



Future Space Cities @ Universe

DIGI-CITY Vision. 2004

By

Ashraf Abdel Mohsen



Our beautiful planet

WHY WE HAVE TO THINK ABOUT
BUILDING @ NEW ENVIRONMENTS ?



INJUSTICE



WE ARE DESTROYING OUR BEAUTIFUL PLANET !!

INJUSTICE



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ASHRAF ABDEL MOHSEN

INJUSTICE



WE ARE DESTROYING OUR BEAUTIFUL PLANET !!



NATURE DISASTERS



NATURE DISASTERS

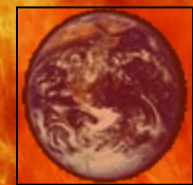


NATURE DISASTERS



NATURE DISASTERS

WHY WE HAVE TO THINK ABOUT
BUILDING OUT OF EARTH ?



WHY WE HAVE TO THINK ABOUT BUILDING OUT OF EARTH ?

3 MAIN REASONS

1- PREPARATION FOR DESIGNING IN A DIFFERENT ENVIRONMENTS WITH DIFFERENT CONDITIONS.

2- INVESTMENT BENEFITS OF NEW WORLDS.

3- SCIENTIFIC DISCOVERY CURIOSITY OF UNIVERSE.



HOW TO CREATE NEW ARCHITECTURE OF EXTREME ENVIRONMENTS ?

DIFFERENT ENVIRONMENTS:

WE CAN THINK TO BUILD IN

3 MAIN ENVIRONMENTS

1- INTO EARTH

2- INTO WATER

3- INTO SPACE



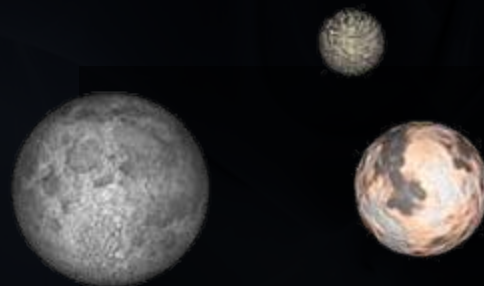
SPACE



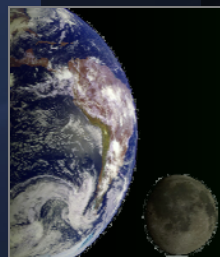
SPACE



WHAT IS THE SPACE ?



WE HAVE TO THINK ABOUT SPACE !



SPACE



The NASA Vision

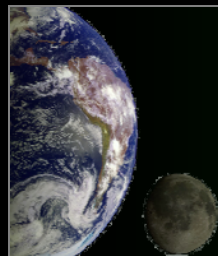
To improve life here,
To extend life to there,
To find life beyond.

The NASA Mission

To understand and protect our home planet,
To explore the universe and search for life,
To inspire the next generation of explorers
... as only NASA can.

NASA STRATEGY 2016

SPACE

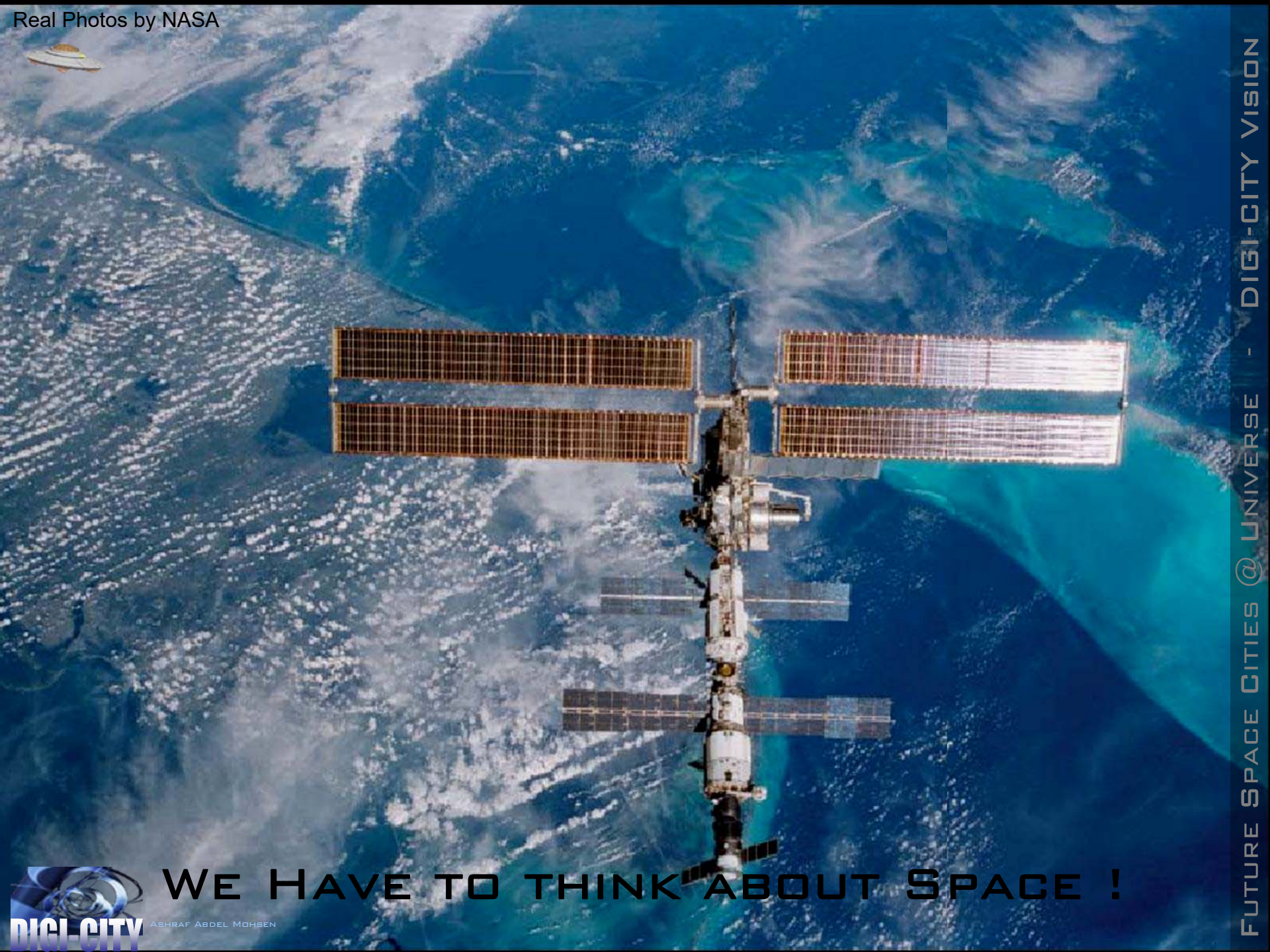




WE HAVE TO THINK ABOUT SPACE !



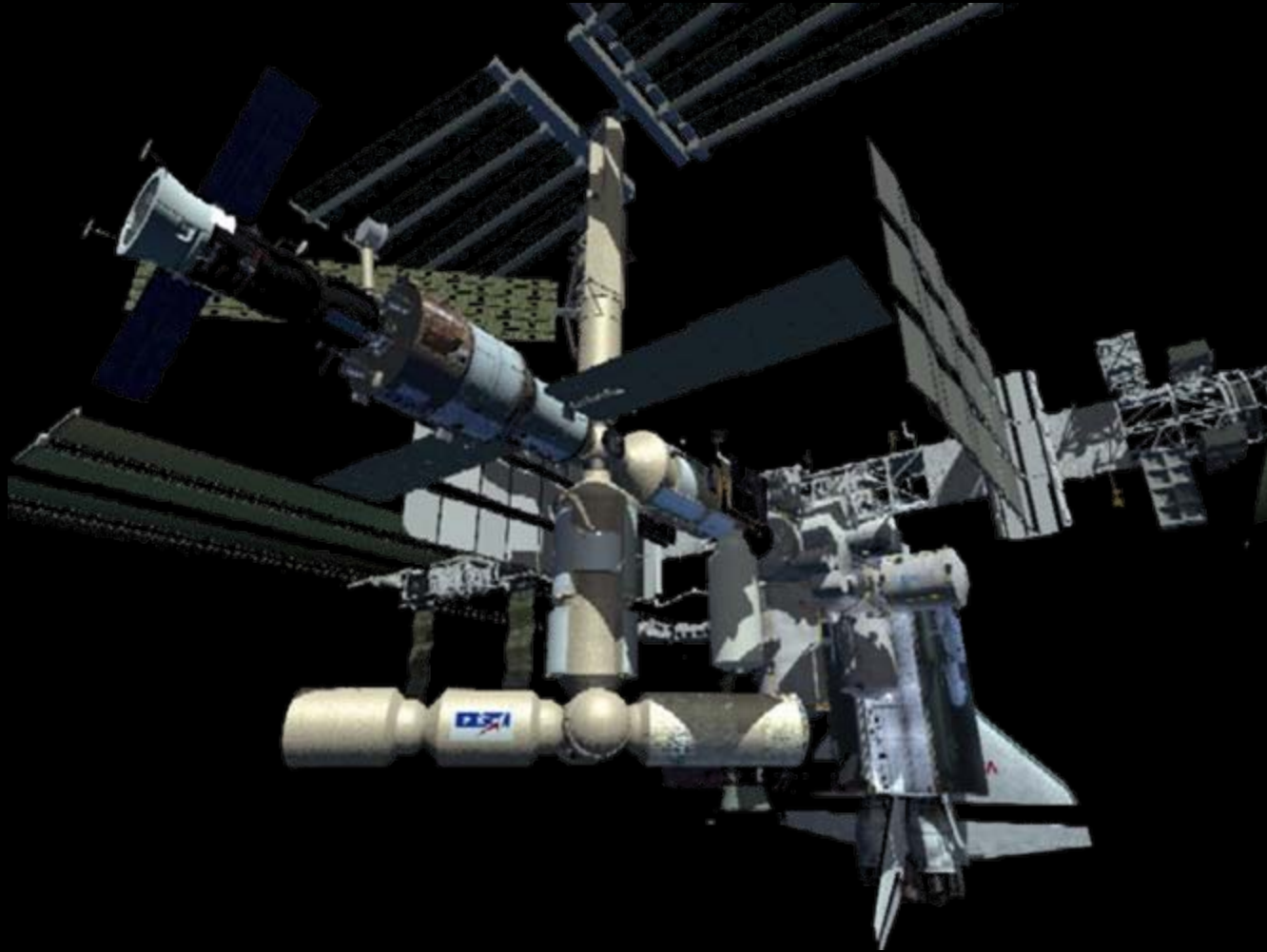
ASHRAF AHMED MOHSEN



WE HAVE TO THINK ABOUT SPACE !



WHY THE SPACE ?



WE HAVE TO THINK ABOUT SPACE !

FUTURE SPACE CITIES @ UNIVERSE

FUTURE SPACE CITIES @ UNIVERSE - DIGI-CITY VISION



ASHRAF ABDEL MOHSEN



FUTURE SPACE CITIES @ UNIVERSE

Every age has produced a particular way of dwelling as a reflection of its specific conditions -social, economic and cultural- and technological developments. In our own time, the new technologies of information and communications are transforming the home into a micro-city, a genuinely multifunctional environment (work, shopping, leisure, rest) from which to inhabit the global village.

1 Introduction

2 Vision to the Future

3 Human in Space

Into Space

Human needs in Space

Life in Space

Food and Water

4 Problem Definition

How to build in the space or on Moon?

5 Building in Space

Faster-than-light travel

Cities in Space

Interstellar cities

New homes

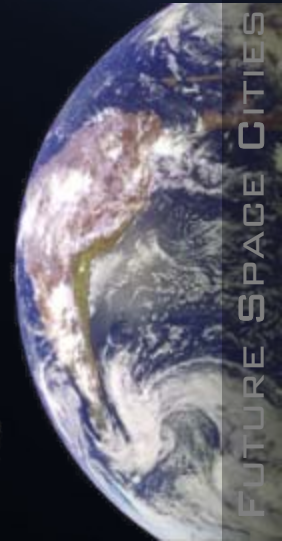
Living off-world

Food and Water needed in space

6 Building Virtual Worlds to Explore Signs of Real Life in Space

Digital objects are new kinds of objects

Three dimensional intranets



FUTURE SPACE CITIES @ UNIVERSE

7

DIGI-CITY VISION

DESIGN SPECULATION GOALS

DIGI-CITY FRAMEWORK

DIGI-CITY DATA

DIGI-CITY Urban

New Method of Construction

Streets

Landscape

Vehicles

Walking passages

Recycled infrastructure

Services and civic centre

Community hierarchy and relationships

Industries and Agriculture

Residential cells = neighbourhoods

City Governorate system

DIGI-CITY Architecture

Human Spaces

Technology

UWL; Universe Web Link

PIS. "Personal Identification System"

IO ; Intelligent Objects

INS. "Infrastructure Network System"

H2H. "House To House"

HRS. "House Recycling System"

ILS. "Intelligent Layering Surface".

Health and Society

FUTURE SPACE CITIES @ UNIVERSE

INTRODUCTION

1

Introduction

2

Vision to the Future

3

Human in Space

4

Problem Definition

5

Building in Space

6

Virtual & Real Worlds
in Space

7

DIGI-CITY Vision

- IF THE EARTH IS THE PLACE OF LIFE? HOW DO WE DESIGN BUILDINGS TO LIVE IN A WAY FROM EARTH?
- HOW DO THE NATURAL, ARTIFICIAL AND DIGITAL SPACES INTERACT?
- HOW CAN BUILDINGS BE DESIGNED TO ENSURE A TOTAL FLEXIBILITY OF USES UNDER NEW CONDITIONS?
- DOES THE SPACE ARCHITECTURE HAVE VIRTUAL ENVIRONMENT IN THE FORM OF NATURAL OR ARTIFICIAL LANDSCAPES?
- HOW IS INFORMATION ERGONOMICS INTEGRATED AS PHYSICAL ERGONOMICS?

INTRODUCTION

- CAN ALL OF THE COMPONENTS BE CONNECTED TO ONE ANOTHER, WITHOUT A HIERARCHY?
- THROUGH WHICH INTERFACES DO WE RELATE TO "INTELLIGENT SPACE CITIES"?
- HOW DO WE CONTROL THE FLOWS OF INFORMATION BETWEEN THE PHYSICAL AND THE DIGITAL WORLD IN THESE NEW CITIES?
- HOW DOES INFORMATION REACH OBJECTS AND SPACES?
- WHAT NEW WIRING DOES THE HOUSE INCORPORATE?
 - HOW CAN THIS ARCHITECTURE BE SMART ENOUGH TO UPDATES NEW CONDITIONS SUCH AS GRAVITY, AIR, AND SPACE ATTACKS,...ETC?

INTRODUCTION

PROBLEM
DEFINITION

Our planet is recently over loaded with different problems, such as pollution, population, nature disasters and nuclear revulsion.

Our vast speed of technology and the curiosity of discovering the invisible leads to study and discover the space

Space exploration, an active pursuit for less than two decades, has already displayed an extraordinary power to alter our viewpoints and stretch our minds. The concept of spacecraft Earth, a sphere of finite resources and ominous pollution, became pervasive and powerful at the same time we first received new Knowledge of our planetary home.

1

MAIN GOAL

HOW TO BUILD INTO SPACE

THE GOAL OF THIS THESIS IS TO FORMULATE A FRAME WORK OF THE ARCHITECTURAL ENVIRONMENT ON THE TERRITORY OF THE MOON, THAT ARE BASED ON THE CUTTING AGE TECHNOLOGY AND POSES MORAL AND ETHICAL DILEMMAS FOR THE HUMAN ACTIVITIES

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DIGI-CITY VISION



2 VISION TO THE FUTURE

The story of the human race through exploration and expansion into new territories and environments, and the eventual establishment of cities, is the essence of civilization.

3 HUMAN IN SPACE

INTO SPACE

Of all the marvels and achievements of human race, the most incredible may well be our ability to leave our planet and travel into space. The drive for this came from two of the world's major superpowers, but it was not so much a desire for technological advancement as a battle for political supremacy. Nevertheless, sputnik's bold voyage into space in 1957 remains one of the most important milestones of science.

LIFE IN SPACE

The concept of human habitation in space is, of course, a very old one; in some form, it can be traced back to the early days of science and even earlier, to mysticism. It has been a theme of fiction and speculation. This century has brought the first real access to extraterrestrial space and, with it the architectural community is faced with the prospect of thinking the unthinkable about where we will live and the way in which we can best accomplish this.

HUMAN NEEDS IN SPACE

Antigravity space –space center
Elementary essentials such as air, water, food, and even the sensation of weight all should be provided to the space colony. Engineering criteria to assure physiological safety and comfort are essential, but equally important is to provide for psychological and aesthetic needs of the colonists.

FOOD AND WATER

Humans living in space must have an adequate diet; and food must be nutritious, sufficiently abundant, and attractive. There must be enough water to sustain life and to maintain sanitation. A diet adequate for a reasonable environmental stress and a heavy workload requires about 3000 Cal/day. It should consist of 2000 g of water, 470 g dry weight of various carbohydrates and fats, 60 to 70 g dry weight of proteins, and adequate quantities of various minerals and vitamins. The importance of the psychological aspects of food should not be neglected. The variety and types of food should reflect the cultural background and preferences of the colonists. [

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DIGI-CITY VISION



4 PROBLEM DEFINITION

Our vast speed of technology and the curiosity of discovering the invisible, leads to study and discover the space with many questions:
Space exploration, an active pursuit for less than two decades, has already displayed an extraordinary power to alter our viewpoints and stretch our minds. The concept of spacecraft Earth, a sphere of finite resources and ominous pollution, became pervasive and powerful at the same time we first received good photographs of our planetary home.

5 BUILDING IN SPACE

FASTER-THAN-LIGHT TRAVEL

Because the distance between stars are so enormous, we do not possess the technology today to be able to travel to another Solar System. Even the closest star to our Sun is too far away to reach in a single lifetime. To reach other stars, star-ships have to be able to travel faster than the speed of light-300,000 kilometres per second. But according to one of the fundamental laws of physics, Einstein's theory of relativity, faster-than-light travel is impossible. Even if scientists were to find a way to travel at the speed of light, it would still take over 300,000 years to get the centre of our galaxy.

INTERSTELLAR CITIES

One way of overcoming the need to travel faster than light is to build enormous star-ship that would act as portable space cities. Some scientists have suggested building colossal construction, several miles long, which would be able to carry thousands of people into space. These ships would not be able to travel as fast as speed of light, and the journey to find other planets would still take thousands of years. However, the number of people on board would mean that future generation would be able to explore far-off galaxies and planets. None of the original astronauts would live to see the far reaches of space, but their great-great-great grandchildren could!

LIVING OFF-WORLD

Space stations now allow humans to live in space for long periods of time. However, living in Earth's orbit is just the beginning of a new age of space habitation. Scientists all over the world are thinking of new ways to allow people to live in space and other planets-not just for years but permanently!
Figure3. NASA designs trials for space cities 2003
Space stations could become enormous homes in space as the population of Earth becomes too great for planet to contain. These giant homes could also be used for cruises through the Earth's atmosphere for those who would like a holiday in space

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NEW HOMES

"Space colonization is likely to have a large favourable effect on communication and other Earth-sensing satellites. Already communication satellites play an important role in handling telex, telephone, computer, and TV channels. They provide data-links and track airplanes and ships as well as rebroadcast TV to remote areas. In the future even more of these data-link applications can be expected. Not only will planes and ships be tracked and communicated with by using satellites, but trains, trucks, buses, cars, and even people could be tracked and linked with the rest of the world continuously. Currently, the main obstacle blocking direct broadcasting of radio and TV to Earth from orbit is the lack of low-cost power in space. SSPS's would produce such power. In addition, their platforms could be used to provide stability. Currently, up to 40 percent of the in-orbit mass of communication satellites consists of equipment used to provide power and maintain stability. Finally, colonists could carry out servicing and ultimately build some of the components for such satellites".

CITIES IN SPACE

Current space stations are usually quite small and cramped. They cannot hold more than a few people. Even the International space Station (ISS) is restricted to a staff of seven. Some scientists have suggested building much larger homes in Earth's orbit. These space cities would not just be laboratories for space science but homes for thousands of people. Although there is no gravity in space, this could be overcome by making the space city spin at a constant speed. This would create a false gravitational force that would push everything to the outer wall.

FOOD AND WATER
NEEDED IN SPACE

Humans living in space must have an adequate diet; and food must be nutritious, sufficiently abundant, and attractive. There must be enough water to sustain life and to maintain sanitation. A diet adequate for a reasonable environmental stress and a heavy workload requires about 3000 Cal/day. It should consist of 2000 g of water, 470 g dry weight of various carbohydrates and fats, 60 to 70 g dry weight of proteins, and adequate quantities of various minerals and vitamins. The importance of the psychological aspects of food should not be neglected. The variety and types of food should reflect the cultural background and preferences of the colonists.

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DIGI-CITY VISION



6

BUILDING VIRTUAL WORLDS TO EXPLORE SIGNS OF REAL LIFE IN SPACE

- What intelligent environments might mean?
- What projects might be undertaken?
- What directions explored?
- What is the bodily intelligence of a virtual environment?
- How is intrapersonal intelligence exhibited by a hybrid environment?
- How can technologically augmented intrapersonal "intelligence" enhance an actual environment?

DIGITAL OBJECTS ARE NEW
KINDS OF OBJECTS

how to use the digital in ways we cannot use the physical; and second, we must invent new forms of interactivity which liberate us from our conventional modes of relating to objects.

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DIGI-CITY VISION



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BUILDING VIRTUAL WORLDS TO EXPLORE SIGNS OF REAL LIFE IN SPACE

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THREE DIMENSIONAL INTRANETS

In my vision to build the future healthful city, it's the reactions of the Era technology. According the vast acceleration of digital technology in the last 20 years, we can predict the fact of mixing the real into the virtual and vice versa. But the question that we have to think to solve and save our souls from new diseases, what equation or what Code we have to use to integrate the virtual into the real?

I think the digital technology is going to control everything, so we need to protect our souls from its diseases (viruses) that might destroy the human nature.

2050

DIGI-CITY VISION



7

THE DIGI-CITY

DIGI-CITY is a Real Space City orbits the Earth, 300 kilometres above the surface of our planet. This structure orbits the Earth in the same orbit as the Moon in a stable position that is equidistant from both Earth and Moon, It has a Digital Infrastructure, its urban environments is a data transformation according to energy absorption of its users. It's the interaction between physical and digital environments.

DESIGN SPECULATION GOALS

7-1

This system is intended to meet a set of specific design goals established to guide the choice of the principal elements of a practicable colony in space. The main goal is to speculate the design of permanent community in space that is sufficiently productive to maintain itself, and to exploit actively the environment of space to an extent that permits growth, replication, and the eventual creation of much larger communities. This initial community is to be a first step in an expanding colonization of space.

DESIGN SPECULATION GOALS

7-2

This system is intended to meet a set of specific design goals established to guide the choice of the principal elements of a practicable colony in space. The main goal is to speculate the design of permanent community in space that is sufficiently productive to maintain itself, and to exploit actively the environment of space to an extent that permits growth, replication, and the eventual creation of much larger communities. This initial community is to be a first step in an expanding colonization of space.

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DIGI-CITY FRAMEWORK

It is a computer system that contains social and physical way of life. It is the digital and physical interaction environment.

7-3

DIGI-CITY DATA:

"THIS IS A PROPOSED DATA"

7-4

Date of construction:	2050
City Volume:	24 Million cubic meters
City Orbits distance:	300 kilometres from Earth surface
Energy:	Nuclear + Solar Energy
Expected age:	500 years
Earthy Wight:	22 Million tons
Orbit Wight:	00 Million tons
Capacity-dwellers:	12 Million individuals (4 millions families)
Start Capacity-dwellers:	50 families = 200 persons

2050

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SOCIETY

18. SOCIAL INTERNET

What new social relations can be produced? How are time and knowledge shared? What are facilities such as Internet access?

19. E-HOUSE ADMINISTRATOR

How is the economic activity butler like?

20. HOUSE DATABASE

How are houses actually built in the

DIGI-CITY OF THE FUTURE



2050

DIGI-CITY VISION

Ashraf Abdel Mohsen

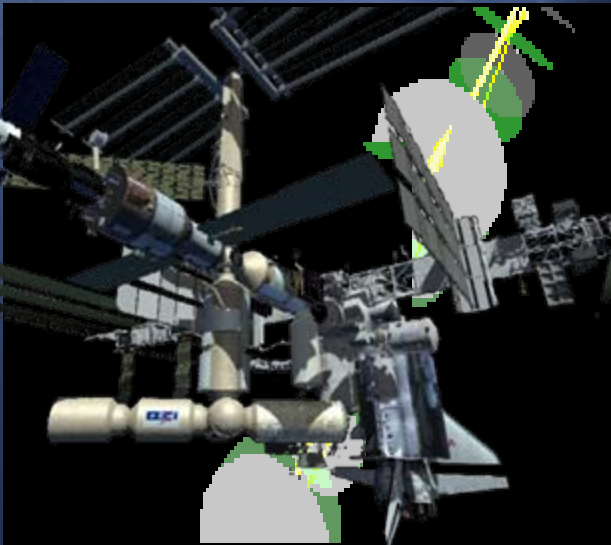


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THE DIGI-CITY

DIGI-CITY URBAN

7-5

**NEW METHOD OF CONSTRUCTION:**

Constructing under zero gravity and with good vacuum it may be practical to form new shells and new materials. Using Robotized Labours we could build the dreams constructions.

STREETS:

Light structure Streets are constructed whenever you go, connected

LANDSCAPE:

Fibre Optics, laser and virtual 3D. screens landscape structure connected also to the main frame, which leads users or inhabitants order the environment of landscape they need.

VEHICLES:

Cars are flying such as "flying saucers" by nuclear power engine; which wireless connected to the main frame. People can move around the city in no time, they could also move out of city with some precautions and permissions to visit other cities around

WALKING PASSAGES:

It is anti-gravity environment in general, but you can find the gravity = "Earth gravity" inside the buildings, you feel like in your Earth home with all the furniture and equipments, but in addition, all objects and furniture are intelligent and connected to a personal computer system which is connected to the city mainframe.

2050

DIGI-CITY VISION

Ashraf Abdel Wahed



7

THE DIGI-CITY

DIGI-CITY URBAN

7-5

Recycled infrastructure:

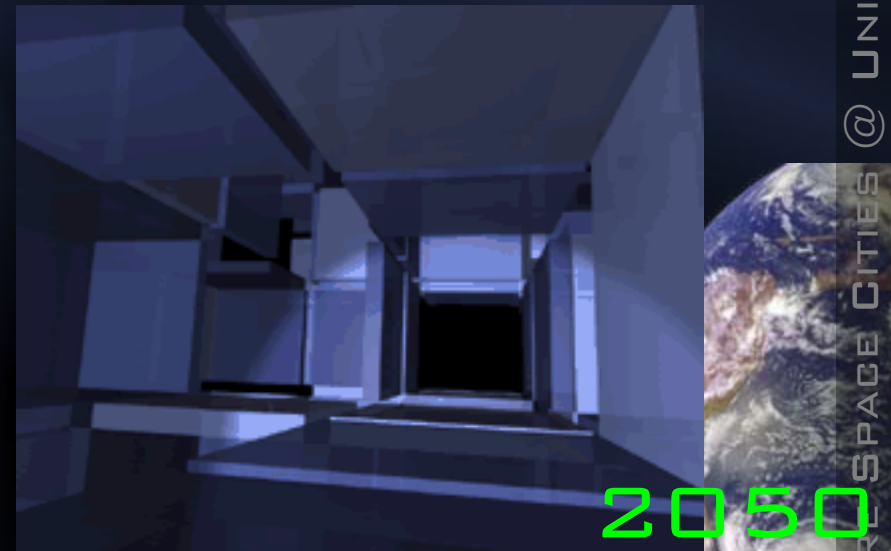
DIGI-CITY is a Recycled, Intelligent and Environmental City with an electronic Brain "Mainframe" that controls every thing.

Water gained from evaporating absorbing solar energy using the Sun lighting and heat by electronic cells, **drainage** system is connected to recycled operation and reused for plants in the settlement. **Oxygen** is produced from the main part of the city "City Farm".

Recycled infrastructure: Industries and Agriculture:

The main **Industries** in our city are Medicines, Electronics and all technical industries for Earth people that need high degree of anti-polluted environment. They are all produced and controlled by technical robots, those industries will be exported to every country all over the Earth.

DIGI-City **Agriculture**, produce the best healthful vegetables, fruits and beans all over the world in this time, it is production is controlled by a very accurate and sensitive technical system with the cleanest environment have ever gained.



DIGI-CITY VISION

Ashraf Abdel Wahed



Future Space Cities @ Universe

Ain Shams University 2004

7

THE DIGI-CITY

DIGI-CITY URBAN

7-5

SERVICES AND CIVIC CENTRE:

DIGI-City Civic Centre is mostly a virtual centre, it contains some physical buildings for social communication as: restaurants and cafes, cinemas and theatres, sports and social club. All services are connected to the city network which is connected to universe network UWL; Universe Web Link. One can use all services through the network and will be delivered to his accommodation cell or unit by another kind of Robots, those services include: shopping, registrations, official documents, entertainments, social relationships by connecting and viewing any point in Earth using satellites hyper technology or by moving to another city.

CITY GOVERNORATE SYSTEM:

DIGI-City Governorate is an electronic system controlled by another type of Robots connected to special system, updated automatically. This system has human administration, but they are working as technicians for that system, this system is empty of corruption but could be full of viruses that need technicians to avoid its attacks.

COMMUNITY HIERARCHY AND RELATIONSHIPS:

DIGI-City is a sort of community that has new rules and new kind of relationships not far away from the existing relationships of this electronic age. People now spend most of their time sitting in front of computer monitors, but tomorrow computers will control human beings, but they will never reach their hearts and brains.

2050

DIGI-CITY VISION



7

THE DIGI-CITY

DIGI-CITY URBAN

7-5

RESIDENTIAL CELLS =

NEIGHBOURHOODS:

Residential complexes consist of many houses starting from 5 to 50 houses for each cell or neighbourhood, each cell have its heart < "civic centre" and it is Brain < "intelligent services control system". Houses are planned to move from one cell to another, from city to another. A house is a space vehicle that contains a local vehicle which people can use to walk or move inside the city.

Cells are connected to each other by energy beams that change its colours from blue to red related to energy absorbed from the movement of people through the urban environment of the city. This energy is one of the energy supplies of the urban environment.



SPACE

2050

DIGI-CITY VISION



DIGI-CITY ARCHITECTURE

7-5

ARCHITECTURE

DIGI-HOUSE ARCHITECTURE – AUTHOR 2004

The "DIGI-City Houses" is thus conceived as an electronic cell, it is a technological environment, oriented primarily at objects, it is a new interaction between the physical world and the digital world, in order to lay the foundations of a new "art of dwelling"-future space city.

The "DIGI-House" will not be "a house with a computer"; instead, the house will be the computer. As Neil Gershenfield says, architecture will never be inert again.

Walls and ceiling are covered with one of the technological wonders of the 21st century: Phases array optics, it's an intelligent optics connected to the Personal Identification System (PIS).

Here is my point of view to the future space house architecture, after solving all problems concerning the space extreme environment. They are three main points concerning Space, Technology and Society:

- 1- DIGI-Houses "cells" should be designed to ensure a total flexibility of the future Era uses; it's a **Data Use House**.
2. DIGI-Houses is the place where people **Tele-work** within the system network.
3. DIGI-Houses is the place of **Leisure**, people can play at scale 1:1, virtu-physical playing tools.
4. DIGI-Houses have a unique space for personal **Vehicle** "flying saucer", it's an intelligent vehicle connected to (PIS) and to the main frame, it could select the ways of moving according to the city traffic plan in that moment. It moves with a speed almost the speed of light, it has a nuclear endless power engine, and it flays or moves through light structure streets. All are connected to the city mainframe system.

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DIGI-CITY VISION



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THE DIGI-CITY

DIGI-CITY ARCHITECTURE

7-5

ARCHITECTURE

5. DIGI-Houses have offcourse an immersive< **VS. "Virtual Simulator"** and conference space to live in any place on the whole or to connect with any persons or aliens all over the universe

6. DIGI-Houses **Kitchen** have to be connected to (PIS), all its components are intelligent recycled objects, they feel and obey house keeper "Robot" orders.

7. DIGI-Houses **Bathroom** have to be connected to (PIS) and the Infrastructure Network System (INS), all its components are intelligent recycled objects, each house have one water treatment unit that leads to reuse the used water for planting and supplying the flash units .

8. DIGI-Houses **Bedroom** is the deeming space, you can choose or control your dreams besides you could choose the romantic atmosphere you need to sleep in. All skin layers reshaping the sleeping space are intelligent enough to reflect what you need.

9. DIGI-Houses have many real windows to the virtu-physical landscape, and it has also many virtual windows< **LS. "Land-Screen"** leads you to select what you need to see over.

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DIGI-CITY VISION



7

THE DIGI-CITY

DIGI-CITY TECHNOLOGY

7-5

TECHNOLOGY

10. **UWL**; **U**niverse **W**eb **L**ink, DIGI-Houses are computers connected to the universe web link network < it's a new way of internet.

11. **PIS**. "**P**ersonal **I**dentification **S**ystem" is the human house interface, which controls the flows of information between the physical and the digital world at the house (cell) or at the city as whole or even at Earth; it's connected to the city orbiting satellites.

12. DIGI-Houses are **wireless houses**. Information's reach objects and spaces using a kind of infrared cells and radiations.

13. **IO**. " **I**ntelligent **O**bjects" and furniture

14. **INS**. "**I**nfrastructure **N**etwork **S**ystem"

15. **H2H**. "**H**ouse **T**o **H**ouse" a house does think by incorporate their IPS and incorporating genetic learning algorithms. Houses are related to each other, they could recognize and behave. For example if there is a fire in a house, all neighbour houses start to apply for the emergency proceedings such as: cut off electrical fields, start cooling the exterior skin of the house, collect all flammable objects to emergency case.

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DIGI-CITY VISION



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THE DIGI-CITY

DIGI-CITY TECHNOLOGY

7-5

16. **HRS**. "House Recycling System" = sustainable house, including water, drainage, oxygen, garbage, food and even electricity could be recycled by a way of reusing the energy of light.

17. **ILS**. "Intelligent Layering Surface". House spaces could modify their size in relation to their activities and energy. It has an intelligent sensitive skin layering, some are virtual layers and others are real and they both construct the real house surface. Those layers could control the energy import or export from a house, it also save the house (cell) from any external environmental changes, besides it gives many types and kinds of meaning and feelings to space users.

TECHNOLOGY

2050

DIGI-CITY VISION



7

THE DIGI-CITY

DIGI-CITY HEALTH & SOCIETY

7-5

HEALTH & SOCIETY

18. New social relations produced in DIGI-City, the technological systems such as **UWL**, **PIS**, **IO**, and city **Mainframe** are the structure of the virtual social relations in this society. Besides the physical relations gained by the city civic centre.

19. **Health Care** and Medical treatments is going to be natural treatments according to technical specific calculations of personal health evaluation data which stored each hour by (PIS) and then reacts as accuracy orders to the other systems specially the Kitchen system (healthy food and drinks needed in this situation), besides some physical treatments will be done using the furniture system which it can do it in a specific period.

20. **Homesickness** will disappear gradually by virtual treatments. A period of one age needed to free.

21. **Food and Water**, are always fresh healthy. DIGI-City agriculture in the main farm, produce the best healthy vegetables, fruits and beans all over the world in this time, it's production is controlled by a very accurate and sensitive technical system with the cleanest environment ever existed.

2050

DIGI-CITY VISION

Ashraf Abdel Wahed



DIGI-SPACE CITY

DATA HOUSE: DIGI-HOUSE

A HOUSE IS AN INTELLIGANT COMPUTER.....
TECHNOLOGY: DIGITAL NETWORK CITY.....
RE-INFORMATION OF THE HOUSE.....
THE DIGITAL CITY AND FUTURE.....
INTERACTIVE INTELLEGANT SPACES.....

VIRTUAL INFORMATION

DIGITAL TRANSFORMATION

DIGI-CITY OF THE FUTURE

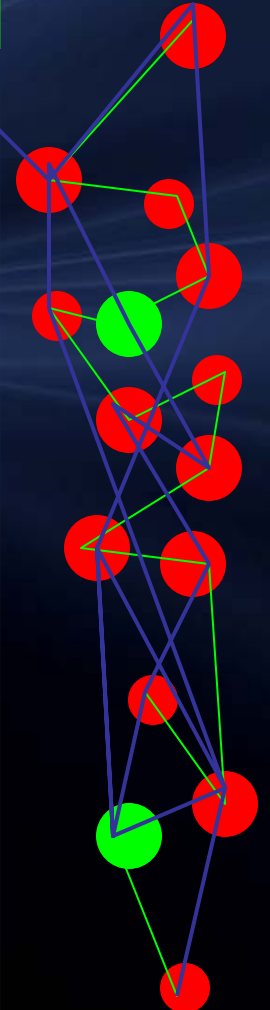


VISION TO THE FUTURE INFORMATION ARCHITECTUE.....MEDIA SPACE

DIGI-HOUSE

SPACE

1. DIGI-HOUSES "CELLS" SHOULD BE DESIGNED TO ENSURE A TOTAL FLEXIBILITY OF THE FUTURE ERA USES; IT'S A **DATA USE HOUSE**.....
2. THE PLACE WHERE PEOPLE **TELE-WORK** WITHIN THE SYSTEM NETWORK.....
3. THE PLACE OF **LEISURE**, PEOPLE CAN PLAY AT SCALE 1:1, VIRTU-PHYSICAL PLAYING TOOLS.....
4. A UNIQUE SPACE FOR PERSONAL **VEHICLE** "FLYING SAUCER", IT'S AN INTELLIGENT VEHICLE CONNECTED TO (PIS) AND TO THE MAIN FRAME, IT COULD SELECT THE WAYS OF MOVING ACCORDING TO THE CITY TRAFFIC PLAN IN THAT MOMENT.....
5. AN IMMERSIVE< **VS.** "VIRTUAL SIMULATOR" AND CONFERENCE SPACE TO LIVE IN ANY PLACE ON THE WHOLE WORLD, OR TO CONNECT WITH ANY PERSONS OR ALIENS ALL OVER THE UNIVERSE.....
6. **KITCHEN** HAVE TO BE CONNECTED TO (PIS), ALL ITS COMPONENTS ARE INTELLIGENT RECYCLED OBJECTS, THEY FEEL AND OBEY HOUSE KEEPER "ROBOT" ORDERS.....
7. **BATHROOM** HAVE TO BE CONNECTED TO (PIS) AND THE INFRASTRUCTURE NETWORK SYSTEM (INS), ALL ITS COMPONENTS ARE INTELLIGENT RECYCLED OBJECTS, EACH HOUSE HAVE ONE WATER TREATMENT UNIT THAT LEADS TO REUSE THE USED WATER FOR PLANTING AND SUPPLYING THE FLASH UNITS.....
8. **BEDROOM** IS THE DREAMING SPACE, YOU CAN CHOOSE OR CONTROL YOUR



VISION TO THE FUTURE INFORMATION ARCHITECTUE.....MEDIA SPACE

DIGI-HOUSE

TECHNOLOGY

10. PIS. "PERSONAL IDENTIFICATION SYSTEM" IS THE HUMAN HOUSE INTERFACE, WHICH CONTROLS THE FLOWS OF INFORMATION BETWEEN THE PHYSICAL AND THE DIGITAL WORLD AT THE HOUSE (CELL) OR AT THE CITY AS WHOLE OR EVEN AT EARTH; IT'S CONNECTED TO THE CITY ORBITING SATELLITES.....

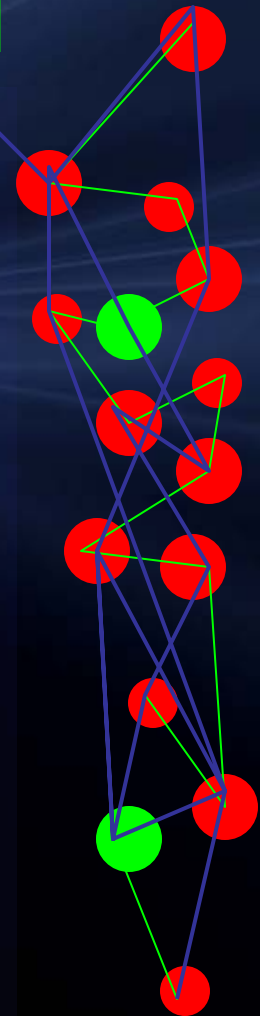
11. UWL; UNIVERSE WEB LINK, DIGI-HOUSES ARE COMPUTERS CONNECTED TO THE UNIVERSE WEB LINK NETWORK < IT'S A NEW WAY OF INTERNET.....

12. DIGI-HOUSES ARE WIRELESS HOUSES. INFORMATION'S REACH OBJECTS AND SPACES USING A KIND OF INFRARED CELLS AND RADIATIONS.....

13. IO. "INTELLIGENT OBJECTS" AND FURNITURE.....

14. INS. "INFRASTRUCTURE NETWORK SYSTEM".....

15. H2H. "HOUSE TO HOUSE" A HOUSE DOES THINK BY INCORPORATE THEIR IPS AND INCORPORATING GENETIC LEARNING ALGORITHMS. HOUSES ARE RELATED TO EACH OTHER, THEY COULD RECOGNIZE AND BEHAVE. FOR EXAMPLE IF THERE IS A FIRE IN A HOUSE, ALL NEIGHBOUR HOUSES START TO APPLY FOR THE EMERGENCY PROCEEDINGS SUCH AS: CUT OFF ELECTRICAL FIELDS, START COOLING THE ENTIRE SKIN OF THE HOUSE, COLLECT ALL FLAMMABLE OBJECTS TO EMERGENCY



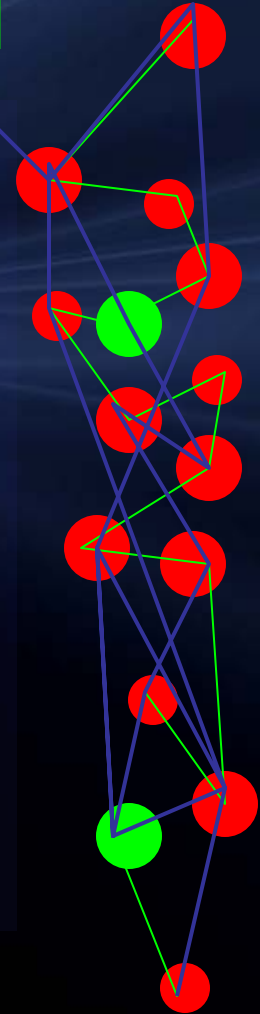
VISION TO THE FUTURE INFORMATION ARCHITECTUE.....MEDIA SPACE

DIGI-HOUSE

TECHNOLOGY

16. HRS. "HOUSE RECYCLING SYSTEM" = SUSTAINABLE HOUSE, INCLUDING WATER, DRAINAGE, OXYGEN, GARBAGE, FOOD AND EVEN ELECTRICITY COULD BE RECYCLED BY A WAY OF REUSING THE ENERGY OF LIGHT.....

17. ILS. "INTELLIGENT LAYERING SURFACE". HOUSE SPACES COULD MODIFY• THEIR SIZE IN RELATION TO THEIR ACTIVITIES AND ENERGY. IT HAS AN INTELLIGENT SENSITIVE SKIN LAYERING, SOME ARE VIRTUAL LAYERS AND OTHERS ARE REAL AND THEY BOTH CONSTRUCT THE REAL HOUSE SURFACE. THOSE LAYERS COULD CONTROL THE ENERGY IMPORT OR EXPORT FROM A HOUSE, IT ALSO SAVE THE HOUSE (CELL) FROM ANY EXTERNAL ENVIRONMENTAL CHANGES, BESIDES IT GIVES MANY TYPES AND KINDS OF MEANING AND FEELINGS TO SPACE USERS.....



VISION TO THE FUTURE INFORMATION ARCHITECTUE.....MEDIA SPACE

DIGI-HOUSE

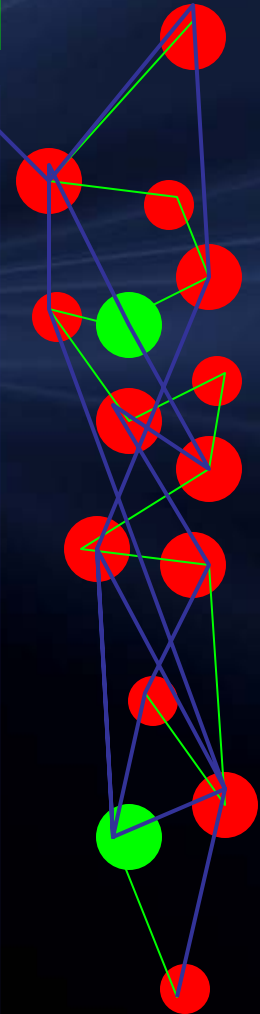
HEALTH & SOCIETY

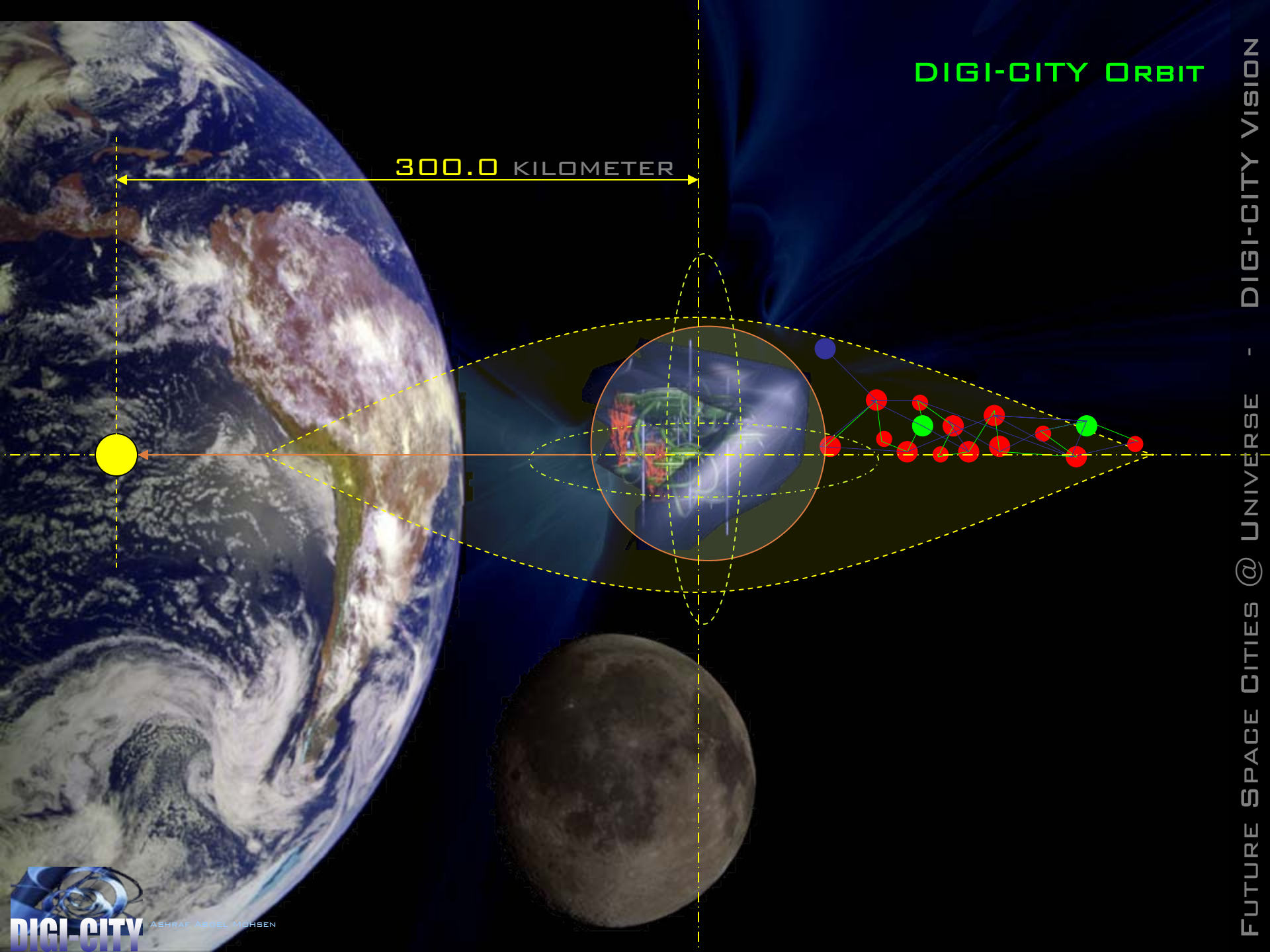
18.THE TECHNOLOGICAL SYSTEMS SUCH AS UWL, PIS, IO, AND CITY
MAINFRAME ARE THE STRUCTURE OF THE VIRTUAL / PHYSICAL SOCIAL
RELATIONS.....

19.HEALTH CARE AND MEDICAL TREATMENTS IS GOING TO BE NATURAL
TREATMENTS ACCORDING TO TECHNICAL SPECIFIC CALCULATIONS OF PERSONAL
HEALTH EVALUATION DATA WHICH STORED EACH HOUR BY (PIS) AND THEN
REACTS AS ACCURACY ORDERS TO THE OTHER SYSTEMS SPECIALLY THE KITCHEN
SYSTEM (HEALTHY FOOD AND DRINKS NEEDED IN THIS SITUATION), BESIDES
SOME PHYSICAL TREATMENTS WILL BE DONE USING THE FURNITURE SYSTEM
WHICH IT CAN DO IT IN A SPECIFIC
PERIOD.....

20.HOMESICKNESS WILL DISAPPEAR GRADUALLY BY VIRTUAL TREATMENTS. A
PERIOD OF ONE AGE NEEDED TO
FREE.....

21.FOOD AND WATER, ARE ALWAYS FRESH HEALTHY. DIGI-CITY AGRICULTURE IN
THE MAIN FARM, PRODUCE THE BEST HEALTHY VEGETABLES, FRUITS AND BEANS
ALL OVER THE WORLD IN THIS TIME, IT'S PRODUCTION IS CONTROLLED BY A VERY
ACCURATE AND SENSITIVE TECHNICAL SYSTEM WITH THE CLEANEST ENVIRONMENT
EVER
EXISTED.....





DIGI-CITY ORBIT

300.0 KILOMETER

SOCIETY

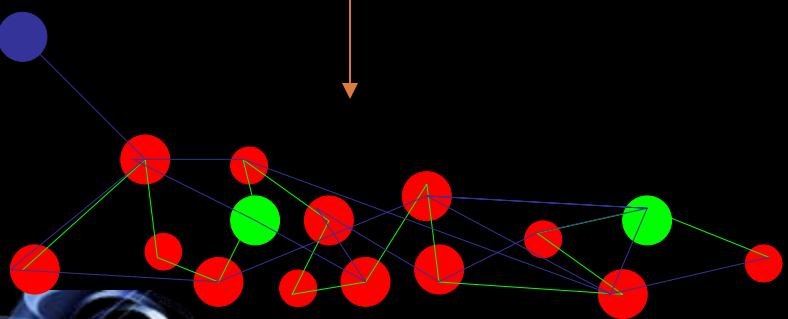
18. THE NET
What are the relations does the i
time? What is shared via the Net? Can
such a... access?

19. E-HOUSE ADMINISTRATOR

How is the economic activity of the house managed
butler like?

20. HOUSE DATABASE

How are houses actually built in the global village of today?



SOCIETY

18. SOCIAL INTERNET

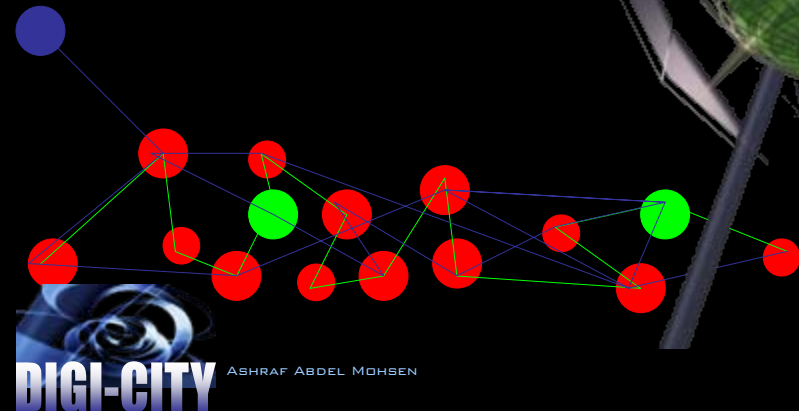
What new social relations can a community produce? How are time and knowledge shared via digital facilities such as Internet access?

19. E-HOUSE ADMINISTRATOR

How is the economic activity butler like?

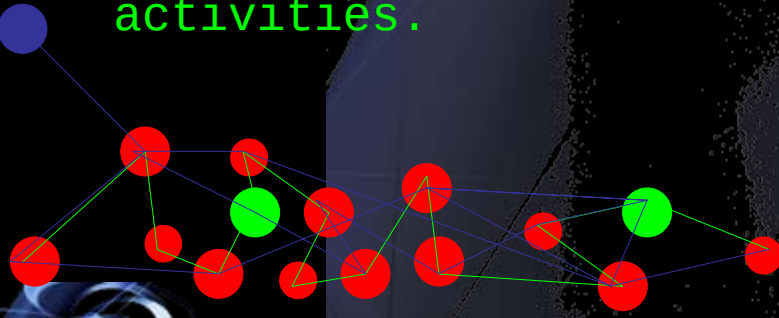
20. HOUSE DATABASE

How are houses actually built in the



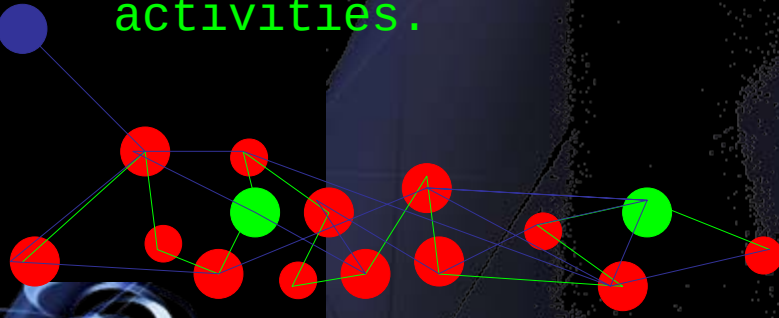
VISION:

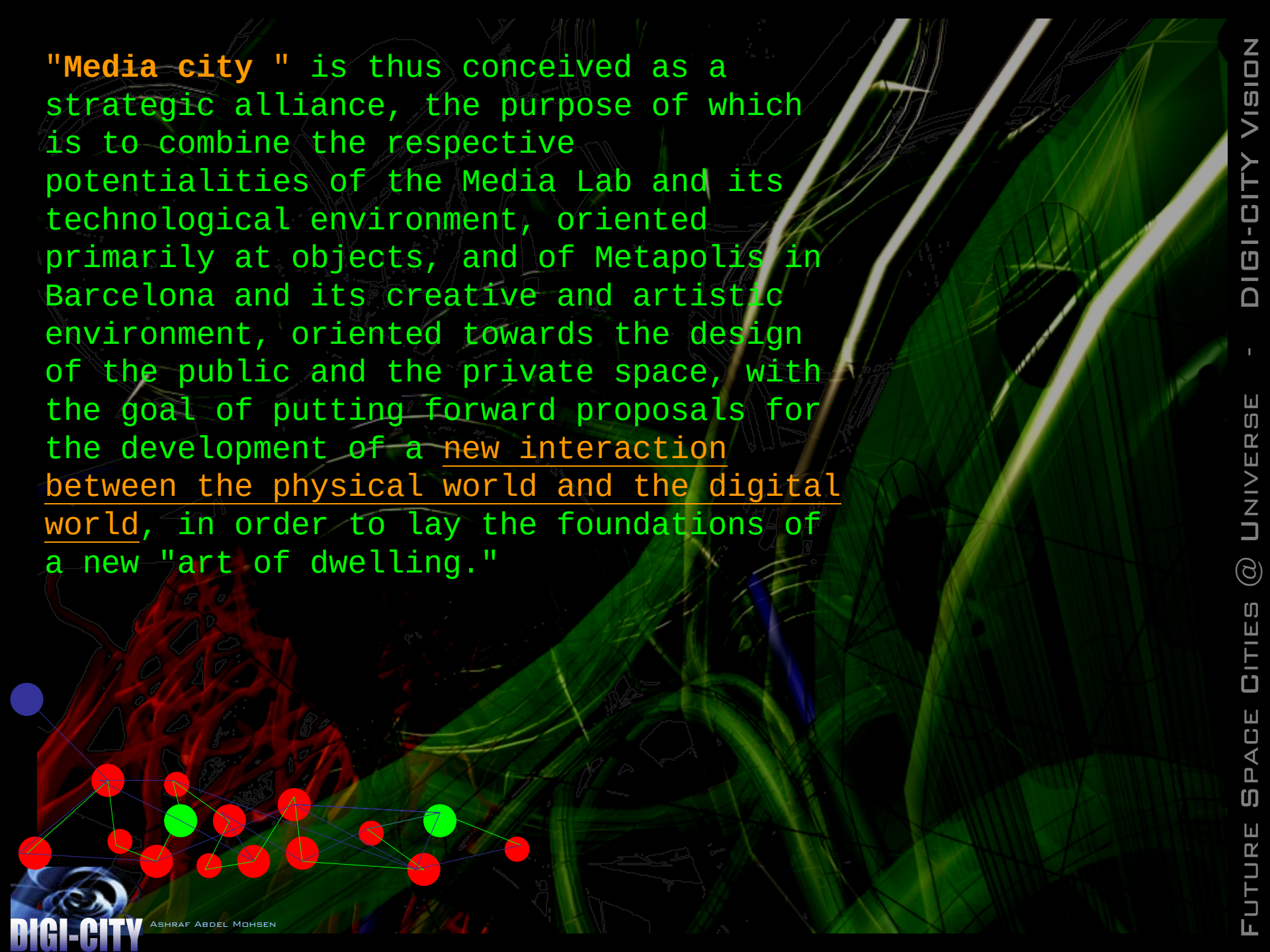
Design of both
Physical space and
Digital space
going to have to take
place at the same
time, in a process of
constant feed-back in
which both worlds
learn from their own
and each other's
potentialities and
limitations. Matter
and information will
intersect in human
activities.



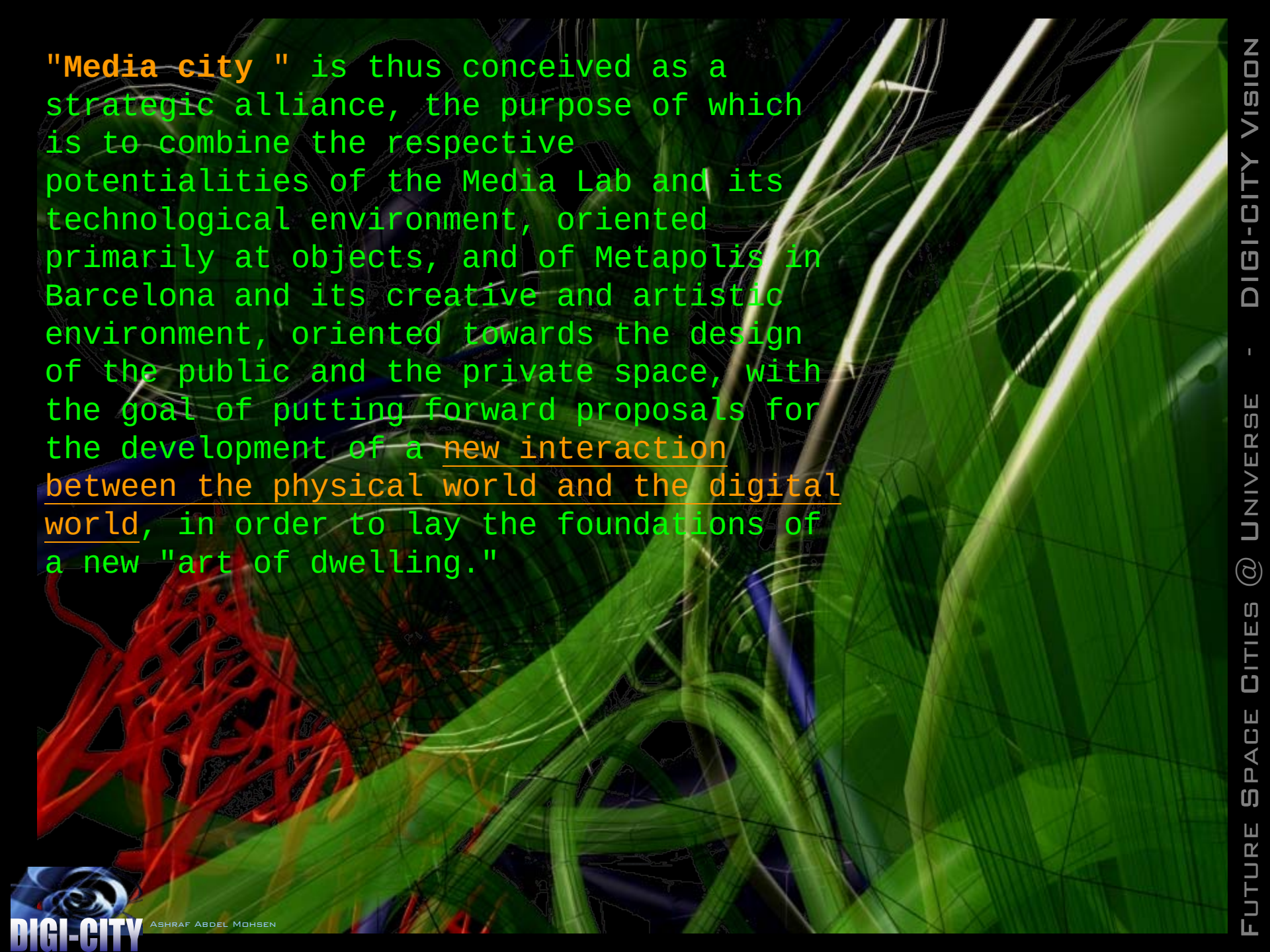
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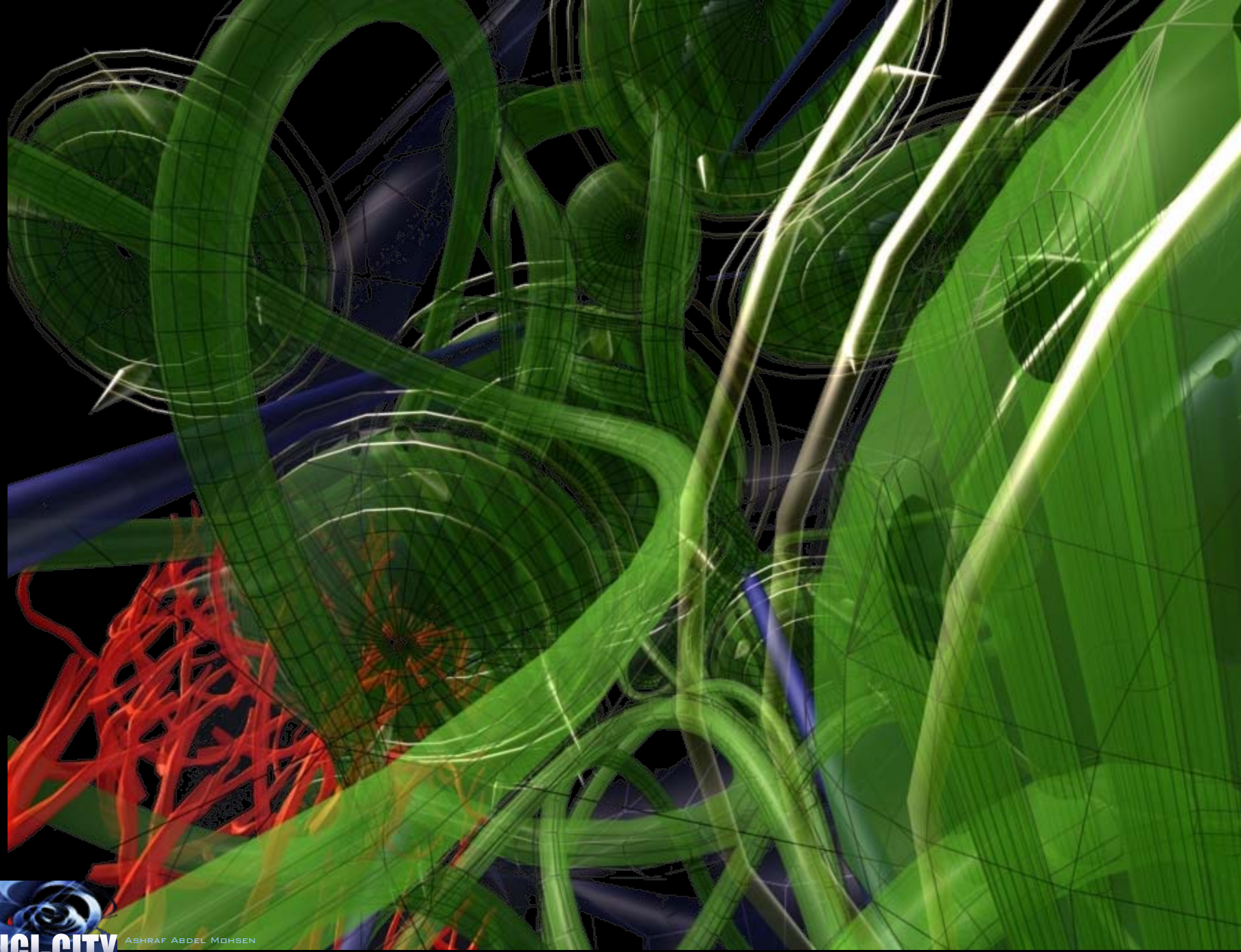




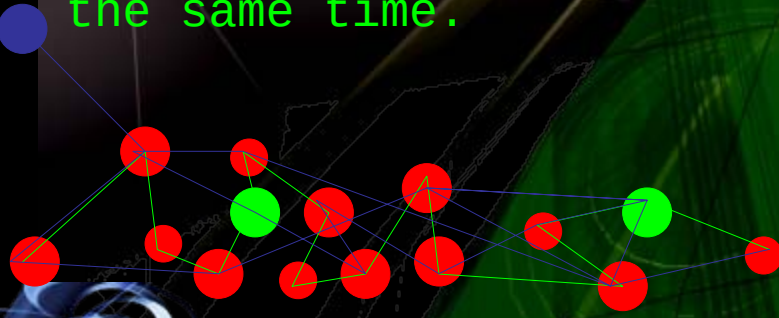
"Media city " is thus conceived as a strategic alliance, the purpose of which is to combine the respective potentialities of the Media Lab and its technological environment, oriented primarily at objects, and of Metapolis in Barcelona and its creative and artistic environment, oriented towards the design of the public and the private space, with the goal of putting forward proposals for the development of a new interaction between the physical world and the digital world, in order to lay the foundations of a new "art of dwelling."

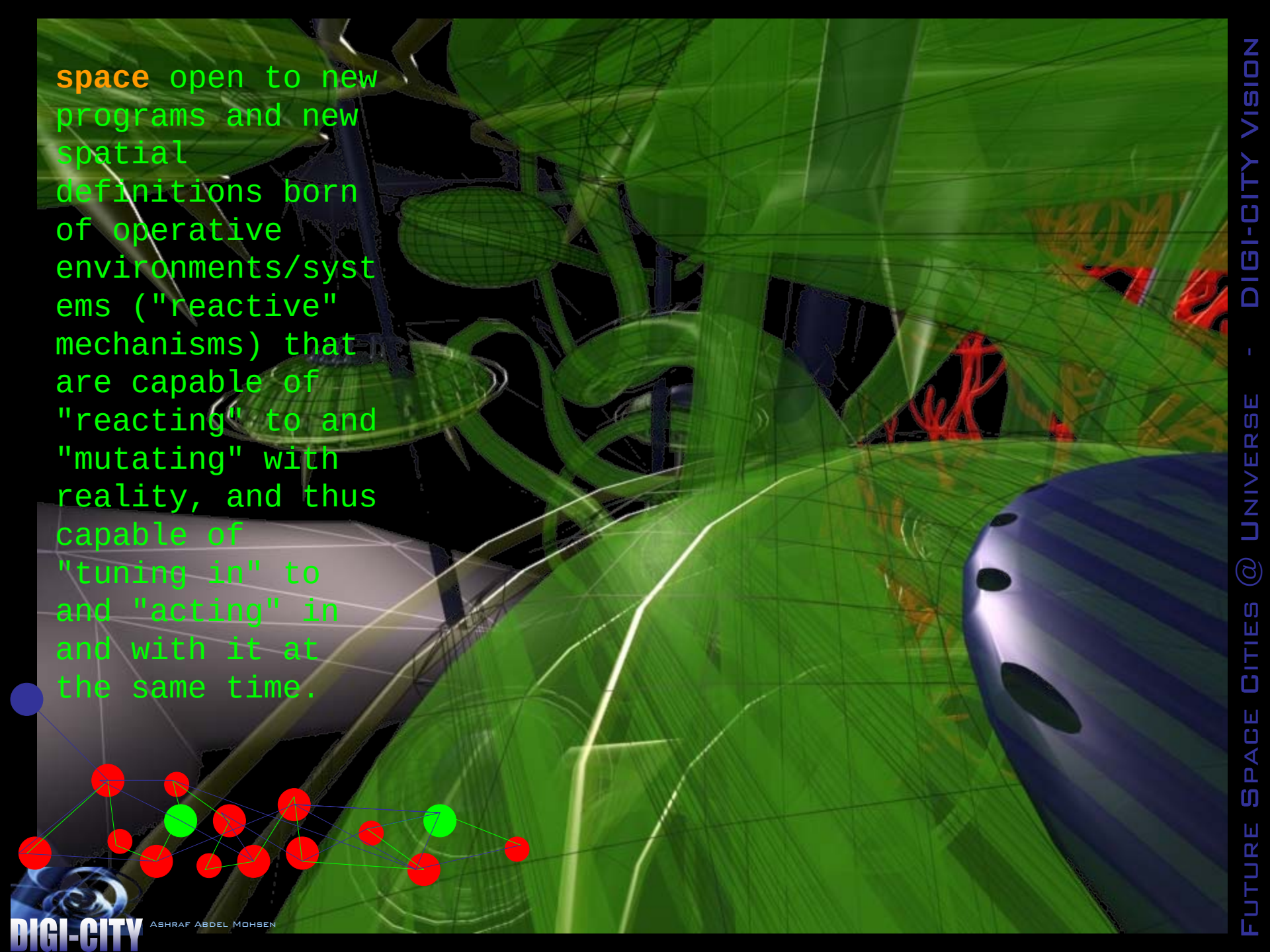
The background is a complex digital composition. It features a dense network of green lines, some straight and some curved, creating a sense of movement and connectivity. In the lower-left corner, there is a cluster of red, branching lines that resemble a coral or a complex network. A faint, wireframe sphere is visible in the upper-left quadrant. The overall color palette is dominated by green, with red and blue accents. The text is overlaid on the left side of the image.

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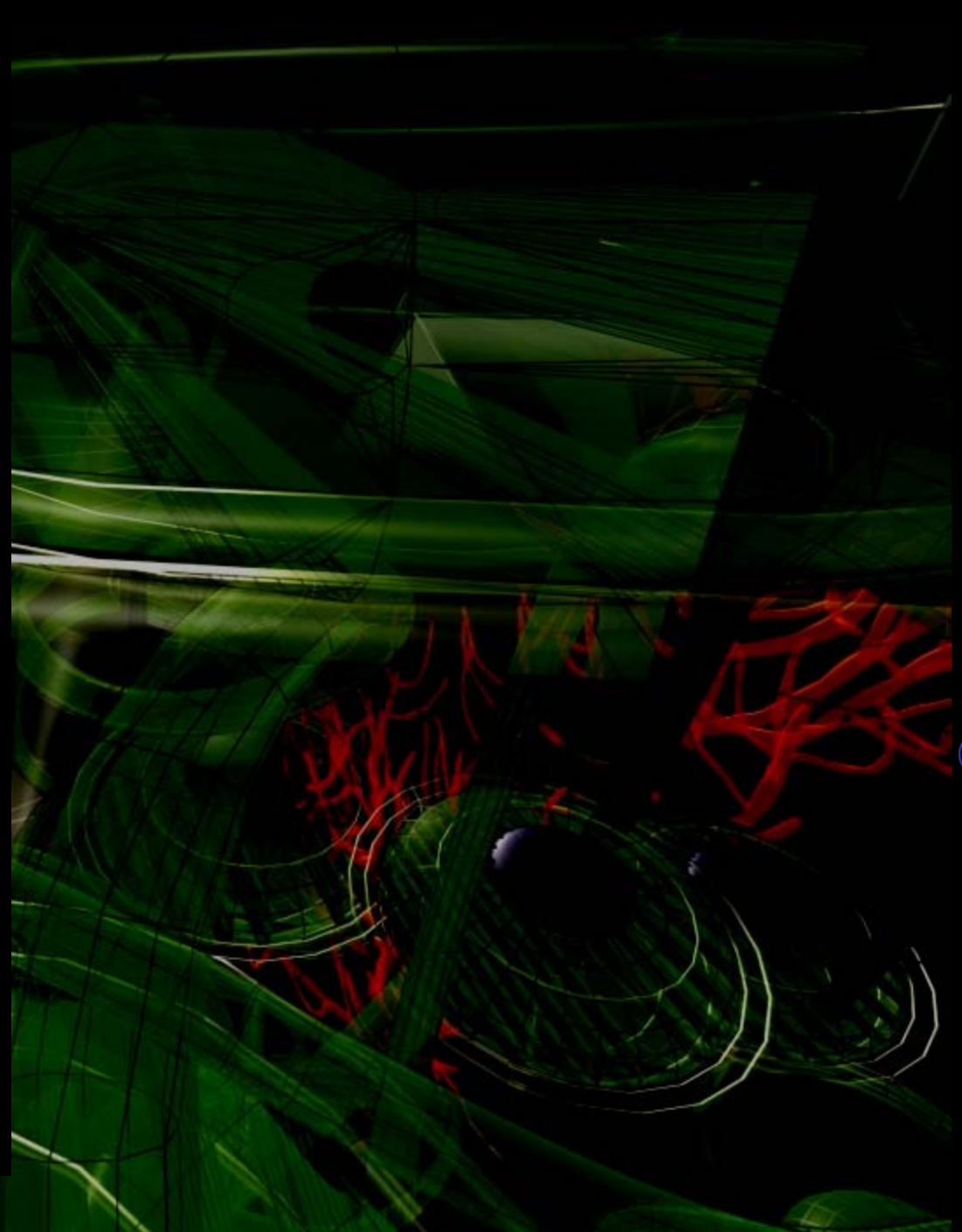
space open to new programs and new spatial definitions born of operative environments/systems ("reactive" mechanisms) that are capable of "reacting" to and "mutating" with reality, and thus capable of "tuning in" to and "acting" in and with it at the same time.



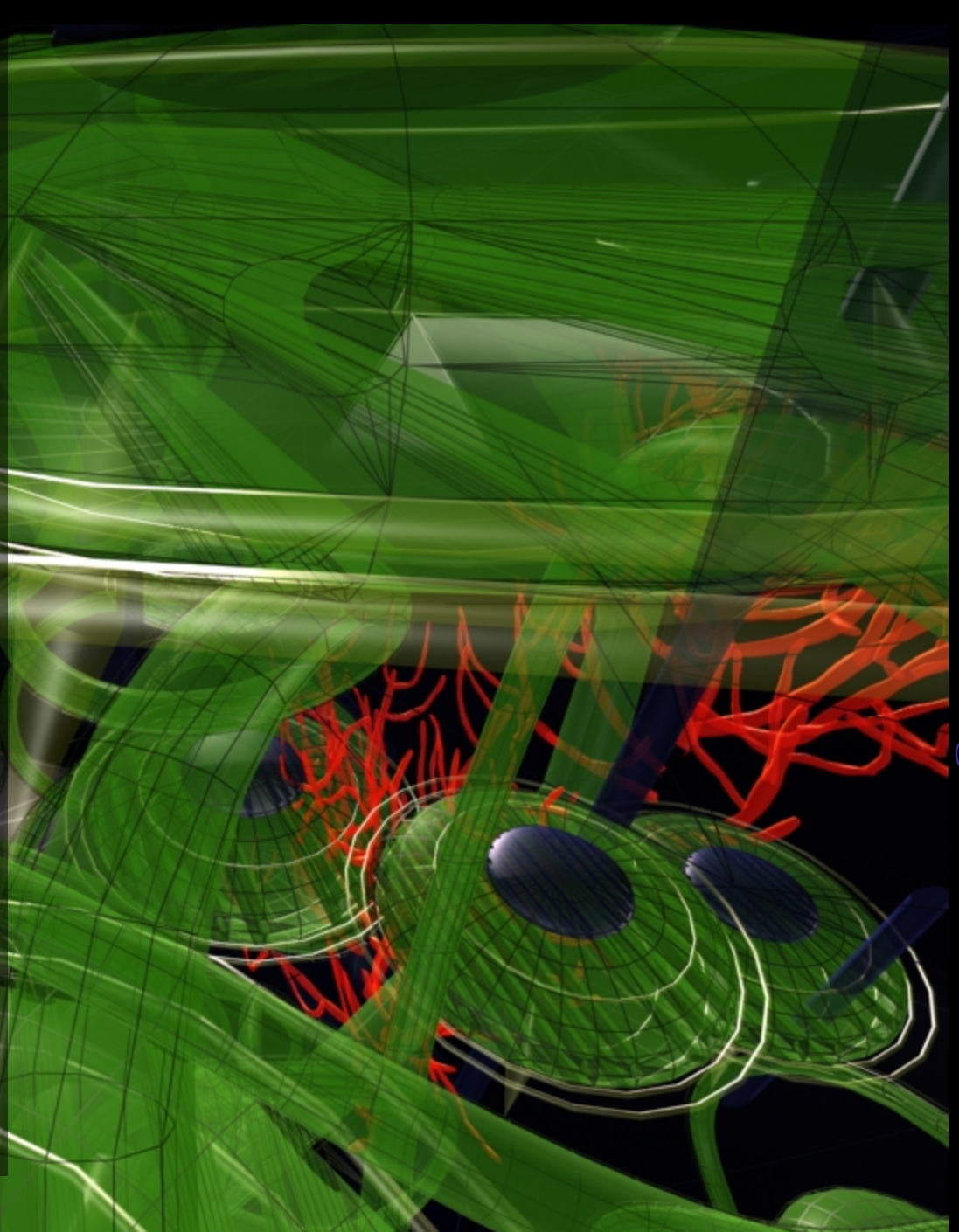
The background of the slide is a vibrant, stylized digital landscape. It features large, green, leaf-like shapes that resemble a futuristic forest or a complex data structure. A blue car with white circular accents is visible on the right side. In the bottom left corner, there is a network diagram consisting of red and green nodes connected by lines. The text is overlaid on the left side of the image.

space open to new programs and new spatial definitions born of operative environments/systems ("reactive" mechanisms) that are capable of "reacting" to and "mutating" with reality, and thus capable of "tuning in" to and "acting" in and with it at the same time.

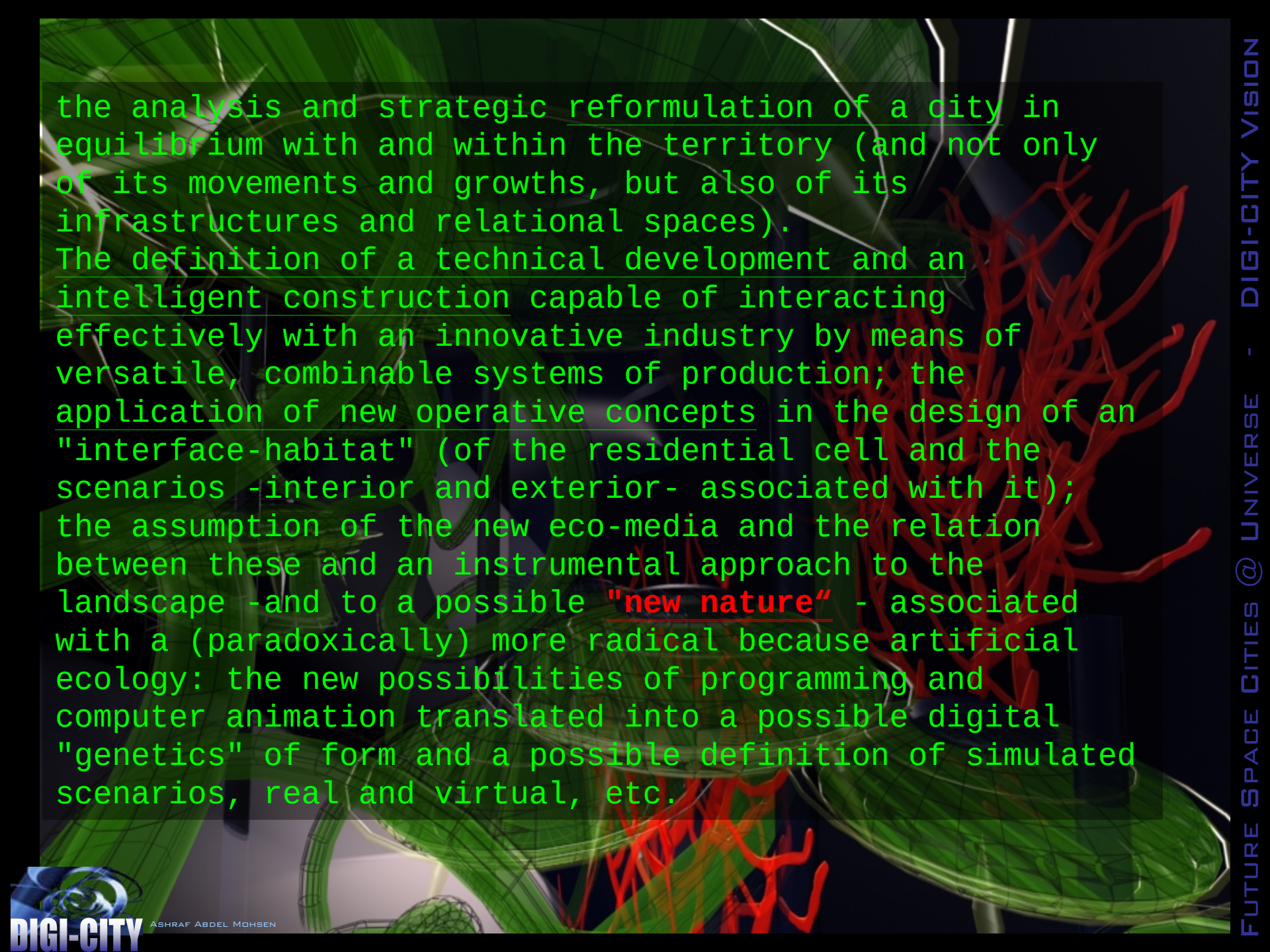
This heralds a new period of architecture in relation with other spheres of production, a new phase that will in all probability see the introduction of previously unimagined - or at best vaguely intuited- techniques and formal concepts in every aspect of the construction -and the whole conception, representation, design and simulation- of a dynamic and changing, evolving and elastic space and its connection with the very development of techniques and technologies themselves.



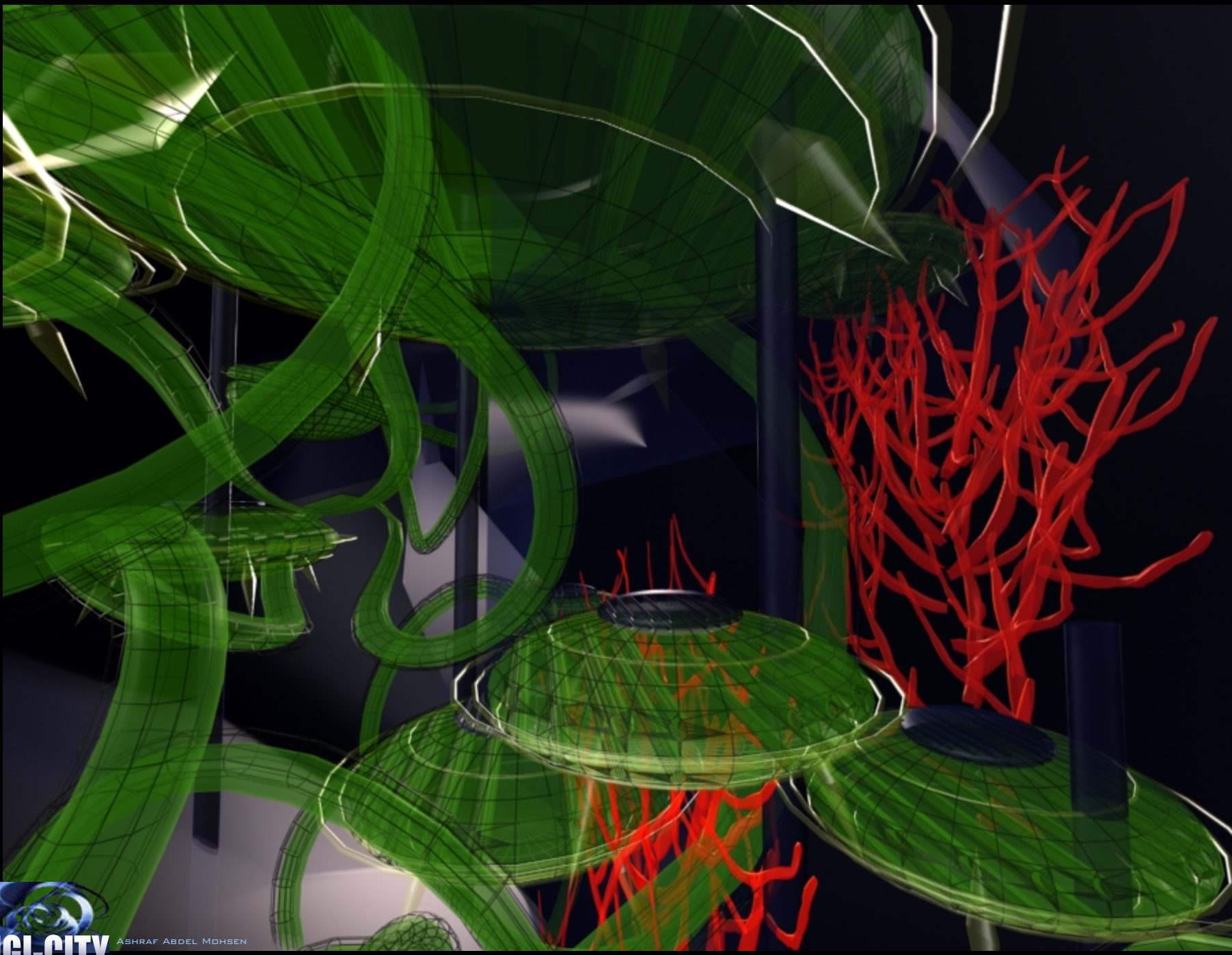
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the analysis and strategic reformulation of a city in equilibrium with and within the territory (and not only of its movements and growths, but also of its infrastructures and relational spaces). The definition of a technical development and an intelligent construction capable of interacting effectively with an innovative industry by means of versatile, combinable systems of production; the application of new operative concepts in the design of an "interface-habitat" (of the residential cell and the scenarios -interior and exterior- associated with it); the assumption of the new eco-media and the relation between these and an instrumental approach to the landscape -and to a possible "new nature" - associated with a (paradoxically) more radical because artificial ecology: the new possibilities of programming and computer animation translated into a possible digital "genetics" of form and a possible definition of simulated scenarios, real and virtual, etc.

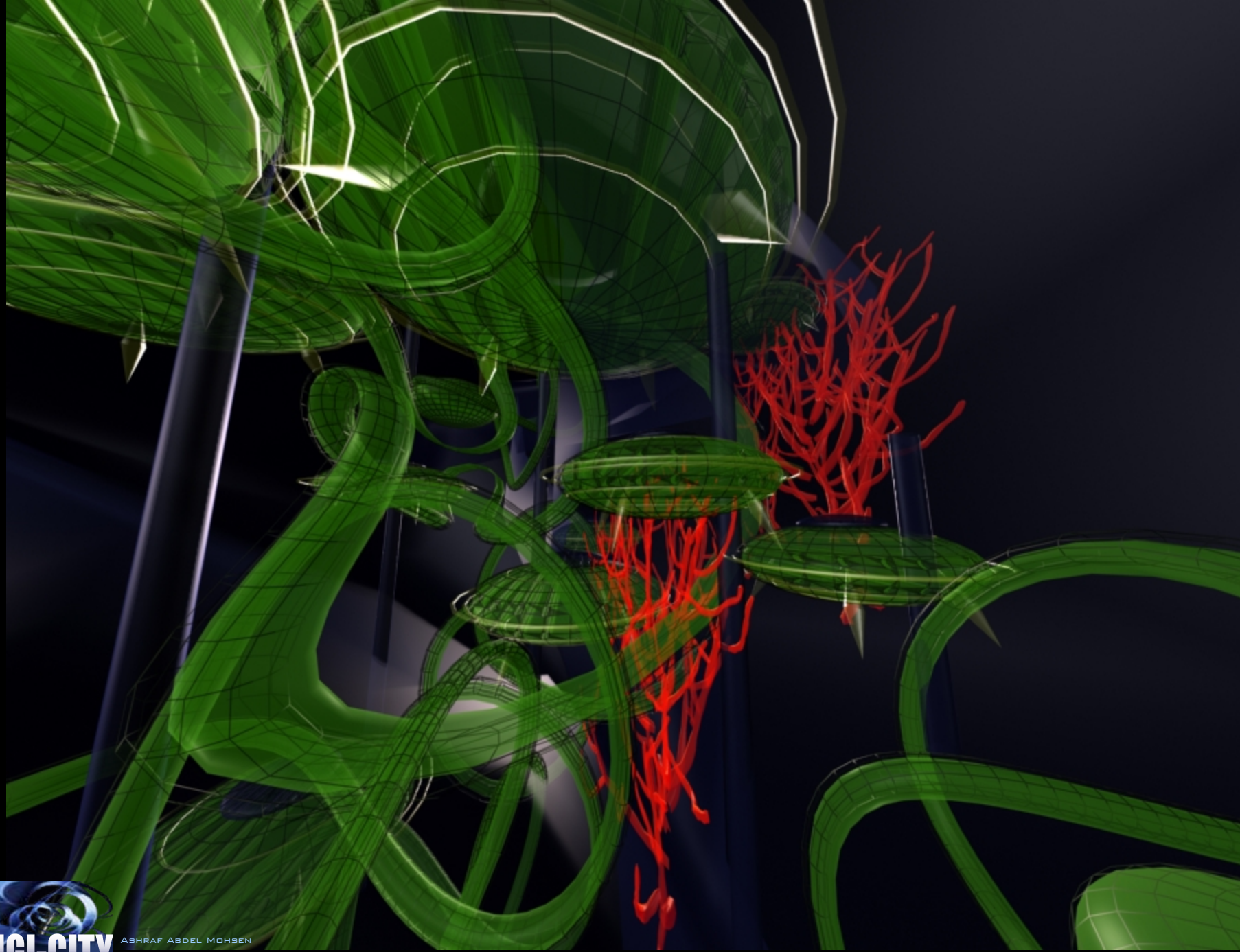


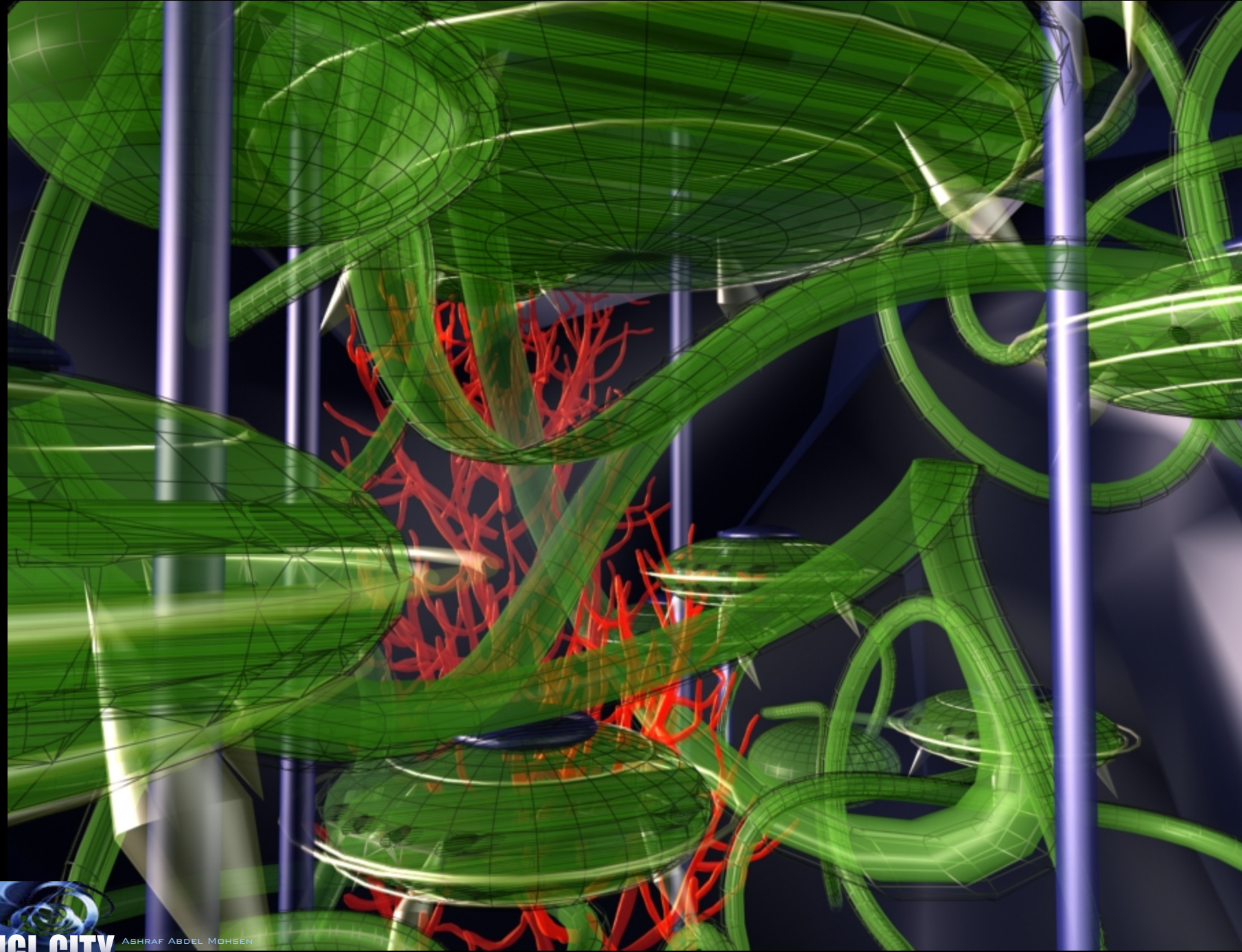
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ASHRAF ABDEL MOHSEN



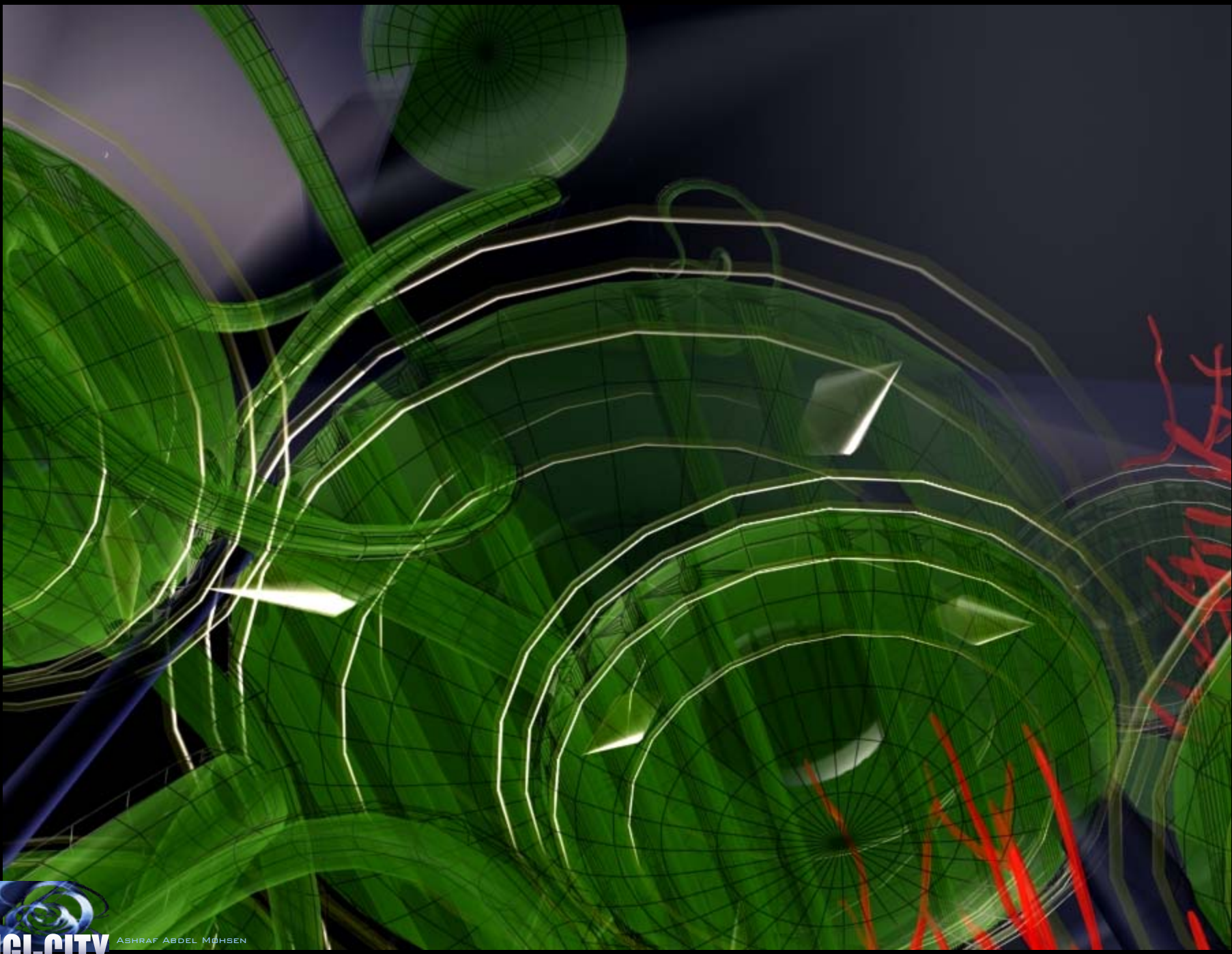




ASHRAF ABDEL MOHSEN

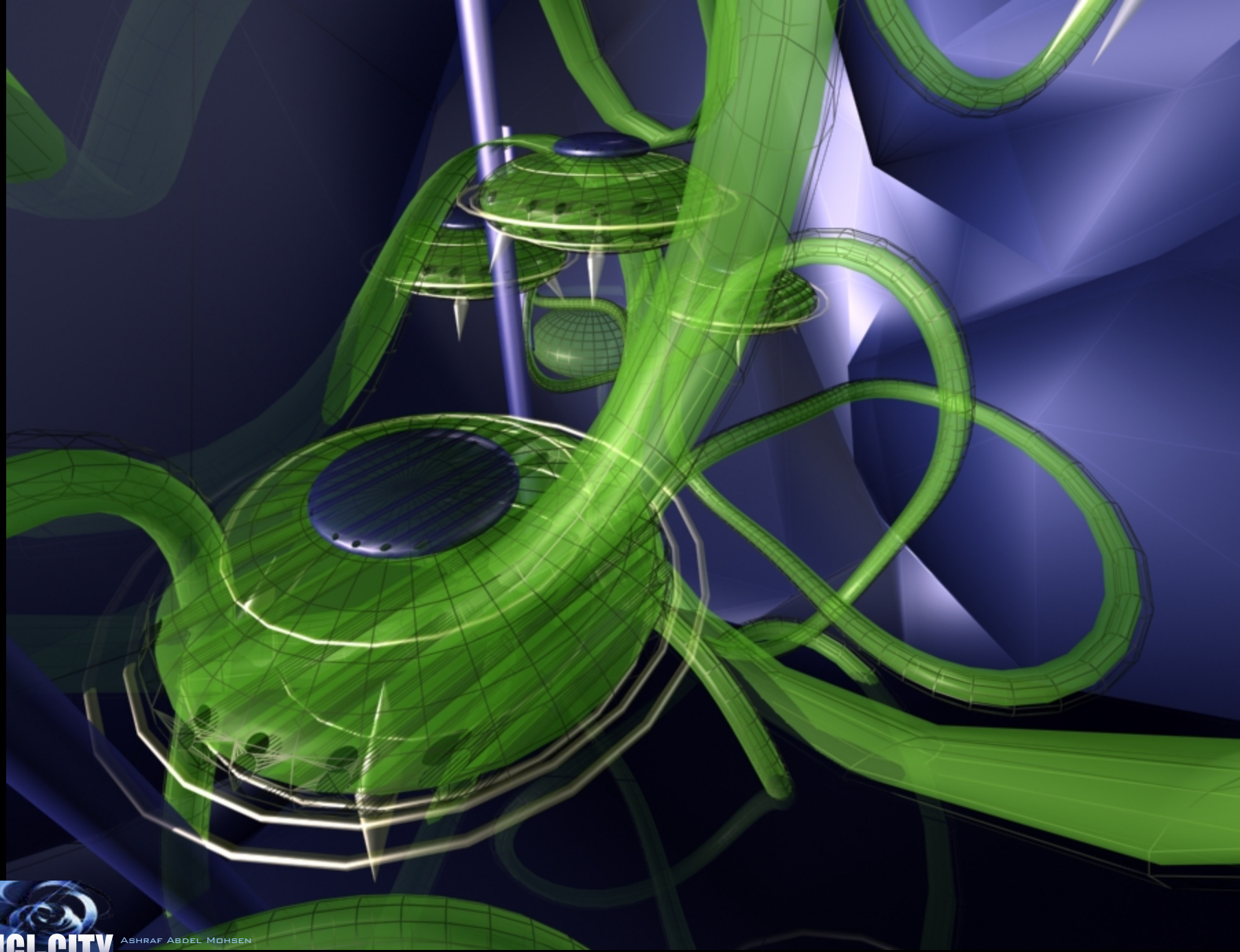


FUTURE SPACE CITIES @ UNIVERSE - DIGI-CITY VISION



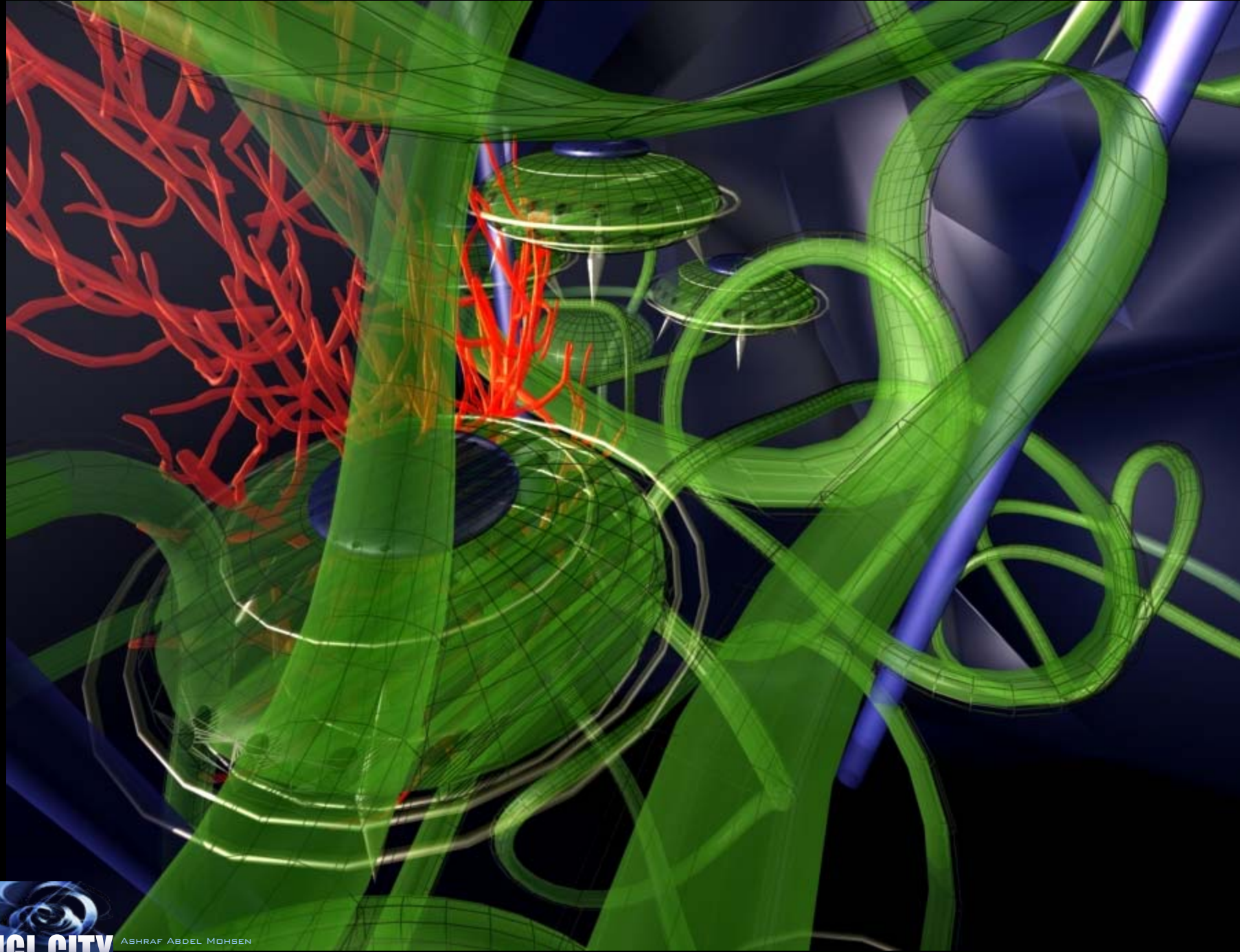


ASHRAF ABDEL MOHSEN





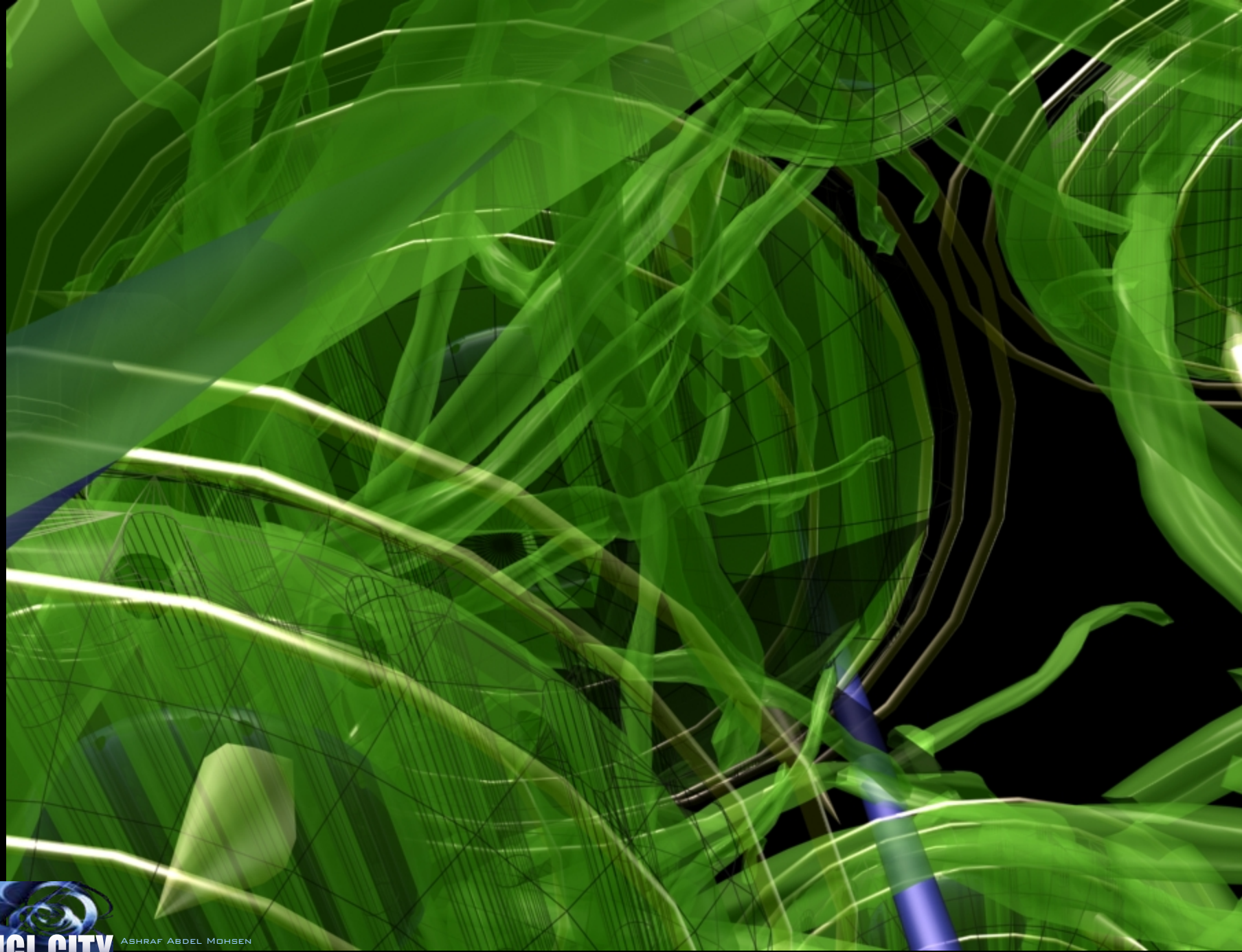
ASHRAF ABDEL MOHSEN



FUTURE SPACE CITIES @ UNIVERSE - DIGI-CITY VISION



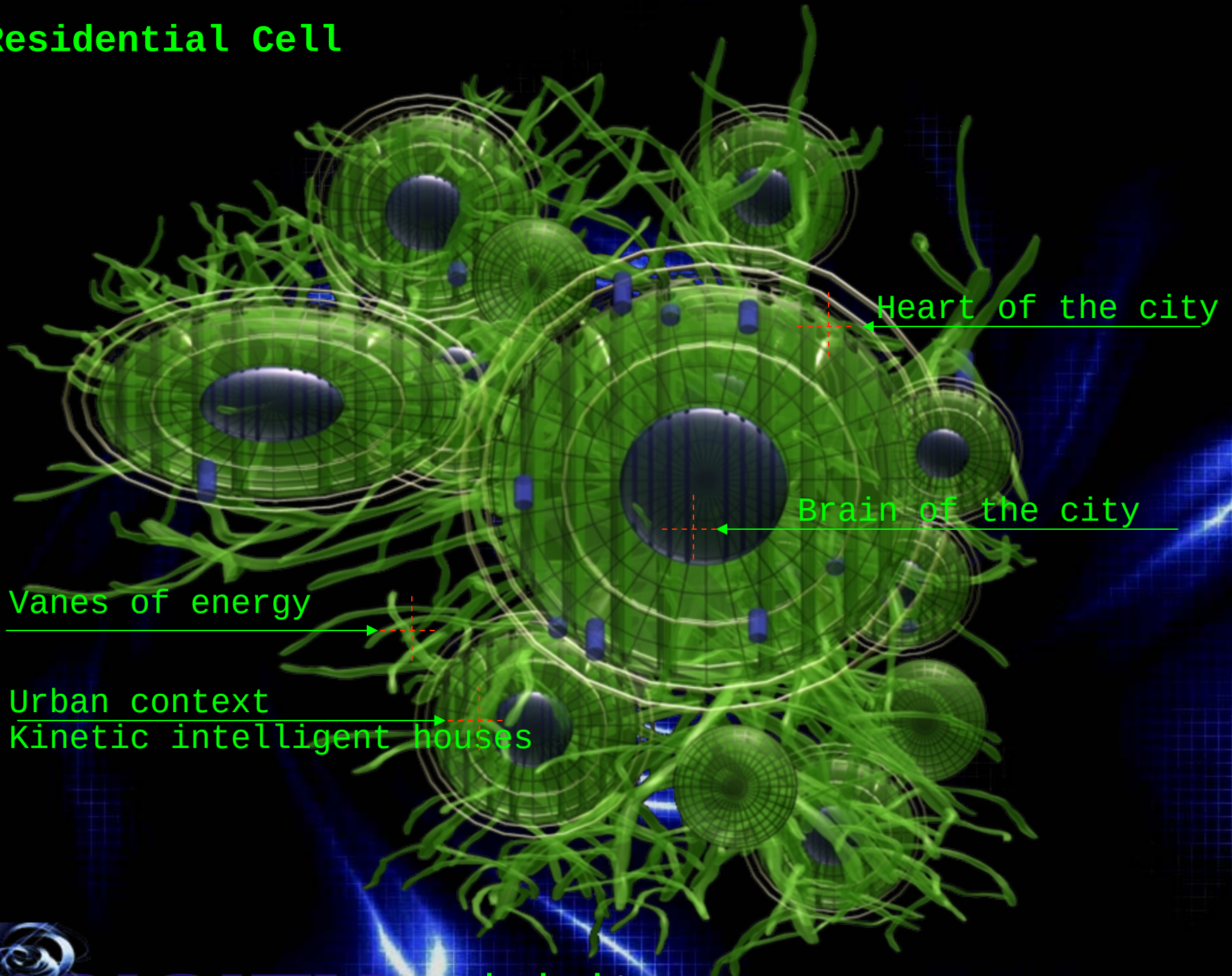
ASHRAF ABDEL MOHSEN





ASHRAF ABDEL MOHSEN

Residential Cell



Vanes of energy

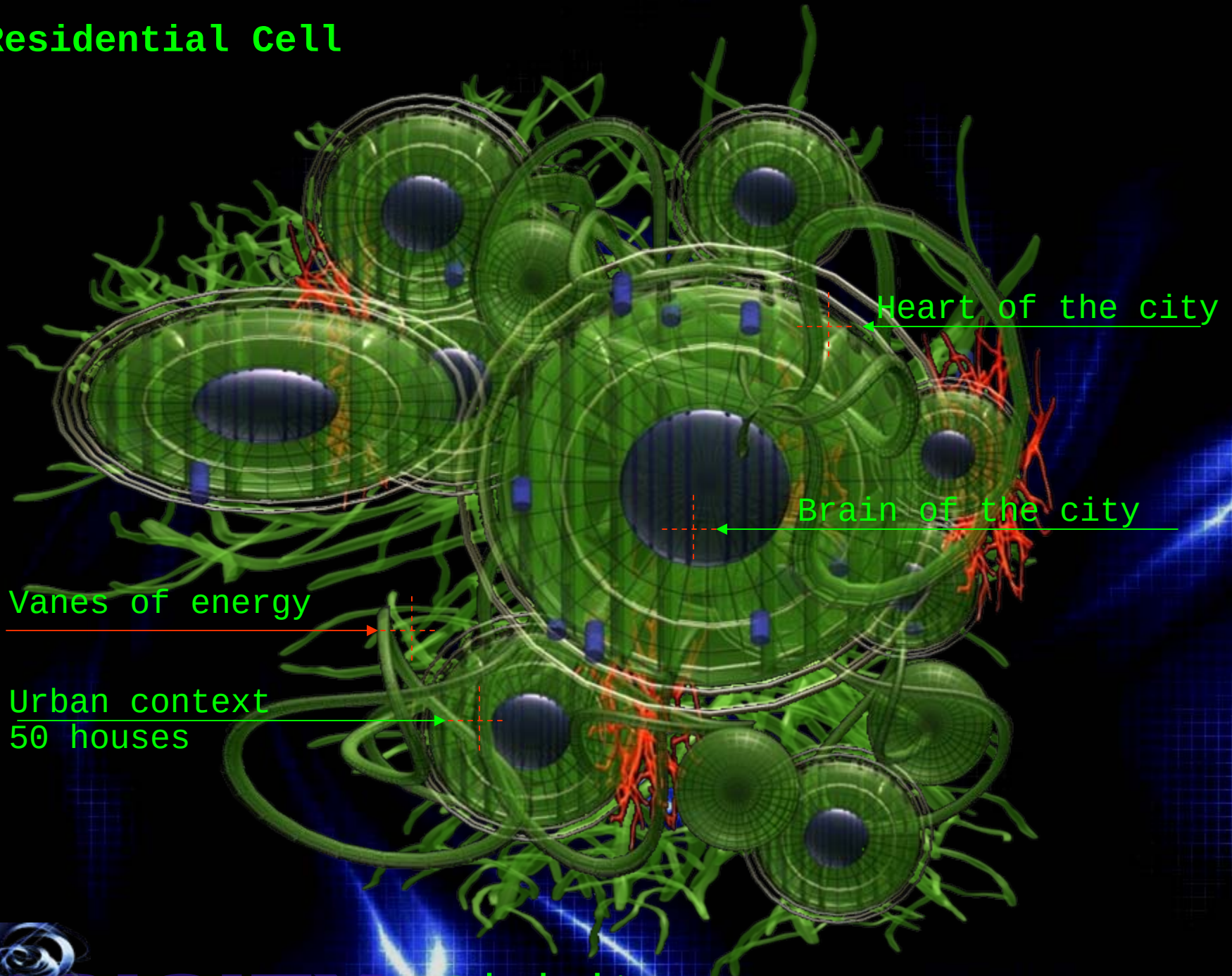
Heart of the city

Brain of the city

Urban context
Kinetic intelligent houses

Digicity - city of the future - plan

Residential Cell



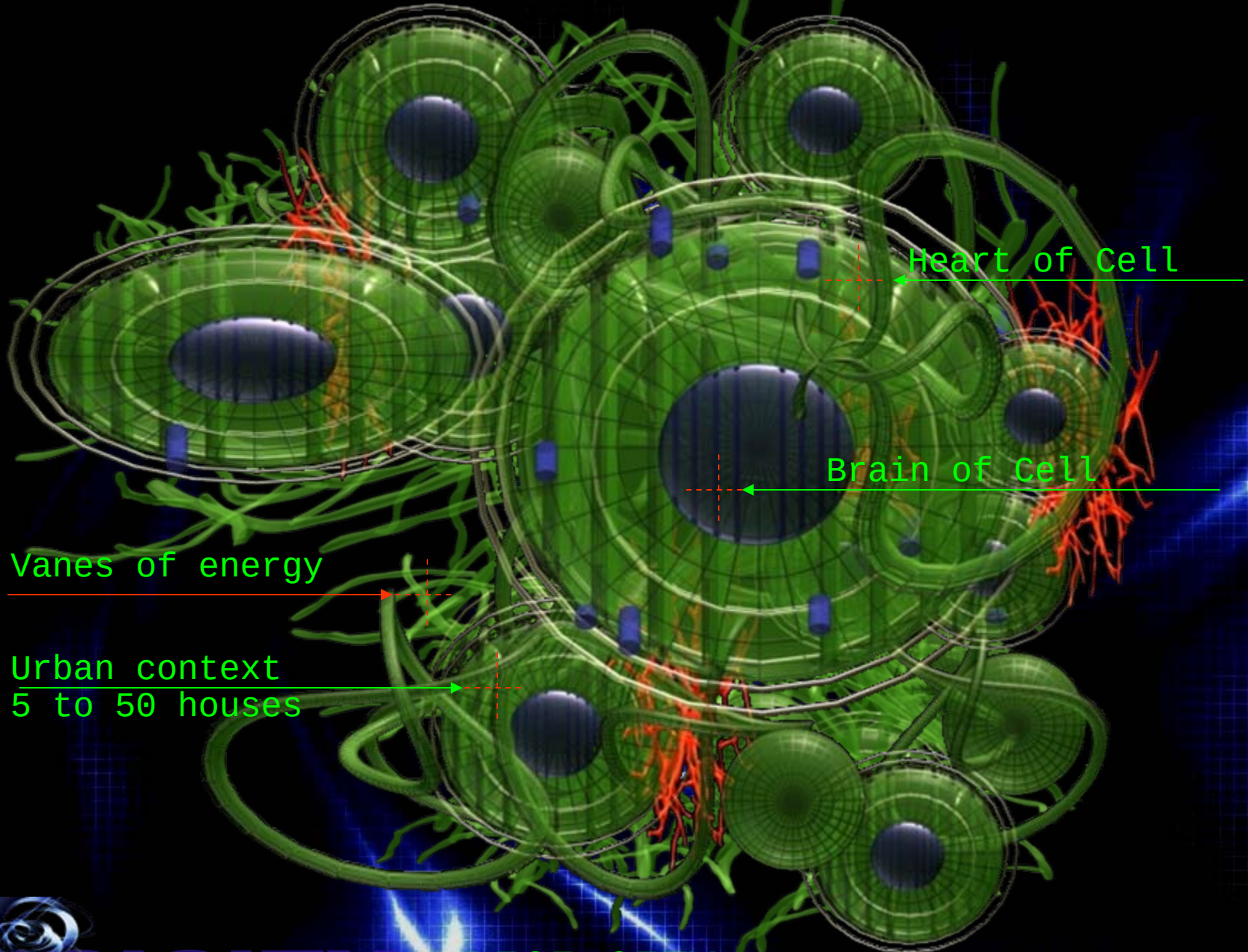
DIGI-CITY OF THE FUTURE



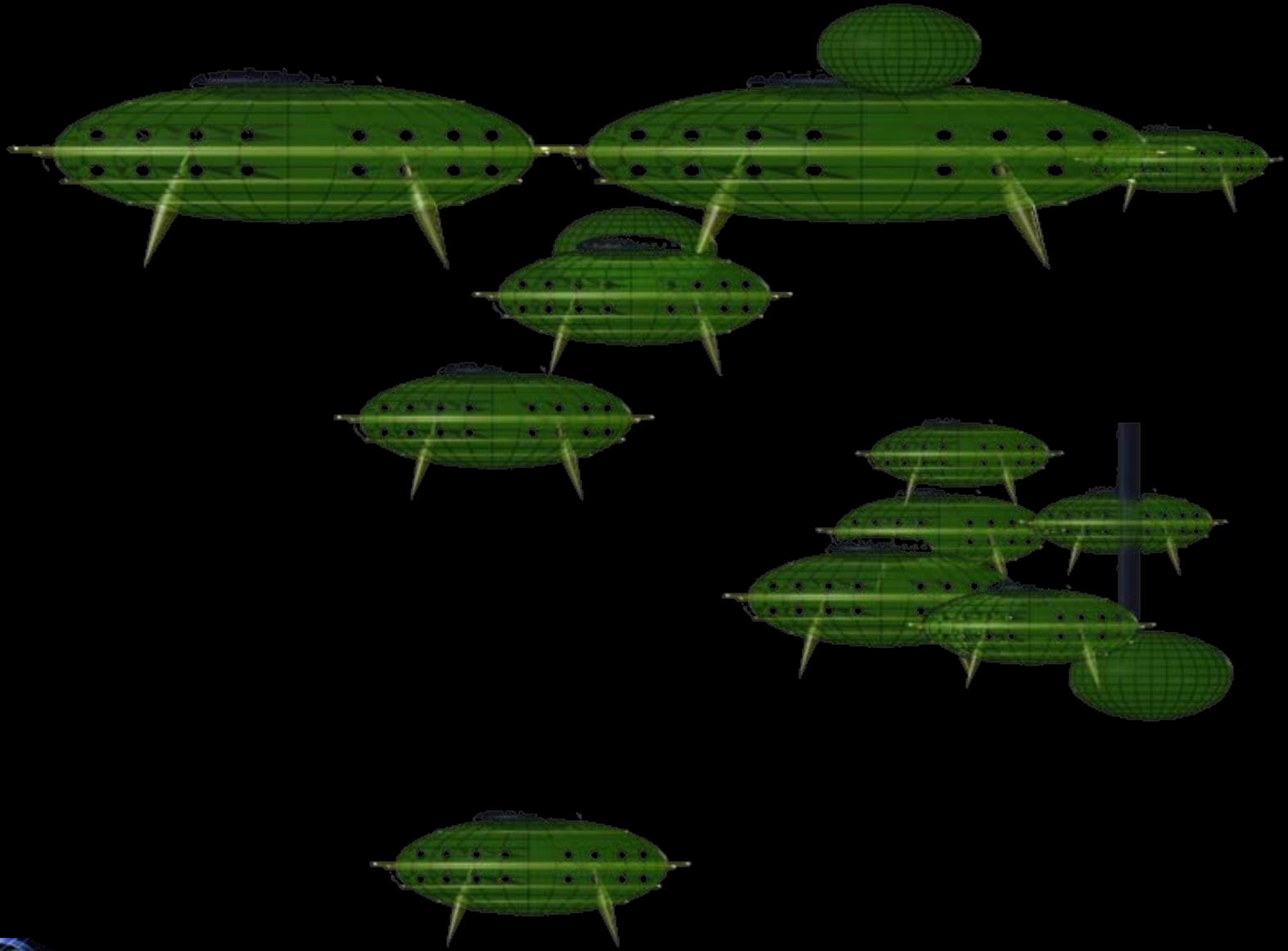
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Digicity - city of the future - plan

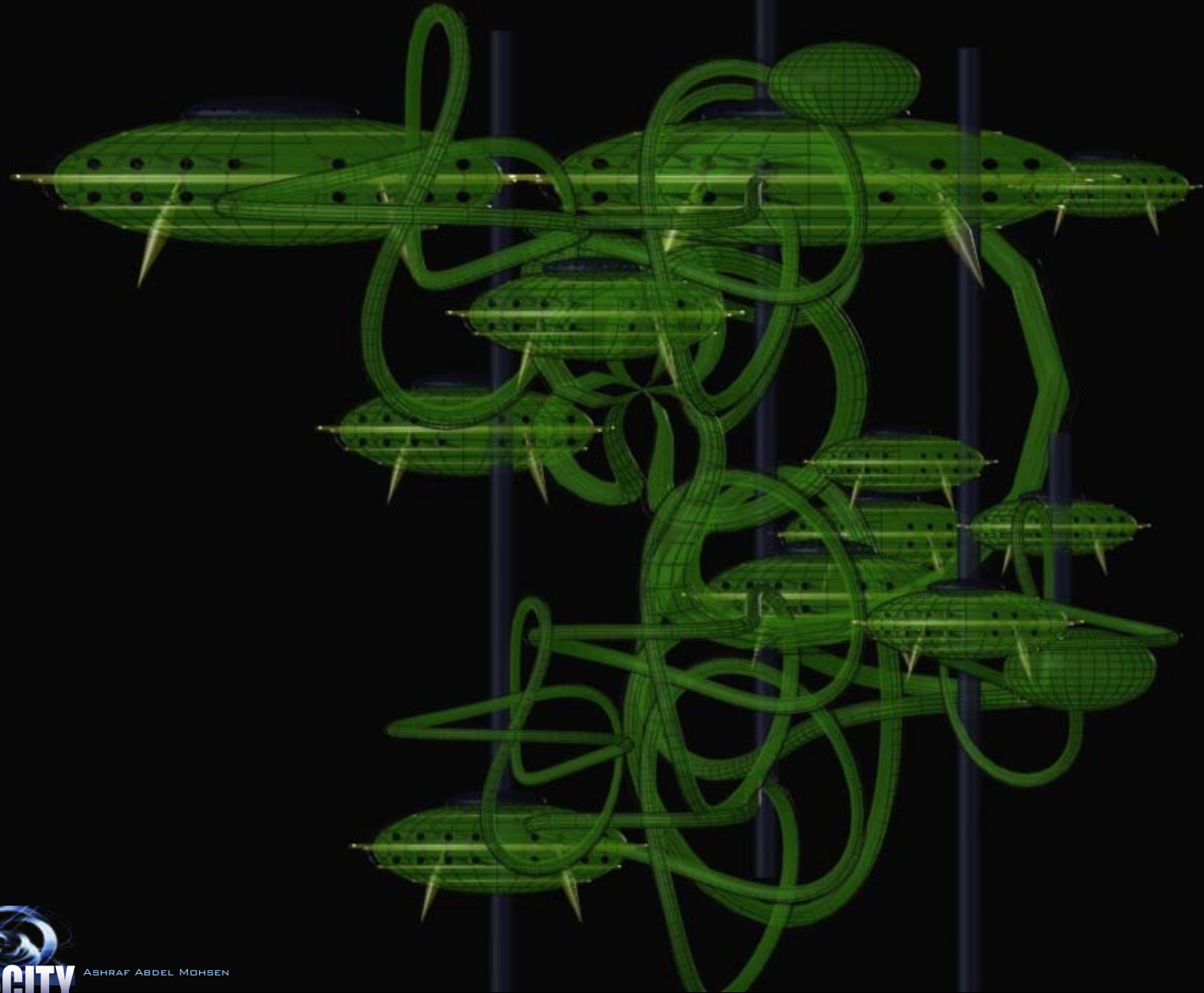
Residential Cells & Urban environment



Residential Cell



Residential Cell



Residential Cell

Urban context
5 to 50 houses

Vanes of energy

Heart of Cell

Brain of Cell

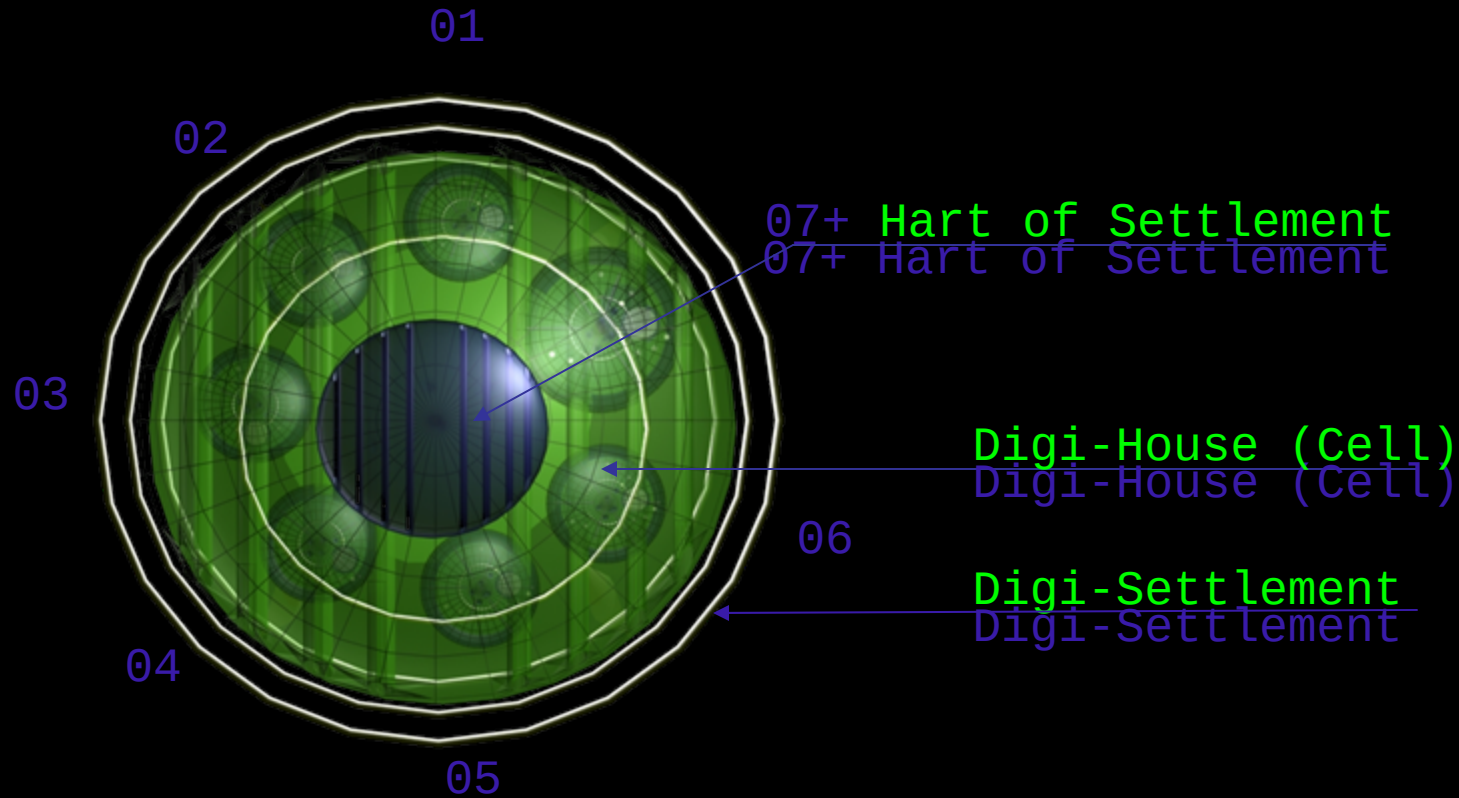
Residential Cell



Residential Cell



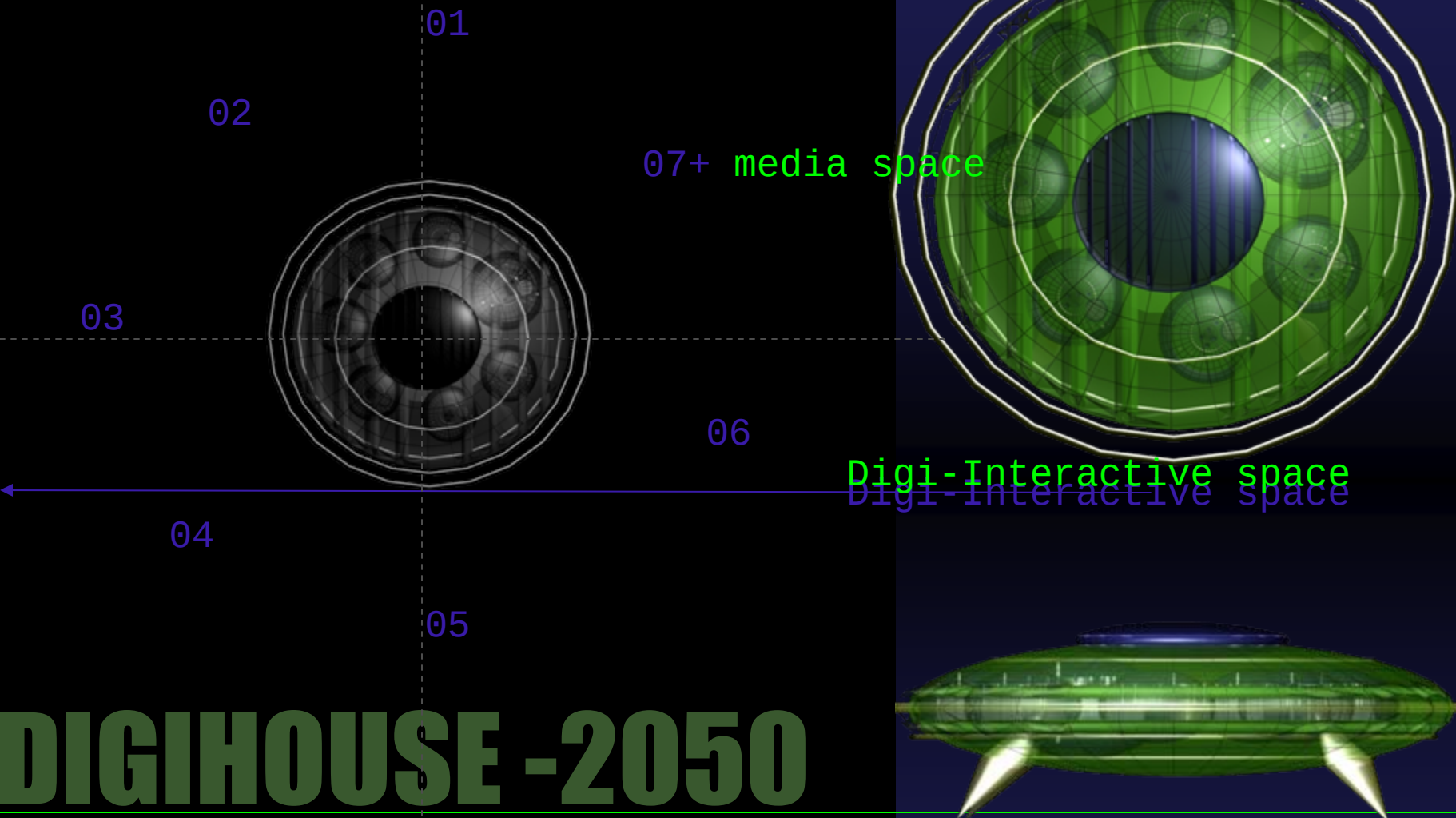
Residential Cell



DIGIHOUSE -2050



Residential Cell



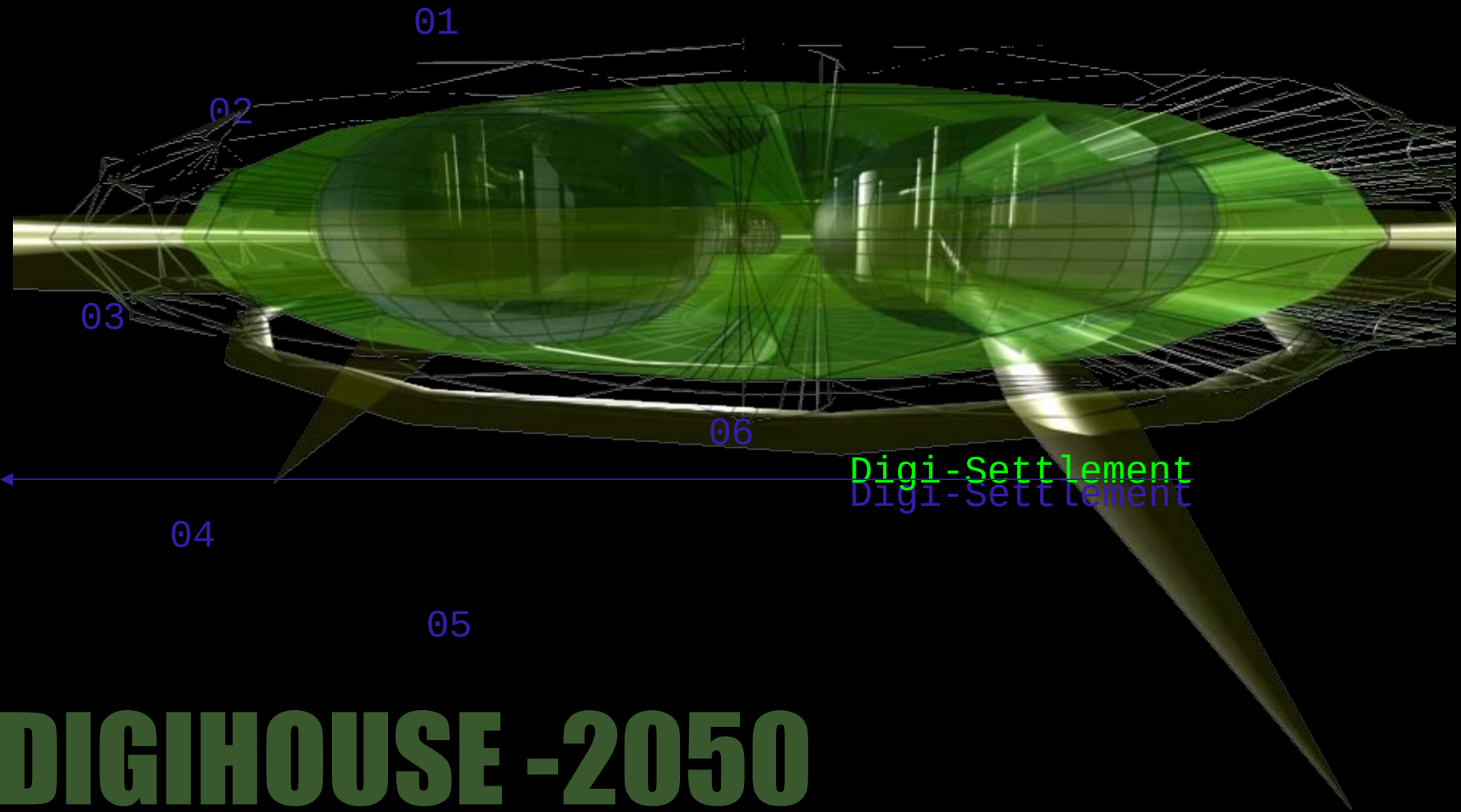
DIGIHOUSE -2050



ASHRAF ABDEL MOHSEN

Marcos Novac

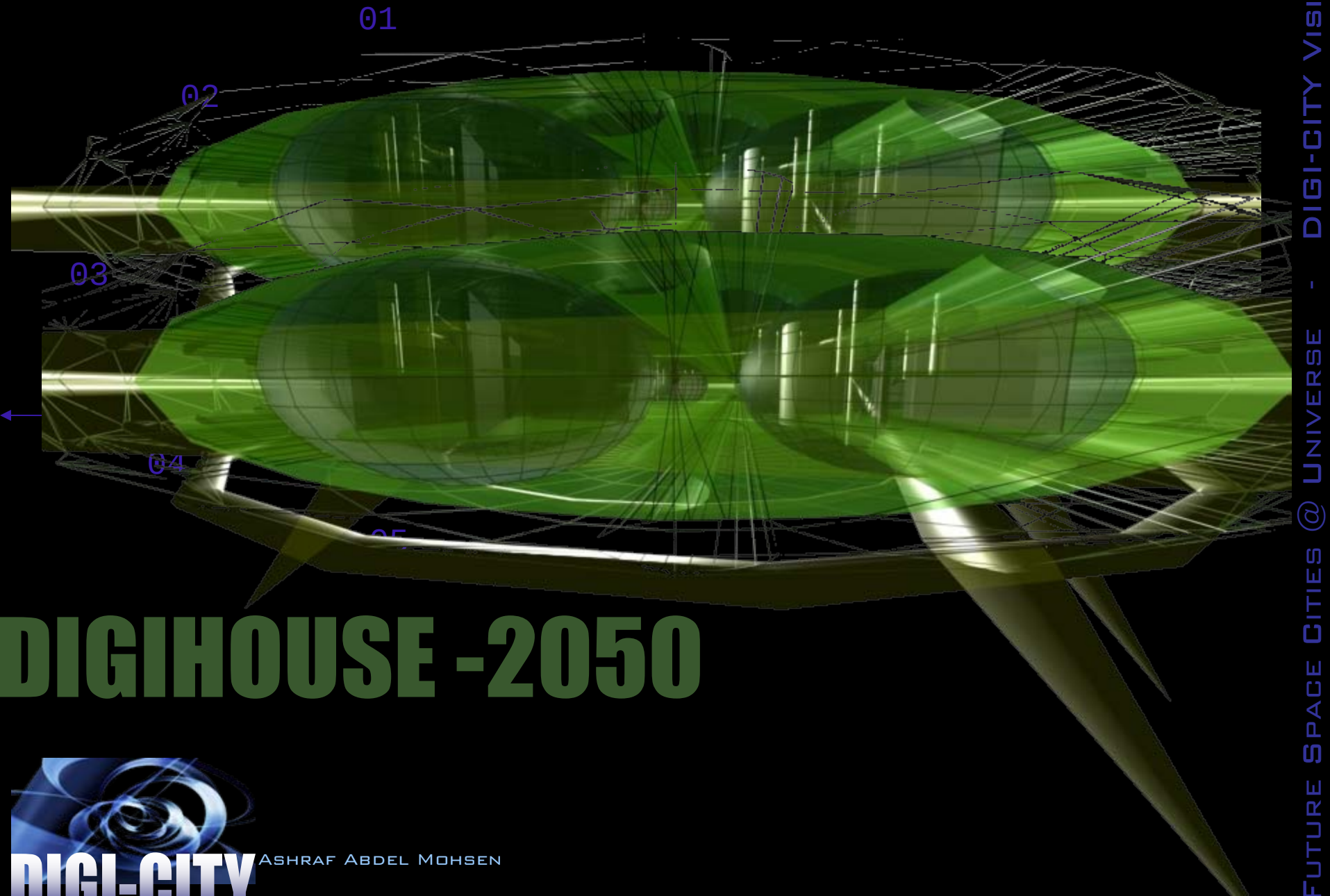
Residential Cell



DIGIHOUSE -2050



Residential Cell



DIGHOUSE -2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ Hart of Settlement

03

06

Digi-Settlement
Digi-Settlement

04

05

DIGIHOUSE-2050



Residential Cell

01

02

07+ Hart of Settlement

03

06

Digi-Settlement
Digi-Settlement

04

05

DIGHOUSE - 2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ digital urban of Settlement

03

06

Digi-Settlement
Digi-Settlement

04

05

DIGIHOUSE-2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ digital urban of Settlement

03

06

Digi-Settlement
Digi-Settlement

04

05

DIGHOUSE -2050

"Media House" will not be "a house with a computer";
instead, the house will be the computer.



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ digital urban of Settlement

03

06

Digi-Settlement

Digi-Settlement

04

05

DIGIHOUSE-2050

DIGI-CITY

ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ digital urban of Settlement

03

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04

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DIGIHOUSE -2050



ASHRAF ABDEL MOHSEN

Residential Cell

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DIGHOUSE 2050



ASHRAF ABDEL MOHSEN

Residential Cell

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DIGIHOUSE-2050

DIGI-CITY

ASHRAF ABDEL MOHSEN

Residential Cell

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DIGIHOUSE-2050



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DIGHOUSE -2050



ASHRAF ABDEL MOHSEN

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DIGIHOUSE -2050



ASHRAF ABDEL MOHSEN

Residential Cell

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DIGIHOUSE-2050



ASHRAF ABDEL MOHSEN

Residential Cell

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Digi-Settlement

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DIGIHOUSE -2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

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06

07+ digital urban of Settlement

DIGIHOUSE -2050

Digi-Settlement
Digi-Settlement



DIGI-CITY

ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ digital urban of Settlement

03

06

Digi-Settlement
Digi-Settlement

04

05

DIGI-HOUSE - 2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ Media house

03

06

DIGI-Reactive House

04

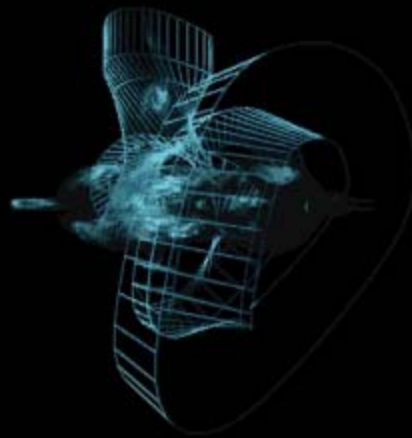
05

DIGI-HOUSE -2050



ASHRAF ABDEL MOHSEN

- LIVE MEDIA HOUSE



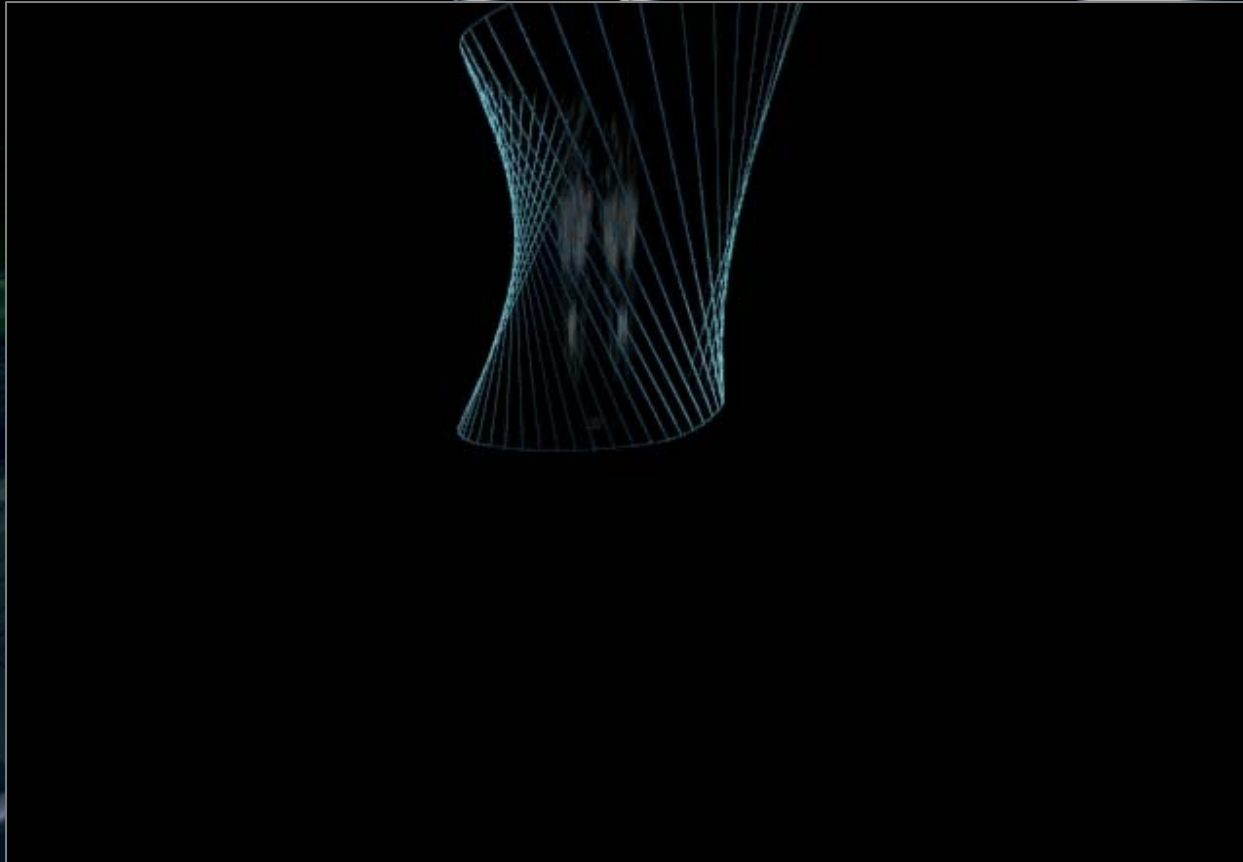
LMH

2050

DIGI-CITY VISION



- LIVE MEDIA HOUSE



LMH

2050

DIGI-CITY VISION



Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House
Digi-Interactive House

04

05

DIGI-HOUSE-2050



ASHRAF ABDEL MOHSEN

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House
Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE-2050

Residential Cell

01

02

07+ media house

03

06

04

05

Digi-Interactive House

Digi-Interactive House



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE -2050

Residential Cell

01

02

07+ media house

03

06

Digi-Interactive House

04

05



ASHRAF ABDEL MOHSEN

DIGI-HOUSE-2050

Residential Cell

01

02

07+ media house

03

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Digi-Interactive House

04

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DIGI-HOUSE -2050

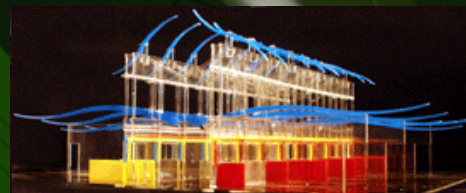


ASHRAF ABDEL MOHSEN

Residential Cell

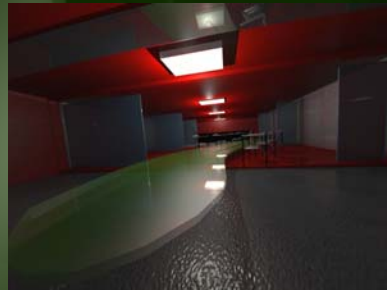
01

02



07+ media house

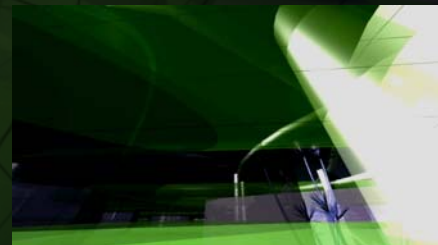
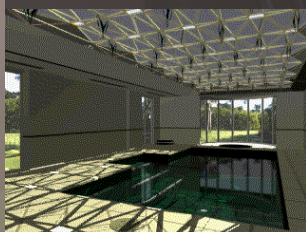
03



Digi-Interactive House

Digi-Interactive House

05



DIGI-HOUSE -2050



ASHRAF ABDEL MOHSEN

residential cell

01

02

03

04

05

07+ media space

06

Digi-Interactive space
Digi-Interactive space

DIGIHOUSE -2050



ASHRAF ABDEL MOHSEN

Marcos Novac

residential cell

01

02

07+ media house

03

06

Digi-Interactive House

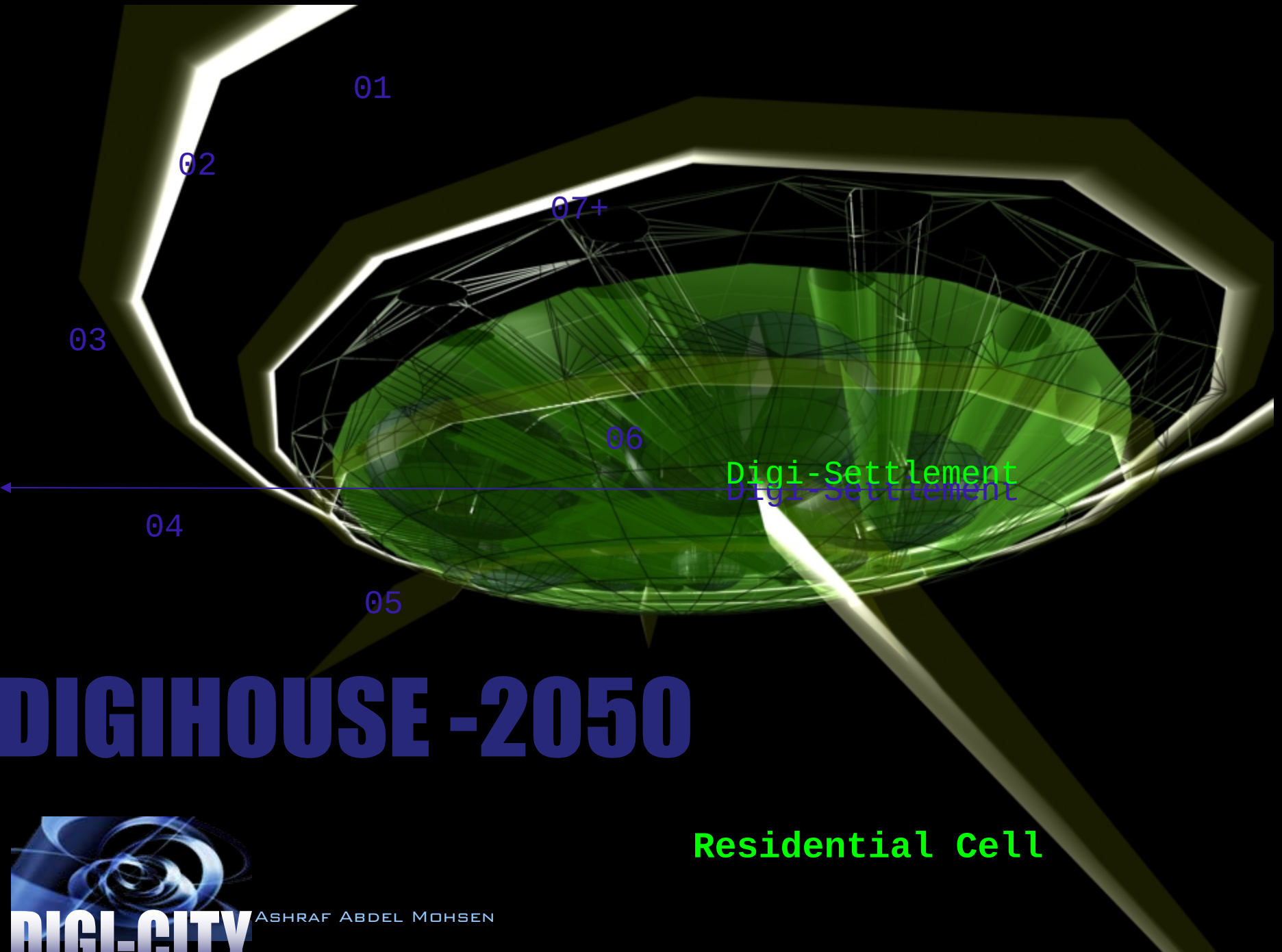
04

05

DIGIHOUSE - 2050



ASHRAF ABDEL MOHSEN



01

02

07+

03

06

Digi-Settlement
Digi-Settlement

04

05

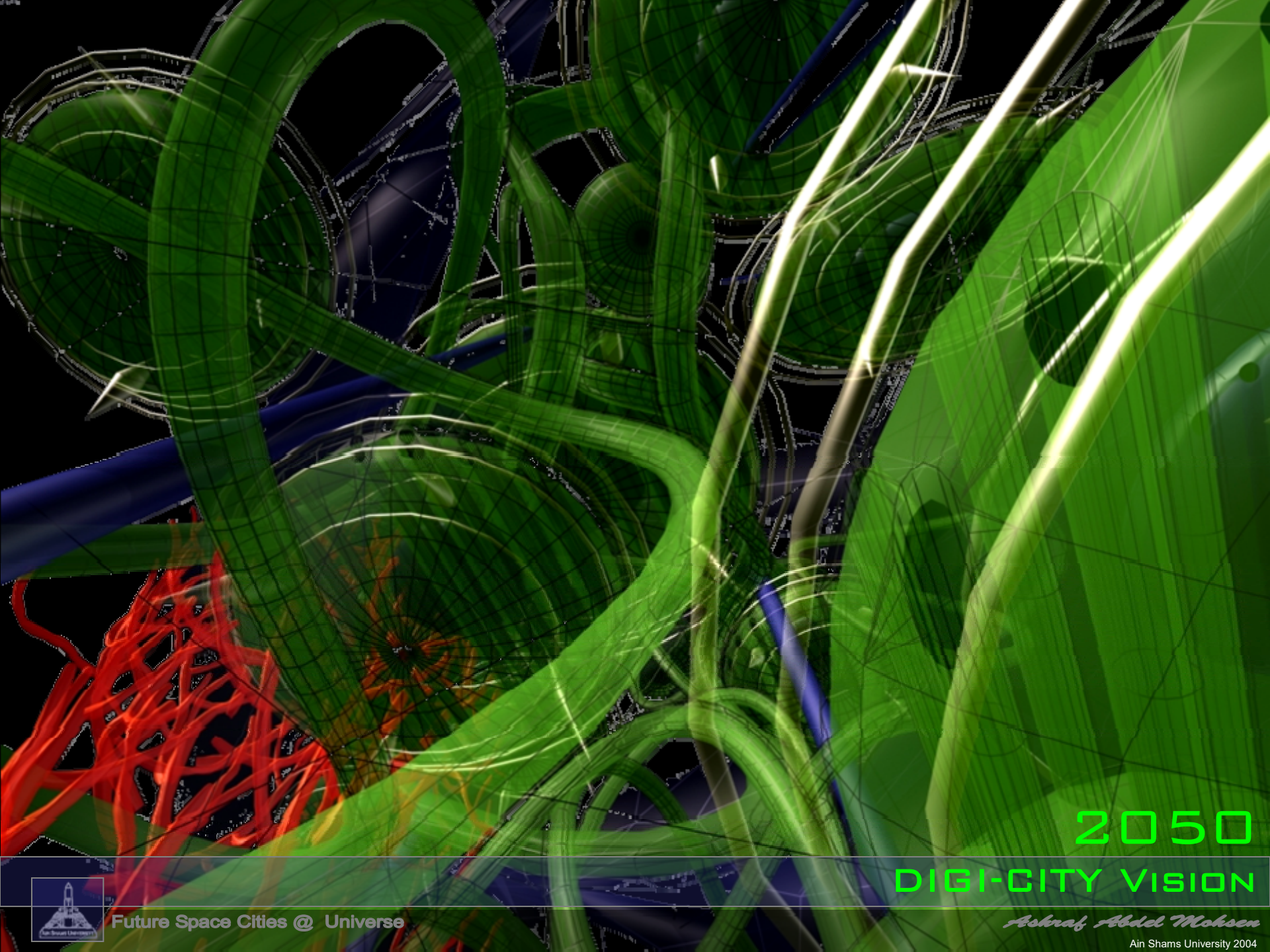
DIGIHOUSE-2050

Residential Cell



DIGI-CITY

ASHRAF ABDEL MOHSEN



2050 DIGI-CITY VISION



Future Space Cities @ Universe

Ashraf Abdel Mohsen

Ain Shams University 2004

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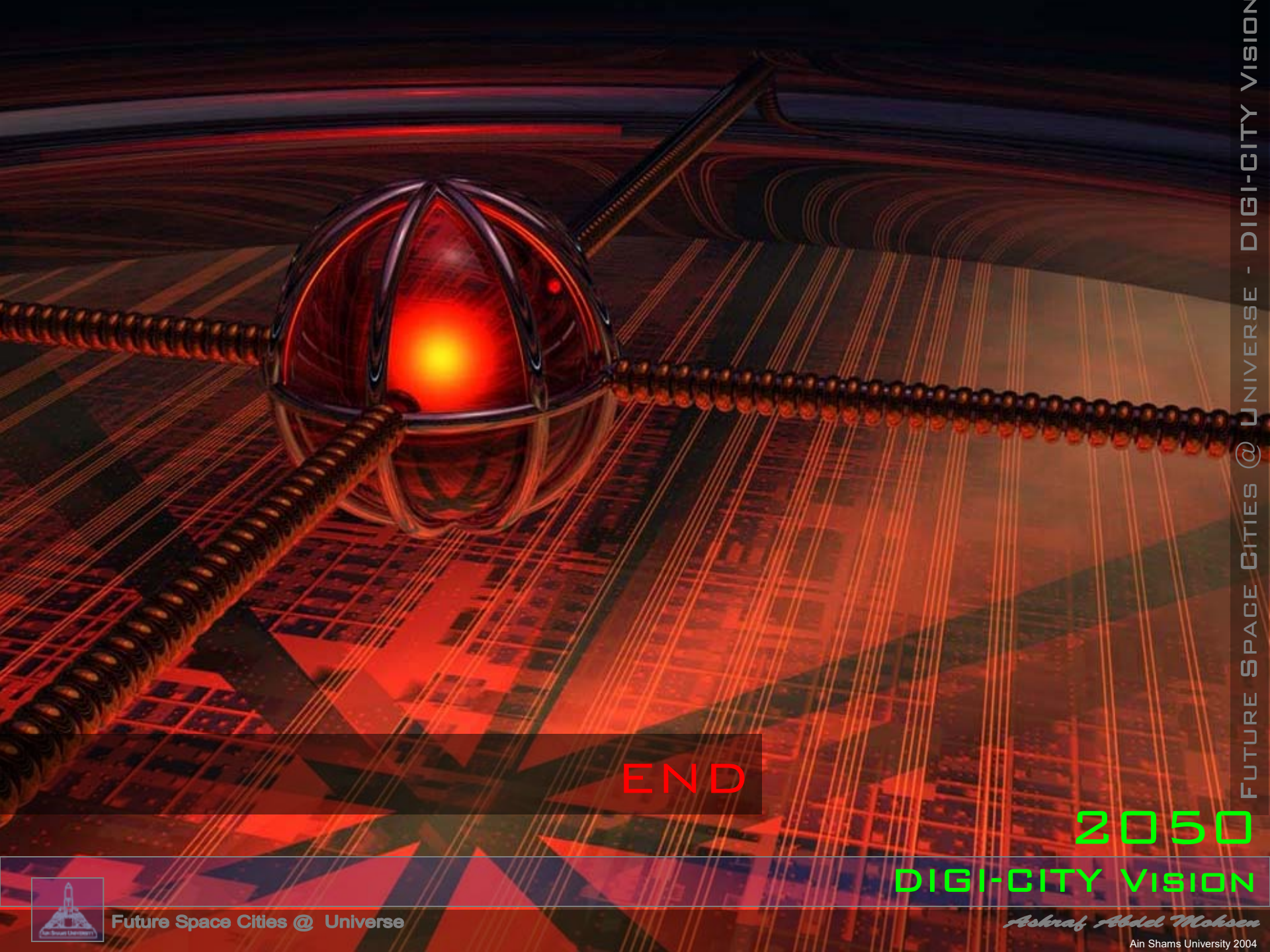
VISION

THIS IS MY VISION TO
THE FUTURE SPACE LIFE
THAT ARCHITECTS WILL
FACE; IT'S A
COMPLICATED VIRTUAL-
REAL CLEAN LIFE.
TECHNOLOGY IS A VAST
GROWTH FIELD.
RESEARCHERS SHOULD
DREAM MORE AND MORE
TO CREATE NEW QUALITY
OF ARCHITECTURE THAT
MATCH ELECTRONIC
MEDIA OF LIFE.
UNIVERSE IS ENDLESS,
OUR MINDS AND
CREATIONS SHOULD BE
ENDLESS IN THE NEXT
ERA, I BELIEVE IT WILL
ACT AS REAL ONE DAY.

2050

DIGI-CITY Vision





END

2050
DIGI-CITY VISION



Future Space Cities @ Universe

Ashraf Abdel Mohsen

Ain Shams University 2004

FUTURE SPACE CITIES @ UNIVERSE - DIGI-CITY VISION