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To Design IT Park by Using Modeling Software

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***Abstract* - This Era totally depends on technology. Human being cannot leave without modern technology and nature. But other-side when technology is increasing but nature is in trouble due to increasing in industrialization. Human Can-not leave with-out environment so total modern technology depends on computer system which is called 'IT' (Information technology). For this IT or computer system required building structure. This structure harmful for environment but other side working people in this IT sector required environmental amenities like oxygen, wind, sun, etc. This project concept depends on both technology and environment together in this project. The Project going to design 'ENVIRO – IT Park by using modeling software. In this Project design of IT building which is provide amenities to working people this building is environmental friendly. Which is not provided any stress on environment. Because in this building provide natural amenities for this building like a for fresh air use number of trees in this building and surrounding of this building. To avoid Air Pollution sucker (Dust Collector) are Provide in external windows that collect the small particles of dust and allow fresh air to insert. With the help of trees the temperature of building get maintain in summer season.**

Keywords: IT, Information technology, structure harmful for environment, design 'ENVIRO – IT Park, Air Pollution sucker, Dust Collector.

I. INTRODUCTION

1.1 General

The ultimate objective of a technology park is to provide an environment that will enable the localization of various tech-related companies. It is a development that brings together office spaces, residential areas, and retail developments in order to enhance the operations of tech corporations, thereby providing various benefits and economies of scale to each individual business entity. Technology parks like the Info city IT Park in Gujarat are able to perfectly integrate row houses, residential complexes, villas, as well as low-rise and high-rise apartments with commercial and convenience establishments, clubs and resorts, and various facilities that make living and working as comfortable as possible. All of these amenities are ideally supposed to help in attracting investors and to promote the setting up of various businesses, ensuring that they get all they need to thrive and reach their operating objectives. Usually, technology parks take some land space, and there is usually a lot of consideration given to them in order to thrive and work towards their full potential. The promotion of Information and Communication Technologies (ICT) had been one of the ways chosen by India, since the economic liberalization in 1991, to attract foreign investments and enterprises, in order to develop its economy through exportation. India is specialized in the final services provided to companies: data processing, transmission of information, telecommunications, edition of software, installation, maintenance of the computing systems and the telecom networks.

1.2 What is IT Park

Technology parks are designed to facilitate the production and commercialization of advanced technologies by forging synergies among research centers, education institutions, and technology-based companies. Tenants of technology parks are usually small companies at an early development stage pursuing an ambitious growth strategy based on the incubation of new ideas.

There are currently about 700 parks worldwide that meet the foregoing criteria. The first park was founded in California in 1951, at what is now the center of the Silicon Valley - the University of Stanford. Science parks are also known as technology or research parks, or innovation and science centers. The term technology park usually denotes a focus on technology innovation and tenant company involvement in applied science. In presenting the relevant international experience in this study, we use the term "technology park" (TP) since it seems to capture the purpose of a prospective Bulgarian initiative aimed at software and information technology development.

A business incubator is most broadly defined as a facility providing favorable controlled conditions for the development of new companies. The controlled conditions include at least three types of resources: facilities support, administrative assistance, and professional expertise, e.g., management, marketing, accounting, financial and legal services. There are currently 550 incubators in the United States and Canada.

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1.3 The History IT Park

The history of life is a series of stable states, punctuated at rare intervals by major events that occur with great rapidity and help to establish the next stable era (Castells, 1996). Our starting point is that at the end of the 20th century and the start of the 21st century we are living through one of these rare intervals in history, an interval characterized by the transformation of ourvarious businesses, ensuring that they get all they need to thrive and reach their operating objectives. Usually, technology parks take some land space, and there is usually a lot of consideration given to them in order to thrive and wok towards their full potential. The promotion of Information and Communication Technologies (ICT) had been one of the ways chosen by India, since the economic liberalization in 1991, to attract foreign investments and enterprises, in order to develop its economy through exportation. India is specialized in the final services provided to companies: data processing, transmission of information, telecommunications, edition of software, installation, maintenance of the computing systems and the telecom networks.

1.4 Aim of IT Park

The primary aim for the establishment of a technology park is usually the advancement of scientific and technological endeavors. Millions are usually poured into the creation of technology parks, and a large chunk of this money is spent on efforts such as research and development, experiments and other related efforts in the end, the goal is to come together and create an environment where science and technology are made to thrive and succeed. The ultimate objective of a technology park is to provide an environment that will enable the localization of various tech-related companies.

1.5 Problem Statement

1) Conventional IT Park Windows are always close due to heavy pollution/ polluted air.
2) Surrounding of conventional IT Park there is no nature aspect. There is only heavy traffic and polluted air.
3) The Dust and Polluted air get insert because of non-providing of sucker (Dust Collector).

1.6 Objective

1) To Design the Ecofriendly Project using Principle of Architecture and Planning.
2) To Reduce Air Pollution by Using Maximum Natural Resources as a sun, Wind and Trees etc.
3) To design for good ventilation opening windows with dust sucker and exhaust fan are provided.
4) To study the comparison between conventional IT Park and "ENVIRO – IT Park".

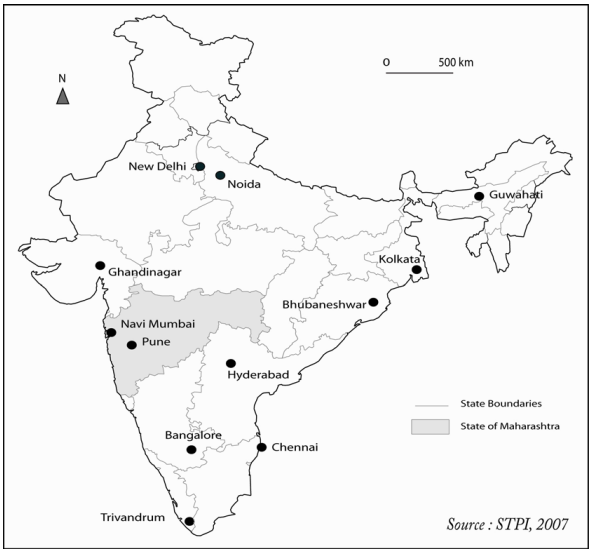
1.7 Requirement for the Development of Information Technology Park

"IT Park" means integrated IT/ITES facility constructed with minimum floor area of 15000 sqmtrs land or above as an exclusively described or earmarked site managed and developed to be developed with IT office space and other amenities of international standard and made available on lease basis for IT Industry, to provide "plug & play" facilities as per the Stipulations contained herein."Applicable Laws" means all laws, brought into force and effect by the Go UP including rules, regulations, policies and notifications made there under, and judgments, decrees, injunctions, writs and orders of any court of record, as applicable and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect.

"Applicable Permits" means all clearances, licenses, permits, authorizations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project during the subsistence of this Agreement.

"Core Zone" shall mean to consist of, but not limited to, below mentioned infrastructure:

a) Computer Hardware & Peripheral Units.
b) Software Development Units.
c) Middleware Units.
d) BPO/KPO/ Consulting Units.
e) ICT/ EDI Units.
f) Skill Development Centre.



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II. LITERATURE REVIEW

Deepa Kylasam Iyer (2016)

In his paper Pierre Desrochers (2001) 6, argues that EIPs work better through market approaches than public planning. Public sector can work either by building the industry from scratch or by virtually looping the selected industry for resource recovery and recycling. Citing the case of Kalundbourg, Denmark which was the first case of industrial ecology that networked four industries in a small city, he illustrates how private players spontaneously came to the idea of looping industry to manage waste and generate resources through private agreements. In this manner, the looping was more spontaneous and driven by market phenomena like price loops, technology and private property rights than by command and control laws and regulations. The New York animal slaughter market that created resources for textile industry is another example.

Divya Leducq (2007)

The state of Maharashtra, as many other Indian states, indorses the development of the IT sector by special incentives (tax exemption) to further promote the IT parks. Indeed, Maharashtra contributes 30 % of Indian software export, and the most important concentration of IT parks of the country is found on both of the extremities of the "Knowledge corridor", the high-way link-up between the cities of Mumbai, the economic capital of India, and Pune, the learning and cultural capital. On this scale, the public agency Maharashtra Industrial Development Corporation (MIDC) creates information technology infrastructures and offers facilities to the companies which wish to settle there. In fact, according to an interview with the responsible for the public relations of Wipro Limited Company (Pune), "the differences between the interior and the outside of the parks are especially the viability of the infrastructures and the price of the grounds to be built.

Kaisa Jaalama (2021)

To gather perception-based data on the environment, urban field audits and walk-along interviews (or walking interviews) have been used as methods in which the participant is located in situ (also on foot or on-site) while observing the environment. Audits are either objective—that is, they are implemented by researchers or trained fieldworkers (usually with a detailed field manual)—or subjective audits, assessing perceived qualities and satisfaction, or a mix of these (Kim and Lee, 2022). A remarkable share of the field audit literature is designed to assess built environment characteristics that affect health-related behaviors, such as walkability audits (see e.g., Clifton et al., 2007, Aghaabbasi et al., 2018). Some of the field audit and walk-along studies are motivated by urban green space research, such as investigating how the size of a park affects the perception of green space (Macintyre et al., 2019), which park features influence visiting a park (Veitch et al., 2020), and how residents value green infrastructure within their neighborhood (van Vliet and Hammond, 2021). During the last decade researchers have increasingly started to test alternative ways to conduct urban audits with digital omni directional data. The materials used in omni directional virtual audit studies can be roughly divided into two main categories: hypothetical 3D visualizations of the built environment (see e.g., Birenboim et al., 2019), and 3D geo visualizations, which are based on reference data from the real-life environment, usually representing a distinct place or area. Again, the latter can be further divided into two.

Habsah Hashim (2014)

The functions of parks as a place to provide opportunities for any kinds of recreational activities promote social interaction among community and enhance air quality in the urban environment demonstrate the importance of urban parks in improving peoples' quality of life. This paper briefly discusses the literature review on urban park benefits to emphasize the role of urban parks in enhancing. the quality of life, explains the criteria for successful urban park system and finally, discusses the application of Q methodology in assessing perception of the community on the role of current urban park characteristics in people's quality of life. Previous studies indicate that natural places such as urban parks forests, greenbelts and natural features such as trees and water contribute to the quality of life within an urban context (Chiesura 2004). In creating successful urban parks, the voice of the community in decision making process is very important. Saffuan, Ariffin and Amin (2013) stated that parks should be planned effectively to fulfill the needs and demands of the community, whereby people from upper or lower classes could use the recreational facilities together. In planning and developing sustainable cities, involvement from the local communities are required and communities need to analyze their own problems, express their own thoughts on the solutions and support any community strategies (Mohamed Anuar and Saruwono 2013).

Brijesh Kumar Vyas (2022)

India's rapid economic growth in last two decades has driven India's energy consumption. India's energy mix is dominated by fossil fuels, much of it imported, and both the imports and greenhouse gases (GHG) emissions from fossil fuels have increased with rise in energy consumption. These have significant energy security, climate change, and sustainable development implications for India. Driven by these concerns, the Indian Government has taken several steps to reduce fossil fuel consumption, one of which is the Jawaharlal Nehru National Solar Mission (JNNSM) introduced in 2009. With more than 300 days and about 3000

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h of annual sunshine, India receives high solar isolation ranging from 4 to 7 kWh/m2/day (Kumar and Sudhakar, 2015; MNRE, 2012). In 2014, JNNSM's target of 20 GW of grid connected and 2 GW of off-grid solar power by 2022 was revised to 100 GW and a solar park scheme was introduced to boost solar sector. The government pledged financial assistance for promoting large solar projects having capacity more than 500 MW. The 750 MW, Rewa Ultra Mega Solar (RUMS) park.

III. METHODOLOGY

3.1 Flow Chart

Site Location

Site Study

Study of Requirement of IT Park

Planning of IT Park

Development Plan in AutoCAD

Modeling Process in sketch up

Rendering Process in V-Ray

Animation Process in Lumion

Result

Conclusion

3.2 Modeling in Software

3.2.1 AutoCAD (Version 2020)

AutoCAD is a commercial computer-aided design (CAD) and drafting software application. Developed and marketed by Autodesk, AutoCAD was first released in December 1982 as a desktop app running on microcomputers with internal graphics controllers. Before AutoCAD was introduced, most commercial CAD programs ran on mainframe computers or minicomputers, with each CAD operator (user) working at a separate graphics terminal. AutoCAD is also available as mobile and web apps. Floor plans help in previewing an architectural project before the construction begins. The floor plan has all the dimensions and measurements of the physical features of the architecture, giving all the participants a clear image of how architecture will be built. Now that you know the floor plans and their usages let's learn how to create a floor plan in AutoCAD. AutoCAD is a computer-aided design and drafting software application developed by "Autodesk." The software allows the user to design and edit two and three-dimensional shapes quickly and efficiently. Now let's look into some easy steps to draw a floor plan in AutoCAD.

3.2.2 Sketch up (version 2021)

If you're used to using the desktop version of Sketch Up, creating 3D models in Sketch Up may give you a case of deja vu. You see most of the same tools and features, but they're in slightly different places. If you're new to creating 3D models in Sketch Up, learning where to find the tools and panels is a helpful starting point. This article orients you to creating 3D models in the Sketch Up for Web interface. Find out how to create a new model, changes its units of measure, and geolocate it. You also find a brief intro to Sketch Up for Web tools and panels and references to articles that explain how to use them. Sketch Up is a suite of subscription products that include Sketch Up Pro Desktop, a 3D modeling Computer-Aided Design (CAD) program for a broad range of drawing and design applications - including architectural, interior design, industrial and product design, landscape architecture, civil and mechanical engineering, theater, film and video game development.

3.2.3 V-RAY (Version V-Ray 6)

V-Ray is a biased computer-generated imagery rendering software application developed by Bulgarian software company Chaos. V-Ray is a commercial plug-in for third-party 3D computer graphics software applications and is used for visualizations and computer graphics in industries such as media, entertainment, film and video game production, industrial design, product design and architecture.

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3.2.4 LUMION (Version Lumion 12)

Lumion is not your typical architectural visualization software. It's different. The moment you turn on Lumion and import your 3D model, you'll feel like you've entered a delightful, easy-to-control world. Easily add context, detail and atmosphere to your project and enjoy a simpler workflow With Lumion you can turn any design into an experience others can see and feel. It's the details that matter. They anchor your design to a time and place. They help convey a sense of scale and potential. With a diverse content library of materials, objects, characters and nature items, Lumion gives you all you need to breathe life into your designs.

IV. CONCLUSION

1) Less Requirement of electricity by using solar panel.
2) Pollution free surrounding.
3) Surrounding of Enviro-IT Park the employ can enjoy the nature.
4) Their will be less requirement of AC (Air Conditioner).
5) The harmful rays will get distract with the help of sunlight.

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