

**DEPT. OF INFORMATION SCIENCE & ENGINEERING**

# ASPIRE

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**EVENTS**

**ARTICLES**

**ACTIVITIES**

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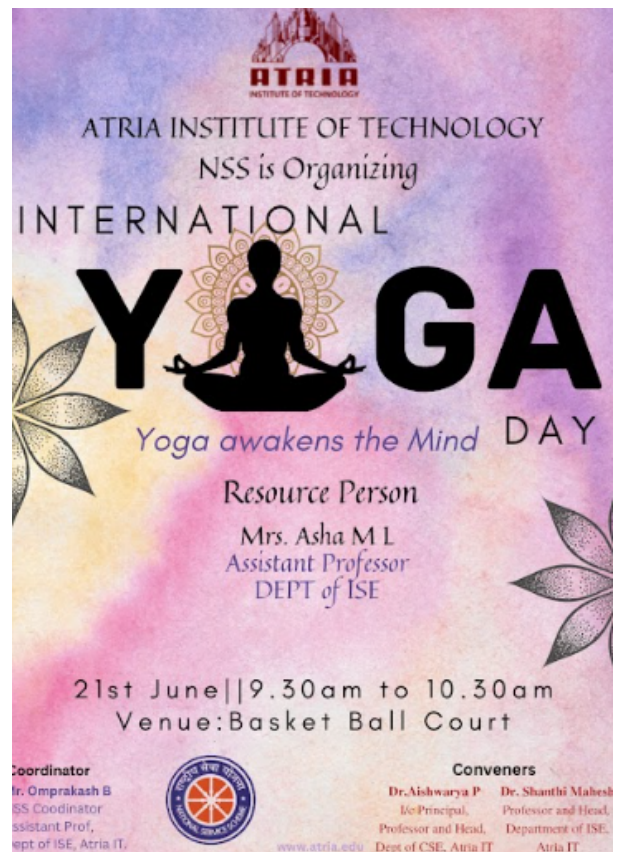
## WEBINARS/ WORKSHOPS/EVENTS/ACTIVITIES



Dept of ISE organized a Training Session on Antiplagiarism tool - Drillbit on 10th June 2023.

This was coordinated by Dr. Usha S P, Cheif Librarian,, Atria IT

Dept of ISE organized a yoga session on International Yoga Day on 21 June 2023. This was coordinated by Prof. Omprakash B



Dept of ISE organized a Tech Talk on Higher Education, Imarticus Learning on 23 June 2023. This was coordinated by Prof. Omprakash B



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## ARTICLES

### THE BITCOIN



Prof. Kavitha Vasanth

BITCOIN BECAME A FIXTURE IN WORLD FINANCIAL NEWS IN LATE 2013 AND EARLY 2014. THE “VIRTUAL CURRENCY” HAD BEEN LAUNCHED FIVE YEARS EARLIER BY COMPUTER HOBBYISTS, AND IN LATE 2013 THE U.S. DOLLAR EXCHANGE RATE FOR ONE BITCOIN ROSE MORE THAN FIVEFOLD IN THE SPACE OF A FEW WEEKS. THE MARKET VALUE OF ONE BITCOIN, WHICH HAD BEGUN TRADING AT LESS THAN FIVE CENTS IN 2010, BRIEFLY EXCEEDED \$1,200.00.

A SUCCESSFUL CURRENCY TYPICALLY FUNCTIONS AS A MEDIUM OF EXCHANGE, A UNIT OF ACCOUNT, AND A STORE OF VALUE. BITCOIN FACES CHALLENGES IN MEETING ALL THREE OF THESE CRITERIA.

#### A. MEDIUM OF EXCHANGE:

BECAUSE BITCOIN HAS NO INTRINSIC VALUE, ITS WORTH ULTIMATELY HINGES UPON ITS USEFULNESS AS A CURRENCY IN THE CONSUMER ECONOMY. EVIDENCE OF BITCOIN’S FOOTPRINT IN DAILY COMMERCE IS MOSTLY ANECDOTAL, CONSISTING OF NEWSPAPER STORIES ABOUT PEOPLE LIVING ONLY BY SPENDING BITCOIN OR ESTIMATES OF LARGE NUMBERS OF BUSINESSES THAT ARE WILLING TO ACCEPT BITCOIN. TO DATE, ONLY ONE ESTABLISHED BUSINESS OF ANY SIZE HAS BEGUN TO TAKE BITCOIN, THE ONLINE RETAILER OVERSTOCK.COM. MOST OF THE RANKINGS OF THE TOP MERCHANTS ACCEPTING BITCOINS ARE DOMINATED BY COMPUTER SOFTWARE AND HARDWARE COMPANIES SELLING PRODUCTS NARROWLY FOCUSED ON BITCOIN APPLICATIONS, AND BY MARKETPLACES OR EXCHANGES PROVIDING INVESTOR SERVICES TO BITCOIN SPECULATORS.

REALISTIC INSIGHT INTO THE ADOPTION OF BITCOIN CAN BE OBTAINED FROM DATA DRAWN FROM THE UNIVERSAL LEDGER OF BITCOIN TRANSACTIONS. ACCORDING TO DATA AVAILABLE AT NUMEROUS WEBSITES, THE RECENT BITCOIN TRANSACTION COUNT HAS PEAKED AT DAILY VOLUMES OF APPROXIMATELY 70,000. HOWEVER, IT IS WIDELY UNDERSTOOD THAT MOST OF THESE TRANSACTIONS INVOLVE TRANSFERS BETWEEN SPECULATIVE INVESTORS, AND ONLY A MINORITY ARE USED FOR PURCHASES OF GOODS AND SERVICES.

#### B. UNIT OF ACCOUNT:

FOR A CURRENCY TO FUNCTION AS A UNIT OF ACCOUNT, CONSUMERS MUST TREAT IT AS A NUMERAIRE WHEN COMPARING THE PRICES OF ALTERNATIVE RETAIL GOODS. FOR INSTANCE, A CUP OF COFFEE THAT COSTS \$4.00 IN ONE CAFÉ IS QUICKLY UNDERSTOOD TO BE TWICE AS EXPENSIVE AS A CUP OF COFFEE SELLING FOR \$2.00 AT ANOTHER CAFÉ DOWN THE STREET. BITCOIN FACES A NUMBER OF OBSTACLES IN BECOMING A USEFUL UNIT OF ACCOUNT. ONE PROBLEM ARISES FROM ITS EXTREME VOLATILITY, AN ISSUE DISCUSSED IN FURTHER DETAIL BELOW. BECAUSE THE VALUE OF A BITCOIN COMPARED TO OTHER CURRENCIES CHANGES GREATLY ON A DAY-TO-DAY BASIS, RETAILERS THAT ACCEPT THE CURRENCY HAVE TO RECALCULATE PRICES VERY FREQUENTLY, A PRACTICE THAT WOULD BE COSTLY TO THE MERCHANT AND CONFUSING TO THE CONSUMER. IN PRINCIPLE THIS ISSUE WOULD REcede IN AN ECONOMY THAT USED BITCOIN AS ITS PRINCIPAL CURRENCY, BUT NO SUCH PLACE EXISTS IN TODAY’S WORLD.

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## ARTICLES

### THE BITCOIN (CONTD..)

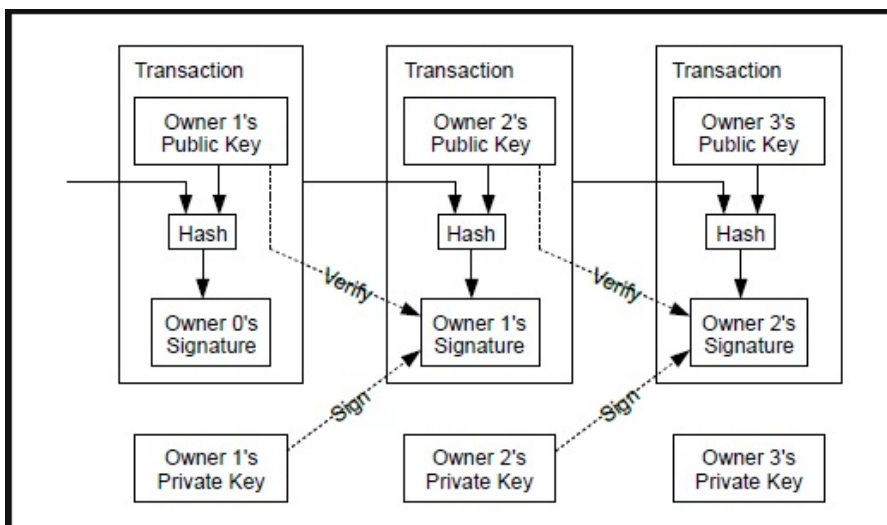
A RELATED PROBLEM STEMS FROM THE DIVERSITY OF "CURRENT MARKET PRICES" THAT ONE CAN OBTAIN FOR BITCOIN AT ANY GIVEN TIME. FOR INSTANCE, AT THE MOMENT OF WRITING THIS PARAGRAPH, I CONSULTED A WIDELY USED WEBSITE THAT POSTS THE PRICES OF BITCOINS ON MARKETS AROUND THE WORLD. THE FIVE EXCHANGES WITH THE HIGHEST TRADING VOLUME QUOTED U.S. DOLLAR PRICES FOR ONE BITCOIN OF \$454.81, \$453.60, \$462.12, \$450.84, AND \$480.15, ALL FOR TRADES HAVING TAKEN PLACE WITHIN THE SEVERAL MINUTES. THIS DISPARITY OF MARKET VALUES, RANGING BY ALMOST 7% BETWEEN THE HIGH AND LOW QUOTES, IS A CLEAR VIOLATION OF THE CLASSICAL LAW OF ONE PRICE, AND IT WOULD BE UNTHINKABLE FOR THESE CONDITIONS TO PERSIST IN A DEVELOPED CURRENCY MARKET DUE TO THE EASE OF ARBITRAGE.

THE UNCERTAIN MARKET VALUE OF ONE BITCOIN PRESENTS A CONUNDRUM FOR ANY THIRD PARTY VENDOR OR CUSTOMER SEEKING TO ESTABLISH A VALID REFERENCE POINT FOR SETTING CONSUMER PRICES. AS A RESULT, MANY WEBSITES HAVE TAKEN TO RELYING UPON UNWIELDY PRICE AGGREGATIONS, SUCH AS THE AVERAGE BITCOIN PRICE OVER SEVERAL EXCHANGES OVER THE PAST 24 HOURS, BUT THESE AGGREGATES DO NOT INDICATE TO MERCHANTS AND CONSUMERS THE TRUE COST OF PROCURING OR SELLING A BITCOIN AT THE PRESENT TIME.

#### TRANSACTIONS:

WE DEFINE AN ELECTRONIC COIN AS A CHAIN OF DIGITAL SIGNATURES. EACH OWNER TRANSFERS THE COIN TO THE NEXT BY DIGITALLY SIGNING A HASH OF THE PREVIOUS TRANSACTION AND THE PUBLIC KEY OF THE NEXT OWNER AND ADDING THESE TO THE END OF THE COIN. A PAYEE CAN VERIFY THE SIGNATURES TO VERIFY THE CHAIN OF OWNERSHIP.

THE PROBLEM OF COURSE IS THE PAYEE CAN'T VERIFY THAT ONE OF THE OWNERS DID NOT DOUBLE-SPEND THE COIN. A COMMON SOLUTION IS TO INTRODUCE A TRUSTED CENTRAL AUTHORITY, OR MINT, THAT CHECKS EVERY TRANSACTION FOR DOUBLE SPENDING. AFTER EACH TRANSACTION, THE COIN MUST BE RETURNED TO THE MINT TO ISSUE A NEW COIN, AND ONLY COINS ISSUED DIRECTLY FROM THE MINT ARE TRUSTED NOT TO BE DOUBLE-SPENT. THE PROBLEM WITH THIS SOLUTION IS THAT THE FATE OF THE ENTIRE MONEY SYSTEM DEPENDS ON THE COMPANY RUNNING THE MINT, WITH EVERY TRANSACTION HAVING TO GO THROUGH THEM, JUST LIKE A BANK.





# VISION

TO DEVELOP COMPETENT PROFESSIONALS WITH STRONG FUNDAMENTALS IN INFORMATION SCIENCE AND ENGINEERING, INTERDISCIPLINARY RESEARCH AND ETHICAL VALUES FOR THE BETTERMENT OF THE SOCIETY.

# MISSION

M1 - TO ESTABLISH A TRANSFORMATIONAL LEARNING AMBIENCE WITH GOOD INFRASTRUCTURE FACILITIES TO IMPART KNOWLEDGE AND THE NECESSARY SKILL SET TO PRODUCE COMPETENT PROFESSIONALS.

M2 - TO CREATE A NEW GENERATION OF ENGINEERS WHO EXCEL IN THEIR CAREER WITH LEADERSHIP/ENTREPRENEUR QUALITIES.

M3 - TO PROMOTE SUSTAINED RESEARCH AND INNOVATION WITH AN EMPHASIS ON ETHICAL VALUES.

<https://atria.edu/dept-se.php>



## **EDUCATIONAL OBJECTIVES OF THE PROGRAM(PEO)**

**PEO1:** TO EXPERTISE IN PROBLEM ANALYSIS, SOLVING, DESIGN, DEVELOPMENT AND NECESSARY INFORMATION TO MEET TECHNICAL AND MANAGERIAL CHALLENGES.

**PEO2:** TO PURSUE INTERDISCIPLINARY RESEARCH AND HIGHER STUDIES WITH PROFOUND KNOWLEDGE ENRICHED WITH ACADEMICS AND INFORMATION TECHNOLOGY SKILLS.

**PEO 3:** TO EXCEL IN COMPETITIVE ENVIRONMENT TOWARDS LEADERSHIP AND LIFE-LONG LEARNING FOR A SUCCESSFUL PROFESSIONAL CAREER.

## **PROGRAM SPECIFIC OUTCOMES (PSO)**

**PSO1:** ABLE TO FIND THE SOLUTIONS TO PROBLEMS USING PROGRAMMING LANGUAGES BY APPLYING THE SUITABLE DATA AND FILE STRUCTURES CONCEPT AND OBTAIN OPTIMAL PERFORMANCE THROUGH DESIGN AND ANALYSIS OF ALGORITHMS.

**PSO2:** ABLE TO WORK ON THE RECENT TECHNOLOGIES BY MANAGING AND ORGANIZING THE PROCESSED DATA FOR NEW GROWTH OF OPPORTUNITIES IN THE INDUSTRIES EXPLORING WEB DESIGNING AND SIMULATING THE REAL WORLD PROBLEMS.

**PSO3:** ABLE TO APPLY THE PRINCIPLES OF SOFTWARE ENGINEERING TO DEVELOP COMPUTATIONAL MODELS UNDER REALISTIC CONSTRAINTS AND ABILITY TO PROVIDE SOLUTIONS BASED ON THE EXPERTISE IN NETWORKING, DATABASE MANAGEMENT AND ENTREPRENEURSHIP TO THE VARIOUS NEEDS.

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