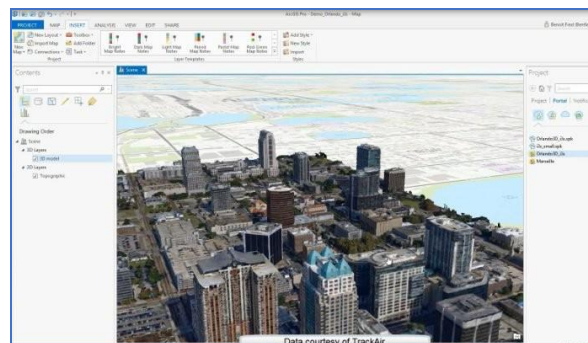


Capturing the 3D real model using ContextCapture software.

Right: Capturing the whole site in the real world that converted to the Geospatial model with all accurate database.

Left: Snapshot of the augmented live video captures the railway with underground current infrastructure.

Source: <http://www.freesoftwarefree.com/bentley-context-capture-center-4-4-with-crack/> (17/09/2021).



Obtaining 3D Proposed Geospatial model by inserting the geodatabase from ContextCapture software to ArcGIS software with accurate Geodatabase. Source: www.linkedin.com/pulse/bentleys-contextcapture-now-supporting-esri-i3s-3d-scene-john-taylor/ (17/09/2021).