

Patent Analysis

Training report submitted in partial fulfillment of the
requirement for the degree of Bachelor of Technology

in

**Computer Science and Engineering/Information
Technology**

By

Simarjot Singh (191242)

UNDER THE GUIDANCE OF

Dr. Diksha Hooda

Assistant Professor (Grade-II)

to



Department of Computer Science & Engineering and
Information Technology

**Jaypee University of Information Technology
Waknaghat, Solan-173234, Himachal Pradesh**

Candidate's Declaration

I hereby declare that the work presented in this report entitled “**Patent Analysis**” in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science and Engineering/Information Technology** submitted in the department of Computer Science & Engineering and Information Technology, Jaypee University of Information Technology Waknaghat is an authentic record of my own work carried out over a period from February 2023 to May 2023 under the supervision of **Dr. Diksha Hooda** (Assistant Professor (Grade-II)).

I also authenticate that I have carried out the above mentioned project work under the supervision of GREYB.

The matter embodied in the report has not been submitted for the award of any other degree or diploma.

(Student Signature)
Simarjot Singh, 191242.

This is to certify that the above statement made by the candidate is true to the best of my knowledge.

(Supervisor Signature)
Dr. Diksha Hooda
(Assistant Professor (Grade-II))
Computer Science And Engineering
Dated:

PLAGIARISM CERTIFICATE

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT PLAGIARISM VERIFICATION REPORT

Date:

Type of Document (Tick): PhD Thesis M.Tech Dissertation/ Report B.Tech Project Report Paper

Name: _____ Department: _____ Enrolment No _____

Contact No. _____ E-mail. _____

Name of the Supervisor: _____

Title of the Thesis/Dissertation/Project Report/Paper (In Capital letters): _____

UNDERTAKING

I undertake that I am aware of the plagiarism related norms/ regulations, if I found guilty of any plagiarism and copyright violations in the above thesis/report even after award of degree, the University reserves the rights to withdraw/revoke my degree/report. Kindly allow me to avail Plagiarism verification report for the document mentioned above.

Complete Thesis/Report Pages Detail:

- Total No. of Pages =
- Total No. of Preliminary pages =
- Total No. of pages accommodate bibliography/references =

(Signature of Student)

FOR DEPARTMENT USE

We have checked the thesis/report as per norms and found **Similarity Index** at.....(%). Therefore, we are forwarding the complete thesis/report for final plagiarism check. The plagiarism verification report may be handed over to the candidate.

(Signature of Guide/Supervisor)

Signature of HOD

FOR LRC USE

The above document was scanned for plagiarism check. The outcome of the same is reported below:

Copy Received on	Excluded	Similarity Index (%)	Generated Plagiarism Report Details (Title, Abstract & Chapters)		
	<ul style="list-style-type: none"> <input type="checkbox"/> All Preliminary Pages <input type="checkbox"/> Bibliography/ Images/Quotes <input type="checkbox"/> 14 Words String 		Word Counts		
Report Generated on			Submission ID	Character Counts	
				Total Pages Scanned	
			File Size		

Checked by
Name & Signature

Librarian

Please send your complete thesis/report in (PDF) with Title Page, Abstract and Chapters in (Word File) through the supervisor at plagcheck.juit@gmail.com

ACKNOWLEDGEMENT

This training opportunity at GreyB Services is a great chance for learning and professional development. I would like to express my deepest gratitude and special thanks to the founders and Directors of the company Mr. Deepak Syal and Mr. Chakshu Kalra who in spite of being extraordinarily busy with their duties, took time out to hear, guide and keep me on the correct path of learning and developing.

I express my deepest thanks to Mr. Muzammil Hassan, Manager, Patent Monetization Team for taking part in useful decision & giving necessary advices and guidance and arranged all facilities in the office.

I also pay my gratitude to Mrs. Vincy Khandpur, Team Lead, Patent Monetization Team for her supervision and invaluable guidance.

It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to my mentor, Mr. Aadarsh Sharma, Research Associate for his careful and precious guidance which were extremely valuable for my training.

I would like to acknowledge guidance of my institute mentor, Dr. Pardeep Kumar who constantly guide me during my training and suggest me to improve on every aspect.



Date: May 8th, 2023
Ref. No. GB/OP-HR/TRA-091

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Simarjot Singh is working as a Trainee Research Analyst with our organization since Feb, 2023 to till date.

During internship with GreyB, Simarjot has worked on multiple Patent Monetization Projects but due to confidentiality issues we are unable to disclose project details.

This document is confirming his successful training completion with us.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Pooja Sehgal".

Pooja Sehgal
Sr. Manager HR

GreyB Research Pvt. Ltd.

ADDRESS-EL-654, INDUSTRIAL AREA, PHASE-9, MOHALI (PUNJAB)160062 INDIA

✉ info@greyb.com

🌐 www.greyb.com

☎ 8427102546

TABLE OF CONTENTS

CONTENT	PageNo.
LIST OF FIGURES	vi
ABSTRACT	vii
CHAPTER 1: INTRODUCTION	1
1.1 About GreyB Services	1
1.2 Goal	1
1.3 Teamwork	1
1.4 Work at GreyB	2
1.5 Methodology	2
1.5.1 SEP Analysis	4
1.6 Organization Of Report	5
1.6.1 USPTO	5
1.6.2 EPO	6
1.6.3 World Intellectual Property Organization	7
1.7 Organization of report	8
CHAPTER 2: LITERATURE SURVEY	9
2.1 Intellectual Property-Definition	9
2.2 Types of Intellectual Property	10
2.2.1 Patent	11
2.2.1.1 Purpose	12
2.2.1.2 Reasons	13
2.2.1.3 Criteria for Patenting	15
2.2.2 What is trademark?	17
2.2.2.1 Registering trademark pros	18
2.2.3 Copyright	20
2.2.3.1 What is copyright protects?	22
2.2.4 Objective	23
2.2.5 Industrial Design Rights	24

2.2.6 Trade Secrets	26
2.3 Types of Patent Issued	27
2.4 What does a patent looks like?	28
2.4 Patent Laws	31
CHAPTER 3: SYSTEM DEVELOPMENT	33
3.1 Prior Art Search	33
3.2 Infringement Analysis	34
3.2.1 SEP's Analysis	36
3.3 Landscape Analysis	38
CHAPTER 4: PERFORMANCE ANALYSIS	41
4.1 Fintech	41
4.1.1 Lending	42
4.1.2 Payments	43
4.1.3 Money Transferred Internationally	44
4.1.4 Personal Finance	45
4.1.5 Equity Financing	47
4.1.6 Customer Banking	48
4.1.7 Insurance	49
4. Invalidation Search	50
4.2.1 Search Subject	50
4.2.2 Search Strategy	51
4.2.3 Search Report Structure	52
4.3 Sensing Technologies	53
CHAPTER 5: CONCLUSION	54
5.1 Conclusions	54
REFERENCES	55

LIST OF FIGURES

Figure 1	Types of IP
Figure 2	Reason for Patenting
Figure 3	Front for the patent application

ABSTRACT

It is accepted that 80% of distributed science and innovation data contained in licenses isn't distributed anywhere else. There are actually a huge number of distributed licenses and patent application references accessible for audit by people in general. This staggering fortune trove of data must be made valuable by recognizing the basic, pertinent references in a given innovation and afterward examining those references in a way that gives data to noteworthy dynamic.

Patent scene investigation, frequently alluded to as "patent mapping" is a demonstrated multistep process, utilizing PC programming and human insight, to parse through, compose and extricate an incentive from this tremendous measure of data. More or less, patent scene investigation gives understanding into the developments that underlie innovation and items. A finished patent scene investigation venture comprises of a lot of specialized references and going with examination from which significant lawful, business, and innovation data can be separated. This data empowers enormous enterprises, new companies, colleges, explore foundations, and financial specialists to comprehend and settle on educated choices preceding putting time and cash into new innovation and item advancement openings.

Patent scene investigation gives an astounding stage to energize thought pioneers from various branches of an association to impart with respect to key business issues. Patent scene investigation improves between departmental correspondences and animates an all-encompassing and brought together inward business process that pervades all through the associat

CHAPTER 1

INTRODUCTION

1.1 About GreyB Services

GreyB is a professional service based out of Singapore and India. GreyB has been helping companies to make profits from their intelligent property and innovations working in an off the site or on the site model. Our customer portfolio comprises of organizations, law offices, item advancement organizations, R&D divisions, in-house IP office, patent gatherings, patent lawyers, Private Equity Funds, IP driven investors, budgetary financial specialists, IP financier firms and scholarly foundations.

Our affiliation incorporates improvement of the official's professionals with experience and wellness in performing study required for sensible creation, the board and commercialization of approved turn of events and extended length practices in new advances. Our answer suite sorts out get some information about on patent information, clever diaries and market information to help crucial trade choices. GreyB makes strategy suites to assist customers with data expected to heighten the worth got from approved progression.

1.2 Goal

The objective is to draw in customers with custom study and assessment on licenses and business material to make advancement theories. Our agent are sifted through upon industry lines, with focal points of fitness in semiconductor, media transmission, electricity based and automatic equipment, metals and material science, programming, high-advancement, customer things, white product, medicine making companies, clinical contraptions/medicinal administrations, biotechnology, solid state material science, compound and science, oil and gas and present day assembling.

1.3 Team Work

Our team designs the client responsibility and work-conveyance model to streamline in correspondence interface, satisfactorily uncover the key business

drivers or inquiries behind an errand, tailor fit the game plan suite to offer responses. This mix of client closeness, examining of research methodology on adventure premise connects with us with preferred assistance over the clients.

1.4 Work at GreyB

We work with lawful and in-house patent specialists, patent attorneys(USPTO and EPO rehearses), corporate IP/patent groups, item advancement administrators, innovation licensing groups, R&D stakeholders, IP dealers and prosecution specialists.

1.5 Methodology

In order to assist businesses in making educated decisions on their intellectual property, a patent research analyst is responsible for performing research on patents. Here is a step-by-step explanation of a patent research analyst's methodology:

1. Determine the research's purpose as the first stage in the process of developing a patent. This might entail detecting possible rivals, evaluating the dangers of patent infringement, or calculating the worth of a patent portfolio.
2. Conduct a preliminary search to find pertinent patents: The next stage is to carry out a preliminary search. Various databases, including those maintained by the WIPO (World Intellectual Property Organisation) and the USPTO (United States Patent and Trademark Office), can be used for this.
3. Examine the patent data: Following the discovery of pertinent patents, the patent research analyst will examine the patent data. To comprehend the extent of the innovation, read the patent claims, descriptions, and illustrations.
4. Analyse the patent data: The data pertaining to patents will be examined next. This involves summarising the invention's essential components and contrasting it with similar patents.

5. The patent research analyst can locate possible rivals who have patents in related sectors or who have patented comparable innovations by analysing the patent material.
 6. Analyse patent infringement risks: Following the identification of possible rivals, the patent research analyst will assess the risks associated with patent infringement. This entails evaluating the extent of the patent claims and deciding if the company's goods or services could violate these patents.
 7. The patent research analyst will examine the patents in the portfolio to ascertain their commercial viability and evaluate their market worth if the study aim is to ascertain the value of a patent portfolio.
 8. Report the findings: At last, the patent research analyst will inform the pertinent parties of the investigation's findings. This could entail making suggestions for how to proceed with a patent application or highlighting possible threats and gains associated with the patent portfolio.
- These procedures may be used by a patent research analyst to give organisations insightful information about their intellectual property and assist in the formulation of sound patent strategy.

1.5.1 SEP ANALYSIS

An organization's internal strengths, external opportunities, and prospective dangers are assessed using a SEP analysis, a strategic planning method. Strengths, Weaknesses, Opportunities, and Threats is the acronym's full name. Here is a step-by-step instruction sheet for performing a SEP analysis:

1. Specify the goal: Find out why a SEP analysis is being done. Are you trying to analyse your existing performance, introduce a new product, or grow your company?
2. Clarify the scope: Set the parameters for the analysis. Are you looking at the whole company or just a certain division or product line?

3. Information gathering Collect information from a variety of sources, including both internal and external sources, like as financial statements, consumer surveys, and employee feedback.
4. Create a SWOT matrix using the data you received and perform a SWOT analysis. Determine the organization's advantages, disadvantages, strengths, and dangers. Opportunities and dangers are external elements, but strengths and weaknesses are internal ones.
5. Analyse the results: After you've finished your SWOT analysis, go through the results to look for patterns, trends, and areas that need your attention. The most important strengths, weaknesses, opportunities, and dangers that emerged, ask yourself.
6. Issues should be prioritised based on importance and urgency. Sort the issues found in the analysis. Concentrate on the problems that will most affect the accomplishment of your organisational objectives.
7. Create strategies: Create strategies to take use of your advantages, correct your weaknesses, take advantage of opportunities, and neutralise threats. Make sure to take into account the effects that any plan will have on the assets, processes, and stakeholders of your organization.
8. Execute and keep an eye on: Implement your created techniques, then keep an eye on how well things work. To make sure that your goals are being attained, modify your techniques as necessary.

By following these steps, you can carry out a complete SEP analysis that offers insightful information about the opportunities, risks, and strengths of your organisation and aids in the decision-making process for achieving your objectives.

1.6 Organizations for IP

1.6.1 USPTO

A federal organisation called the United States Patent and Trademarks Office (USPTO) is in charge of issuing patents and registering trademarks in the country. The USPTO has its headquarters in Alexandria, Virginia, and additional offices in Washington, D.C., and Dallas, Texas. It is governed by the US Department of Commerce.

The USPTO's main responsibilities include examining new and beneficial discoveries, methods, and designs to grant patents, as well as registering trademarks for goods and services. In addition to searching, examination, and issue of patents and trademarks, the USPTO also offers a variety of other services to businesses, entrepreneurs, and innovators. The office also keeps a sizable database of registered trademarks and patents that is open to public investigation.

To assess patent applications and determine whether they satisfy the legal requirements for patentability, the USPTO employs a highly skilled workforce of patent examiners, attorneys, and support personnel. To ensure that the new invention is innovative and non-obvious, the examination procedure entails a thorough evaluation of the invention, including a thorough search of existing patents and publications. The USPTO also offers advice to lawyers and inventors on how to file a patent application and the criteria for receiving a patent.

The USPTO is in charge of enforcing intellectual property laws and policies in addition to awarding patents and registering trademarks. In order to combat intellectual property infringement and piracy both locally and abroad, the office closely collaborates with law enforcement authorities and other governmental organisations. In order to raise knowledge of intellectual property rights, promote innovation, and foster creativity, the USPTO also offers educational and outreach programmes.

In general, the USPTO is essential to the defence and advancement of intellectual property rights in the country. Its efforts support economic development, innovation, and consumer protection from piracy and counterfeit goods.

1.6.2 EPO

In order to grant European patents in accordance with the European Patent Convention (EPC), the European Patent Organisation (EPO) was founded as an intergovernmental organisation in 1977. Munich, Germany serves as the EPO's main office, and Berlin, The Hague, and Vienna serve as satellite locations. All 27 nations that make up the European Union are among the 38 nations that make up the organisation.

The EPO is in charge of issuing patents that are recognised throughout the 600 million plus residents of its member states. By submitting a single application to the EPO, it offers a centralised patent granting process that enables inventors to simultaneously acquire patent protection for their discoveries in multiple European nations. If the invention passes the required tests, the EPO thoroughly examines the application and issues a patent that is valid in all the designated member states.

In addition, the EPO is in charge of maintaining a public database of all European patents and patent applications that have been issued. Anyone can search for and view data about patents and patent applications that have been filed with the EPO using this database, known as the European Patent Register.

The EPO offers a variety of other services in addition to granting patents, such as legal and technical counsel, training for patent examiners, and collaboration with other patent offices throughout the world. By assisting inventors in securing intellectual property rights and commercialising their products, the organisation plays a significant part in fostering innovation and economic growth in Europe.

To ensure a uniform patent system, the EPO collaborates closely with national patent offices in the member states. Although it is up to each state to enforce the patent rights within its own territory, it examines patent applications and grants patents that are valid in all member states.

The EPO offers a variety of tools and services in addition to its primary duty of granting patents to assist companies and inventors in navigating the patent

system. These consist of legal resources, patent search engines, and online databases.

Overall, the EPO is essential to the European patent system because it offers a streamlined and effective method for getting patent protection in a wide number of nations.

1.6.2 World Intellectual Property Organization

In order to promote and defend intellectual property (IP) rights globally, the United Nations has established the World Intellectual Property Organisation (WIPO). With the aim of fostering creativity and innovation through the creation of an international legal framework for the protection of intellectual property rights, the organisation was founded in 1967.

WIPO's part states choose the imperative course and activities of the Organization. They meet in the Assemblies, working gatherings and working social affairs. The staff of WIPO is drawn from in excess of 90 nations. They give the aptitudes and experience to convey WIPO's differing administrations and programs, and to guarantee the effective association of the organization.

WIPO has 193 member states and its headquarters are in Geneva, Switzerland. The administration of international IP treaties, the provision of services for trademark and patent registration, and the distribution of information and resources to aid in the protection of IP rights are among its main functions.

International IP rules and policies are developed in large part thanks to WIPO. It promotes the use of IP for the advancement of economic, social, and cultural development while working to ease coordination and cooperation among its member states. Additionally, WIPO carries out research and offers technical support to assist nations in enhancing their capacity for the efficient management and protection of IP rights.

In conclusion, WIPO is an international organisation that supports and defends intellectual property rights in order to encourage innovation and economic development. WIPO works to establish a just and equitable worldwide IP

system that benefits creators, innovators, and society at large through its many operations and projects.

1.7 ORGANIZATION OF REPORT:

Chapter 1 gives the brief introduction of the type of work done in GREYB.

Chapter 2 contains literature surveys that provide information about the IP.

Chapter 3 provides an overview of the work done in GREYB

Chapter 4 presents the project I worked upon as an intern in GreyB.

Chapter 5 contains conclusion of my work as an intern in GreyB.

CHAPTER 2

LITERATURE SURVEY

2.1 Intellectual Property-Definition

Intellectual property (IP) is a legal term that refers to intangible assets produced by human ingenuity and creativity. Inventions, literary and creative works, symbols, names, images, designs, and trade secrets are only a few examples of the diverse works that make up these intangible assets that are produced by the intellect itself.

IP is a crucial component of contemporary business since it gives innovators and creators the legal tools to safeguard their works and prevent unauthorised use or reproduction. Trade secrets, patents, trademarks, copyrights, and other kinds of protection are all recognised and enforced by both domestic and international legal frameworks.

For instance, patents are given to inventors of novel and practical inventions like tools, procedures, and chemical mixtures. For a set time, typically 20 years after the date of filing, they grant the sole right to make, use, and sell the invention. By doing this, inventors can get back their investment in their innovation and profit from it while also stopping others from stealing their ideas.

On the other side, trademarks are used to safeguard the names, logos, slogans, and other identifiers of goods and services. They help consumers make well-informed purchasing decisions by establishing the differences between the products or services offered by various businesses. As long as they are regularly renewed and used in commerce, trademarks can be used permanently.

In conclusion, intellectual property (IP) is an essential component of contemporary business and innovation because it gives creators and innovators the legal tools to safeguard their works and stop others from using or duplicating them without their permission. This protection supports ongoing innovation and creativity, which promotes prosperity and economic progress.

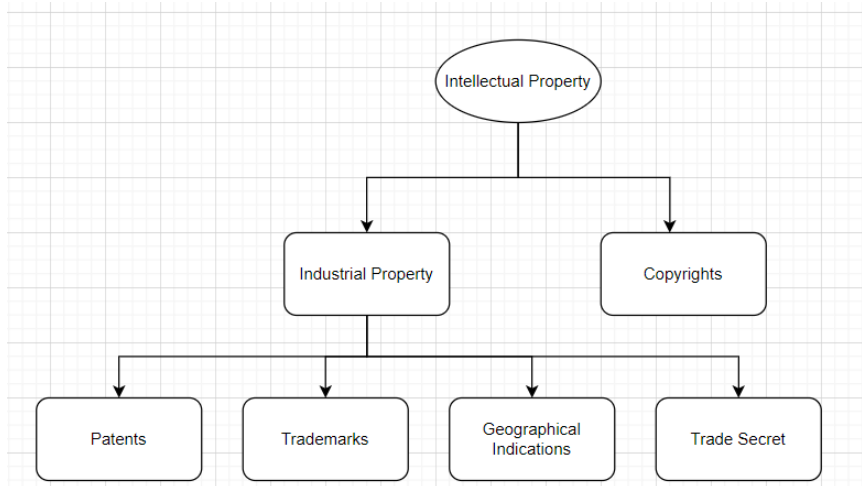


Fig.1. Types of IP

2.2 Types of Intellectual Property

Following are the 7 types of Intellectual Properties:-

1. Patent: The protection of a non-obvious and important invention is done by patent
2. Design: Guards the aesthetics of an article.
3. Copyright: Protects the expression of the idea than the idea itself.
- 4: Trademarks: All the things e.g. logo, marks etc. which distinguish one product from all others are protected by trademark.
5. Trade Secret: Any information that is important and secretive from the business perspective is protected under trade.
6. Plant Variety Protection: This sort of intellectual property (IP) safeguards novel and distinctive varieties of plants that have been created by genetic engineering or selective breeding. The objective is to promote the creation of novel plant types that can boost agricultural output, increase disease resistance, and improve product quality.
7. Geographical Indications (GI): This category of intellectual property (IP) safeguards the names and places of origin of specific goods that have a special quality, reputation, or other attribute that may be linked to their country of

origin. Champagne, Darjeeling tea, and Parmigiano-Reggiano cheese are a few examples. The protection of GI shields consumers from misleading or deceptive practises and aids in the economic growth of some areas.

2.2.1 Patent

A sort of intellectual property known as a patent offers legal protection for discoveries or innovations. A patent's main function is to grant its owner the only authority to create, use, and commercialise their invention for a predetermined amount of time, often 20 years from the date of filing. With this exclusive right, the creator is able to stop anyone from producing, utilising, or commercialising their innovation without their consent.

An invention must be novel, practical, and non-obvious in order to be eligible for a patent. This means that the innovation must be new, have a purpose, and not be obvious to someone with ordinary expertise in the relevant field of technology. It also means that the invention cannot have been previously known or exploited by others.

For many different kinds of inventions, including machines, methods, material compositions, and upgrades to already-existing inventions, patents may be granted. The inventor must submit a patent application to the relevant government body, often the United States Patent and Trademark Office (USPTO) in the United States, in order to secure a patent.

The invention must be fully described in the patent application, along with any supporting drawings or documents. A patent examiner then reviews the application to determine if the invention satisfies the criteria for patentability. If the application is accepted by the examiner, the patent is issued, and the inventor is given sole ownership of the invention for the duration of the patent.

Patents are precious assets that can give companies and inventors a competitive edge. They enable innovators to recoup their investment in R&D and to profit from their creation by selling it outright or licencing it to others. By giving innovators a reason to produce novel and practical ideas, patents also promote creativity.

But obtaining a patent can be a difficult, drawn-out process that can cost a lot in both legal and administrative fees. The theory of "patent exhaustion," which restricts the power of patent owners to control the use of their patented invention after it has been sold or licenced to others, is another limitation and exception that applies to patents. In addition, patents are subject to other restrictions and exceptions.

Overall, by giving inventors the legal protection and financial incentives they require to create novel and useful ideas, patents serve a crucial role in promoting innovation and economic progress.

2.2.1.1 Purpose of Granting Patents

As an end-result of the right, the patent owner must give the law making body and along

These lines general society with a complete depiction of the development and its method of use.

The patent framework as such empowers the movements of the Advancement giving a prize framework that underpins supportive consistent and specific data.

A patentable advancement can be a thing or a method that offers another specific reaction for a problem. It can in like way be fundamentally another technique for finishing things, the creation of something else, or a particular improvement for the working of some articles.

Once conceded the term of a patent is 20 years from the date of filling, subject to the installment of reestablishment of the fees.

By giving inventors temporary exclusive ownership rights to their ideas, patents are intended to promote innovation and creativity. Patents give creators legal defence and financial incentives to create innovative products that benefit people's lives, promote science and technology, and stimulate the economy.

With the use of patents, inventors may control the commercial application of their inventions and stop others from stealing their ideas or making money off of them. Patents provide inventors the exclusive right to create, use, and sell

their inventions. The ability to recoup their investment and profit from their ideas thanks to this exclusive right to the invention motivates innovators to fund research and development.

By requiring inventors to describe their ideas in their patent applications, the patent system also encourages the spread of information and innovation. This disclosure makes it possible for others to benefit from and build upon the idea, which can inspire more creative thinking and technological advancements.

Additionally, patents are essential for luring investment and fostering economic expansion. Patents can be licenced or sold to third parties, giving inventors the opportunity to generate additional revenue and use their ideas as a tool to attract finance for more R&D. By safeguarding their investments in cutting-edge technology and allowing them to make money off of those investments, patents also give investors a certain amount of security.

Overall, the goal of issuing patents is to encourage innovation and creativity by giving inventors the financial support and legal protection they require to create novel and beneficial innovations. The patent system promotes continuing investment in R&D and promotes economic growth and prosperity by recognising and defending inventors' rights.

2.2.1.2 Reasons for patenting

There are four fundamental motivators encapsulated in the patent framework: to envision regardless, to disclose the development once made, to contribute the wholes critical to test and to plan about and upgrade previous licenses.

1. The incentives to monetarily productive innovative work (R&D) is given by patent. Numerous enormous organizations have yearly R&D spending plans of several billions and millions of dollars. The money R&D spends would have been essentially less or dispensed with inside and out without patents, constraining the chance of mechanical advances or achievements. Partnerships would be substantially more preservationist about the R&D speculations they made, as outsiders would be allowed to misuse any turns of events. This

subsequent work is firmly identified with the fundamental thoughts basic conventional property rights.

2. In agreement to the first meaning of the expression "patent," patent encourage and empower exposure of advancements into the open space for the benefit of everyone. If pioneers didn't have the real confirmation of licenses, when in doubt, they might want or will all in all keep their manifestations riddle. Yielding licenses by and large makes the subtleties of new advancement direct open, for abuse by anybody after the patent finishes, or for additional improvement by different designers. When a patent's period has ended, the open record ensures that the patentee's idea isn't lost to the mankind.

3. In different undertakings (particularly those with high fixed expenses and either low unimportant expenses or low creation feeling of expenses — PC processors, programming, and pharmaceuticals for instance), when a headway exists, the expense of commercialization (testing, tooling up a plant, building up a market, and so forth.) is clearly more than the central beginning expense. (For instance, inside "general rule" at two or three PC associations during the 1980s was that post-R&D costs were 7-to-1). In any case, if there is some approach to manage shield duplicates from doing combating at the inconsequential expense of creation, associations won't make that sort of experience.

4. Patent rights make a spurring power for organizations to make workarounds to ensured developments, along these lines making improved or elective headways that may for no situation be made.

One interesting response of present day patent use is that the youth baseball trailblazer can utilize the specific right position to transform into a licensor. It allows the maker to hoard principal fast from approving the turn of events and may allow snappy progression to happen in light of the fact that he/she may choose to not manage an amassing an improvement for the advancement. As such, the trend-setters time and essentialness can be spent on unadulterated turn of events, allowing others to concentrate on manufacturability.

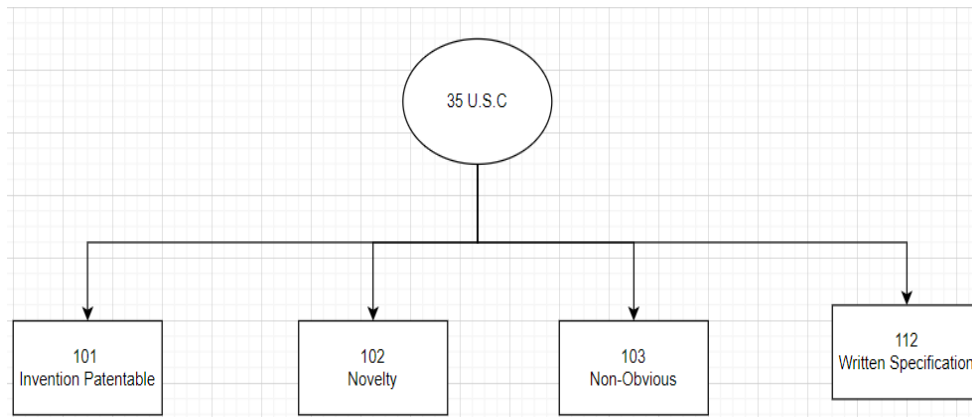


Fig.2. Reasons for patenting

2.2.1.3 Criteria for Patenting

1. Novelty – The creation ought not to be known openly at all, anyplace on the planet. Owners of the advancements must be careful in order to remain close-lipped regarding the improvement until a patent request has been viably finished. If the idea has quite recently been examined, monetarily mishandled, advanced or showed, by then the peculiarity of the creation may be sabotaged.

In the event that the creation should be revealed to an outsider before an application has been recorded, a non-divulgence understanding ought to be given.

When a "Date of Filing" was got for the patent application, the development is ready to guarantee a "Patent Pending" status and the candidate will be capable to proceed to uncover the creation as appeared in the patent application to invested individuals. As a feature of the application procedure, the patent application will be distributed following year and a half and if the sculpture necessities are met. When distributed, subtleties of the innovations will be accessible in the open space.

2. Non-Obvious – The development must be something that speaks to an improvement over any current item or procedure that is as of now accessible. The improvement must not be clear to someone with particular aptitudes or data in the advancement's particular field. If a development is new yet obvious to an

individual gifted in the craftsmanship, the improvement would not fulfill the imaginative development need. In order to qualify as non-obvious, an invention must not be obvious to a person with the necessary expertise. This means that the innovation should not be anything that a talented individual might have created quickly using methods and knowledge already in use. Patent examiners will evaluate the amount of expertise and knowledge in the pertinent field and take into account whether a person with ordinary skill in that field could have invented the same thing to determine if an invention is non-obvious.

3. Industrially Applicable—The development must be valuable and have some type of down to earth application. It ought to be fit for being made or utilized in some type of industry. To be seen as having industrial applicability, an invention must be able to be used in an industrial or commercial setting. This implies that the invention must be valuable economically or commercially and be able to be manufactured or sold in big quantities. This stipulation aids in ensuring that only innovations with any chance of commercial success are given patent protection.

Overall, the four primary requirements for granting a patent ensure that only original, practical, non-obvious discoveries with industrial and commercial applications are given patents. As a result, creativity is encouraged and the patent system is used to protect the most valuable and useful ideas.

In addition to these primary requirements, an invention must also fulfil other conditions in order to qualify for patent protection, such as the completeness and clarity of the patent application as well as adherence to moral and societal norms.

Overall, the requirements for obtaining a patent are made to guarantee that only innovative, practical, and valuable innovations with industrial and commercial applications are given patents. This promotes innovation and makes sure that the patent system only protects the most valuable and useful inventions.

2.2.2 What is a trademark?

A trademark is an indisputable sign, structure or explanation which perceives things or organizations of a particular representative from the amount things or

organizations of various vendors. A word, phrase, symbol, design, or combination of these that is used to identify and separate the products or services of one seller from those of other sellers is known as a trademark. Trademarks are a sort of intellectual property. A trademark can be anything that can set one company's goods or services apart from those of another company.

A trademark's main objective is to assist consumers in determining the origin of the products or services they are buying. Customers connect a particular trademark with a specific business and the calibre of its goods or services when they see it. Businesses can increase brand recognition and loyalty by using trademarks.

Words, phrases, logos, colours, sounds, shapes, and even smells can all be used as trademarks. The most important criteria for a trademark are that it be unique and not generic. This means that it shouldn't be a common or generic term and should be able to identify the products or services of a certain company.

A trademark must be registered with the applicable national or regional trademark office in order to receive trademark protection. The examination step of the registration procedure normally entails determining if the trademark satisfies the registration requirements.

Once a trademark is registered, the owner has the sole right to use it in connection with the products or services covered by the registration, as well as the right to prevent other parties from using a trademark that is similar to or the same as theirs in connection with related goods or services.

For businesses to develop brand recognition and create a reputation for high-quality goods or services, trademark protection is crucial. Information is essential for consumers as well since information enables them to make educated decisions about their purchases and prevents them from being uncertain about the origin or calibre of the products or services they are buying.

2.2.2.1 The benefits of registering a trademark

If the mark is not registered you can claim on your rights under common law of action “passing off”. This protects your mark from being copied or imitated. It

is not compulsory in Singapore to register a trademark. Be that as it may, on the off chance that you register a trade mark connection to your merchandise as well as administrations, you are successfully increasing a legal restraining infrastructure of your imprint. A trademark can enhance your business since it very well may be utilized to ensure your piece of the pie, you can permit it to outsiders, for example, franchisees, or you can sell it inside and out for a predetermined worth. You can likewise utilize an exchange imprint to assist you with raising value for the improvement of your business.

2.2.2.1 The benefits of registering a trademark

Businesses can gain a variety of advantages from trademark registration, such as the following:

1. **Exclusive usage rights:** When a trademark is registered, the owner is granted exclusive usage rights in connection with the products or services for which the trademark is registered. This entails that the owner can forbid third parties from using an identical or similar trademark in connection with comparable goods or services, which can aid in shielding the company from rivals who would try to capitalise on the goodwill and reputation connected with the trademark.
2. **Protection:** Registering a trademark gives the owner legal protection as well, giving them the ability to pursue legal action against infringers. The owner of a trademark has the right to file a lawsuit to stop unauthorised use of that trademark in connection with identical or confusingly similar products or services, and to be compensated for any harm that results.
3. **Brand recognition:** Registering a trademark aids in increasing brand awareness and recognition. A trademark acts as a flag of origin that enables customers to determine where the products or services they are buying are produced. Businesses can acquire a reputation for providing high-quality goods or services, which can boost sales and help the company expand, by developing brand awareness and customer loyalty.

4. Getting a trademark registered also makes it simpler to licence or franchise a brand. Businesses can increase their revenue streams and increase the brand's exposure by licencing and increase the brand's exposure by licencing the use of their trademark to third parties. When the trademark is registered, franchising is also made simpler because it helps to assure uniformity and quality across all locations.
5. Protection on both a national and international scale: Registering a trademark grants protection on both a national and global scale. The owner of the brand may obtain local trademark protection by filing a trademark registration with the appropriate national or regional trademark office. Additionally, the owner can extend protection to numerous nations worldwide by registering the trademark with international organisations like the World Intellectual Property Organisation (WIPO).

In conclusion, businesses can gain a number of advantages from trademark registration, including exclusive rights, legal protection, brand recognition, chances for licencing and franchising, and protection on a national and worldwide level. Businesses can create and safeguard their brand by registering a trademark, which can promote expansion and success.

2.2.3 What is copyright?

- Copyrights ensure works like books, PC programs, drama and artistic creations. For the most part, the creator of a copyright work has the privilege to duplicate, distribute, perform, impart and adjust his work. Postulations selective rights structure the heap of rights that we consider copyrights and empower the proprietor to control the business misuse of his/her work.
- A copyright gives the maker of unique work restrictive rights to it, for the most part temporarily.
- Copyrights don't cover the data and the thought itself, just the structure or way where they are communicated. For Example: Literary Works (including composing), craftsmanship, photography, films, TV, music, web substance or sound accounts.

- A type of intellectual property protection known as copyright grants the author of an original work the sole authority to determine how the work is used and distributed. A vast range of creative works, including books, music, artwork, software, and movies, are covered by copyright law.
- The exclusive right to reproduce, distribute, display, and perform a work that is protected by copyright law also extends to the creation of derivative works based on the original. This helps to safeguard the creator's financial interests as well as the integrity of the work by prohibiting anybody else from using or distributing the work without the owner's consent.
- As soon as a piece of work is produced in a fixed, tangible form, copyright protection automatically takes effect. This requires that the work be committed to writing, recording, or any other kind of fixation in a media that can be viewed or reproduced. Depending on the type of work and the nation in which it was produced, copyright protection lasts for a specific amount of time.
- Copyright protection often lasts for the creator's lifetime plus a certain number of years after their passing. During this time, the copyright holder can decide how the work is used and grant licences to others in exchange for money or royalties. The work becomes public domain and is free to be used and shared by anybody when the copyright term has passed.
- For creators, copyright law is crucial since it aids in safeguarding their legal and financial interests and motivates them to keep producing new works. Additionally, it benefits society as a whole by fostering the exchange of information and ideas and fostering originality and creativity.
- A type of intellectual property protection known as copyright grants the author of an original work the sole authority to determine how the work is used and distributed. A vast range of creative works, including books, music, artwork, software, and movies, are covered by copyright law.
- The exclusive right to reproduce, distribute, display, and perform a work that is protected by copyright law also extends to the creation of derivative works based on the original. This helps to safeguard the creator's financial interests as

well as the integrity of the work by prohibiting anybody else from using or distributing the work without the owner's consent.

- As soon as a piece of work is produced in a fixed, tangible form, copyright protection automatically takes effect. This requires that the work be committed to writing, recording, or any other kind of fixation in a media that can be viewed or reproduced. Depending on the type of work and the nation in which it was produced, copyright protection lasts for a specific amount of time.

- Copyright protection often lasts for the creator's lifetime plus a certain number of years after their passing. During this time, the copyright holder can decide how the work is used and grant licences to others in exchange for money or royalties. The work becomes public domain and is free to be used and shared by anybody when the copyright term has passed.

- For creators, copyright law is crucial since it aids in safeguarding their legal and financial interests and motivates them to keep producing new works. Additionally, it benefits society as a whole by fostering the exchange of information and ideas and fostering originality and creativity.

2.2.3.1 What a copyright protects?

Copyright ensures the statement of the idea (e.g. words and representations). Thoughts alone are not ensured. The next might be ensured under copyright law:-

- Storybook workings
- Theatrical workings
- Tuneful workings
- Artistic workings
- Versions of the workings mentioned above
- Tune recordings , cinematography
- Cable programs

- TV programs

Some of the main items that copyright protection can shield include the following:

1. **Reproduction:** The sole right to create copies of the work, whether in physical or digital form, belongs to the copyright owner.
2. **Distribution:** Whether a work is distributed through sales, licencing, or other ways, the copyright owner has control over how it does so.
3. **Public exhibition or display of the work** is subject to the copyright owner's approval.
4. **Performance:** Whether through live performances, recordings, or other means, the copyright owner may regulate how the work is performed or presented to the public.
5. The sole right to produce new works based on the original, such as adaptations, translations, or other versions, belongs to the copyright owner.
6. **Moral rights:** According to copyright law, the author of a work may also be granted some moral rights, such as the right to acknowledge their authorship and the right to stop their work from being changed or used in a way that would damage their reputation.

By preventing exploitation of and unauthorised use of creators' creative efforts, copyright protection helps to ensure that they are fairly compensated for their work. By giving artists a reason to keep creating new works, it also serves to promote innovation and originality.

2.2.4 Objective

What a copyright does not protect?

The protection under copyright does not include:

- Thoughts or concept
- Discoveries
- Procedure

- Method
- Works or other theme that have not be made in a considerable structure in an account or forming
- Topic material that isn't initially from the creator

What can be protected by copyright laws is constrained. There are some things that copyright does not protect, while giving the author of an original work the sole rights.

The following are some essential items that copyright does not safeguard:

1. Thoughts or concepts: An idea's expression, not its content, is protected by the copyright. So, if someone has a story or song idea, they can copyright their specific expression of that idea in a tangible form, like a written or recorded work, but they cannot copyright the idea itself.
2. Discoveries: Discoveries, such as those in science or mathematics, are not protected by the copyright. Patents or other types of intellectual property protection may be used to safeguard these.
3. Copyright does not cover procedures or methods, such as corporate processes or cooking techniques. Trade secrets or patents may be used to protect these.
4. Other themes or works that have not been concretely fixed: Only works that have been fixed in a tangible form, such as a written manuscript, a recorded song, or a picture, are protected by copyright laws. Copyright cannot be used to protect ideas or concepts that have not been articulated in a concrete way.
5. Content that was not created by the author: Only original works made by the author are protected by copyright. Unless the new work is sufficiently unique to qualify for its own copyright protection, it does not apply to anything that has been copied from or modified from another author's work.

In general, copyright protection is limited in what it can protect, despite the fact that it can offer creators substantial security. For the protection of

specific kinds of creative or inventive works, further intellectual property protection measures like patents or trade secrets may be required.

2.2.5 Industrial Design Rights

The protected innovation right that guarantees the visual structure of articles that are not just utilitarian is an industrial design right. A cutting edge arrangement involves the development of a shape, arrangement or structure of model or concealing, or blend of model and concealing in 3-dimensional structure containing elegant worth. A cutting edge structure can be a 2-or 3dimensional model used to make a thing, mechanical item or handcraft.

It guarantees the imaginative arrangement of things that are not in a general sense utilitarian. An advanced structure involves the creation of a shape, design or game plan of model or concealing, or mix of model and concealing in three-dimensional structure containing elegant worth. A cutting edge plan can be and a couple of model utilized to make a thing, mechanical item or workmanship. item or workmanship.

Industrial design rights are a type of intellectual property protection that protects non-functional objects' outward appearance. In other words, it safeguards the aesthetically pleasing design of non-purely utilitarian objects. This includes an object's form, arrangement, or pattern, or a combination of these features in a three-dimensional form, that adds aesthetic value.

A 2- or 3-dimensional model used in the manufacturing of a product, mechanical device, or handcraft can be made using an industrial design, which is a contemporary design. The government can grant the owner of these designs exclusive rights, enabling them to stop others from using or replicating their work without their consent.

Industrial design rights are crucial for companies that use their products' aesthetic appeal to set themselves apart from rivals. They may hold onto their market share and stop others from stealing their designs by safeguarding the designs of their items. This is particularly relevant in sectors like fashion,

consumer electronics, and automobile design where product aesthetics play a significant role in consumer decision-making.

A design needs to be original and stand out in order to qualify for industrial design protection. Additionally, the design must be non-functional, which means it cannot be purely functional. For a predetermined amount of time, typically between 10 and 15 years depending on the nation, the owner of a design has the sole right to use, licence, or sell the design after it has been registered.

In general, industrial design rights are a crucial kind of intellectual property protection for companies whose products depend on aesthetic appeal. In order to keep their competitive advantage in the market, designers can restrict others from using or replicating their designs without their consent by registering their creations.

2.2.6 Trade Secrets

A trade mystery is a condition, practice, process, structure, instrument, model or collection of information which isn't regularly known or reasonably ascertainable, by which a business can get a budgetary piece of breathing space over contenders or customers.

In examination with licenses, a trade mystery is better as, they are not limited in time (it "proceeds inconclusively as long as the mystery is nor revealed in people in general")

A trade mystery is an equation, practice, process, structure, instrument, model, or assortment of data which isn't commonly known or sensibly found, by which a business can obtain a cash related extraordinary circumstance over contenders or clients. In the United States, valued equation law is mainly dealt with at the state level under the Uniform Trade Secrets Act, which most states have gotten, and an administration law, the Economic Espionage Act of 1996((18 U.S.C.1831–1839), which makes the theft or misappropriation of a serious advancement a lawful offense. This law contains two game plans denouncing two sorts of development. The underlying, 18 U.S.C. § 1831(a), censures the

robbery of upper hands to benefit outside powers. The second, 18 U.S.C. § 1832, denounces their theft for business or financial purposes.

The legitimate disciplines are particular for the two offenses.

Any hidden information that gives a company a competitive edge over its rivals or clients is referred to as a trade secret. Trade secrets are a type of intellectual property. Various types of information, including practises, processes, structures, tools, models, or information collections that are not widely known or easily accessible, can be included in this information.

Trade secrets do not require registration or public disclosure in order to be protected, unlike patents or copyrights. Instead, non-disclosure agreements and other legal safeguards that forbid the unauthorised use, disclosure, or acquisition of confidential information serve to protect trade secrets.

Formulas, recipes, client lists, marketing plans, software algorithms, and other confidential knowledge that is useful to a company can all be considered trade secrets. Frequently, this information is kept a secret and is only disclosed to a small number of associates, business partners, or advisors who have signed confidentiality agreements.

One of the main advantages of trade secrets is that they can give a company an edge over rivals since they permit a company to keep the confidentiality of its intellectual knowledge. In fields like technology, where fresh inventions and developments can quickly become outmoded or imitated by rivals, this might be especially crucial.

However, protecting trade secrets can be difficult because companies need to actively guard their confidential data and avoid unauthorised access or disclosure. This can entail putting in place security safeguards like password security, encryption, and access controls as well as defining clear guidelines and standards for partners and staff.

All things considered, trade secrets are a crucial type of intellectual property protection that can give companies a competitive edge by enabling them to keep

the secrecy of their private information. Businesses must, however, also actively secure their trade secrets to stop unauthorised access and disclosure.

2.3 Types of Patent Issued:

1. Utility patents may be allowed to anybody who can visualize a valuable procedure, a machine, an article of assembling, or a structure of issue. Model: fiber optics, PC equipment, or prescriptions. Utility patent could be temporary or non-temporary.

2. Configuration patents are conceded to a candidate who has created another, unique, and decorative plan of article producer. Models: the appearance of a shoe, a bike protective cap, and so on.

3. On the other hand, non-temporary utility patents are the most common variety. They need formal drawings, claims that specify the invention's boundaries, and a thorough description of the invention. Non-temporary utility patents give the inventor the only authority to create, utilise, and sell the invention for a period of 20 years following the date of filing.

Fibre optic technologies, computer hardware and software, pharmaceuticals, and manufacturing processes are a few examples of inventions that have been given utility patents. Having a utility patent gives inventors the legal protection they need to stop others from creating, using, or selling their innovation without their permission.

By and large, a utility patent secures the manner in which an article is delivered or works, while a planned patent ensures the manner in which a piece of writing looks. The design and utility both patents might be gotten on for the article on the off chance that it is innovative in the two its utility and its decorative appearance.

Utility applications can be temporary or non-temporary. A temporary application is a basic patent application which incorporates just a portrayal of the innovation. A non-temporary application is the full patent application that incorporates pledges, drawings, and cases. You despite everything need to

record a no-temporary application inside one year of documenting your temporary application.

2.4 What does a patent look like?

All the more especially the patent data alludes to the accompanying:-

- Applicant: organization applying or the name of individual to have a specific innovation secured;
- Inventor: people or the name of individual who created and built up the innovation;
- Description: a reasonable clarification known existing advancements and issues related with them and how the new innovation is applied to take care of these issues; explicit instances of the new innovation are likewise typically given;
- Claims: an announcement characterizing the extent of the security looked for or allowed through the patent;
- Citation and references: some patent records additionally include references to related technology data revealed by candidate or by a patent inspector during the patent allowing methodology; these references and references incorporate both patent and non-patent archives.

The data spoke to by licenses is an immense wellspring of specialized and lawful data introduced in a normalized design and frequently not replicated anyplace else. It can help clients to:

- Evade duplication of innovative work exertion;
- Conclude the patentability of their innovations;
- Evade encroaching other creators' licenses;
- Estimate the estimation of their or others creators' licenses;

- Exploit innovation from patent applications that have never been in actuality, and licenses that are not legitimate in specific nations or are no longer in power;
- Take insight on the creative exercises and future bearing of business contenders;
- Take out, break down or survey in explicit specialized fields, specifically those of open intrigue, for example, those identifying with condition issues.

An invention's creator is given the only authority to prevent others from creating, using, selling, or importing their creation for a specific amount of time through the use of a patent, which is a legal document. In essence, the government and the inventor enter into a contract whereby the innovator divulges their discovery to the public in exchange for temporary exclusive rights to the creation.

A patent document's material is particularly valuable since it gives a thorough explanation of the innovation, its goal, and its potential uses. Along with the name of the inventor, the application includes the applicant's name or the name of the business filing the patent. The invention is fully described in the description section, including with its technical details and how it addresses a challenge or advances an existing technology. The inventor's unique legal protections are described in the claims section, and any relevant prior art or associated patent documents are included in the citation and reference section.

Patents have many beneficial uses. They do this in two ways. First, by giving inventors temporary exclusive rights to their ideas, they promote innovation and technical growth. This enables inventors to benefit from their ideas and recuperate their investment in research and development. Second, by encouraging the public disclosure of new discoveries, patents advance scientific and technical advancement by enabling others to expand on previously developed concepts. Third, patents offer infringement defence, which discourages rivals from taking an inventor's ideas and promotes investment in cutting-edge technologies.

Fig. 2 Bibliographic data page of an international patent application

The image shows a screenshot of a patent bibliographic data page for an international patent application. The page title is '(WO/2003/071888) SOCCER GOALKEEPER GLOVE'. The page is divided into several sections: 'Biblio Data', 'Description', 'Claims', 'National Phase', 'Notices', and 'Documents'. The 'Biblio Data' section contains the following information:

- Pub. No.: WO/2003/071888 International Application No.: PCT/US2003/003327
- Publication Date: 04.09.2003 International Filing Date: 05.02.2003
- IPC: A63B 71/14 (2006.01)
- Applicant: LUCAS, Alfred, W., Jr. (US/US); 79 Cheese Factory Road Honeoye Falls, NY 14472 (US)
- Inventor: LUCAS, Alfred, W., Jr. (US/US); 79 Cheese Factory Road Honeoye Falls, NY 14472 (US)
- Agent: STEPHENS, Eugene, S.; Eugene Stephens and Associates 56 Windsor Street Rochester, NY 14605 (US)
- Priority Data: 60/358,607 21.02.2002 US; 10/245,919 18.09.2002 US
- Title: SOCCER GOALKEEPER GLOVE
- Abstract: A palm face of a soccer goalkeeper glove (10) is provided with a strand mesh (20) secured at wrist (35) and fingertip regions (31) to strengthen back bending resistance of the thumb and fingers of the glove. The mesh can extend across spaces between the thumb and fingers on the glove, and can extend over fingertip regions of the glove to be bonded to back sides of the fingertip regions. The strand mesh can have screen or other configurations, and can be formed in a continuous laminate (40) extending over the palm face (of the glove). The goal is to reduce injuries from back bending of a goalkeeper's fingers from impact by soccer balls travelling at high velocities.
- Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MV, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW. African Regional Intellectual Property Org. (ARIPO) (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW)

Callouts on the left side of the page point to specific fields:

- International Patent Classification (IPC)** points to the IPC field.
- Reference data identifying the applicant, inventor, representative, etc.** points to the Applicant, Inventor, and Agent fields.
- Abstract contains the fundamental features of the invention (keywords are found in the abstract, as well as the description and claims)** points to the Abstract field.
- Countries for which protection has been requested** points to the Designated States field.

Callouts on the right side of the page point to specific fields:

- Patent document reference numbers, e.g.,**
 - publication number
 - application number
 - priority number, etc.
- Drawings, pictures, graphical representations are found in the abstract, as well as later in the description** points to the drawing of the soccer goalkeeper glove.

Fig. 3 Front Page of a Patent Application

2.5 Patent Laws

The patent law shows the subject for which a patent might be gotten and the conditions for patent limit. The law sets up the United States Patent and Trademark Office to control the law identifying with the giving of licenses and contains different approaches identifying with licenses.

The patent law decides the general field of theme that can be protected and the conditions under which a patent may be obtained In the language of the standard, any person who "makes or finds any new and important system, machine, creation, or bit of issue, or any new and accommodating improvement

thereof, may get a patent," subject to the conditions and essentials of the law. "Procedure" is portrayed by law as a system, exhibition or strategy, and chiefly fuses mechanical or specific methods. The articulation "machine" used in the standard needs no explanation. The articulation "make" insinuates articles that are made, and joins each created article. The articulation "association of issue" relates to invention plans and may consolidate mixes of fixings similarly as new substance blends. These classes of theme taken together consolidate basically everything that is made by man and the systems for making the things.

As showed by the patent law, the point should be "important." The articulation "supportive" here implies the condition that the subject has a significant explanation and moreover joins the ability to be worked, that is, a machine which won't work to play out the normal explanation would not be called significant, and thusly would not be yielded a patent.

The requirements of what can be protected is set, thusly it has been held that the laws of nature, physical miracles, and one of a kind considerations are not patentable point.

A patent can't be jumped on an irrelevant idea or proposal. The patent is permitted upon the new machine, create, etc., as has been expressed, and not upon the idea or proposition of the new machine. An all-out depiction of the genuine machine or other subject for which a patentee's searched for is required.

CHAPTER 3

SYSTEM DEVELOPMENT

At GreyB we perform 3 basic kinds of searches:-

3.1 Prior Art Search

3.2 Infringement Analysis

3.3 Landscape Analysis

3.1 Prior Art Search

What is Prior Art?

Combination of two words prior + Art meaning earlier/existing knowledge

Anything that was publicly known and could have contributed towards the making of a so called “invention”

Invention is valid and may be patentable only if it is different from the prior art and is not an obvious derivation of the prior art, in.e. there was some involvement of human intelligence in making of the invention

In order to ascertain if an invention is unique and non-obvious, a prior art search—also known as a patentability search—is carried out to locate and evaluate the existing patent papers, technical literature, and other publicly available material. To prevent patent infringement and to make sure the invention satisfies the requirements for patentability, this kind of search is often carried out prior to the submission of a patent application.

The fundamental components of a prior art search are as follows:

1. Search Strategy: Finding suitable keywords and phrases that characterise the innovation is the first stage in a prior art search strategy. To ensure that all pertinent papers are found, a thorough search technique is required.

2. Database Selection: After the search strategy is created, the right patent and non-patent databases need to be chosen. The technical area and the extent of the search determine which databases should be used.
3. Execution of the Search: A variety of search methods, including keyword, categorization, citation, and picture searches, are used to carry out the search. The search can be done manually or with any of the market's many search tools.
4. Document Analysis: The documents that have been found are examined to ascertain their importance and relation to the innovation. Reading the documents and determining the crucial elements that relate to the invention are both parts of the study.
5. Report on the Search: The search results are gathered into a document that lists the publications that were found, their applicability to the invention, and a summary of the analysis.

In general, a prior art search is an essential phase in the patenting process that aids corporations and inventors in making defensible choices regarding the patentability of their invention. A thorough search can lower the danger of legal action, prevent patent infringement, and improve the prospects for a successful patent application.

3.2 Infringement Analysis

This is an aptitude escalated study led to decide whether an item/process encroaches a patent. Infringement examination enables patent holders to decide whether an item/process damages their patent rights. Then again, infringement examination helps organizations related with an item/process decide whether their item/process damages privileges of a patent. Infringement investigation is an indispensable advance in item/process configuration/overhaul.

GreyB conducts infringement analysis searches in multiple steps as follows:

1. Claim Charting: Using the product or technology under consideration, we compare each part of the patent claim to a complete claim chart.

2. Reverse engineering: To comprehend how a product or piece of technology operates and spot any potential infringements, we reverse engineer it.
3. Product Mapping: To ascertain whether there is any overlap or infringement, we map the product or technology against the patent's claims
4. Legal Analysis: To ascertain the extent of the claims and evaluate any potential violation, we conduct a legal analysis.
5. Expert Opinion: To support our study and aid customers in understanding the dangers of potential infringement, we can also offer an expert opinion.
6. Find the relevant patents: The patents that may be pertinent to the good or service are found in this stage.
7. The following step is to discover the patent claims that might be applicable to the good or service.
8. Interpret the claims: The claims are interpreted in this step to ascertain their intent and range.
9. Compare the product or service to the patent claims to see whether it violates the patent: The product or service is then contrasted with the patent claims to see if it violates the patent.
10. In the event that it is found that the product or service violates the patent, various defences are determined. Non-infringement, invalidity, and unenforceability are a few examples of these defences.
11. Provide advice: The customer is given advice on how to move forward with the development and launch of the product or service based on the results of the infringement analysis.

Clients can assess the risk of potential infringement and make educated judgements regarding their products and technology using the findings of an infringement analysis search. Additionally, it may reveal potential areas for design workarounds or for licencing opportunities.

3.2.1 SEPs Analysis

What is an SEP?

Patents known as Standard Essential Patents (SEPs) are necessary for carrying out a technological standard, such as a wireless communication standard, video codec standard, or internet protocol standard. These patents must be licenced on Fair, Reasonable, and Non-Discriminatory (FRAND) conditions to anybody who wants to use the standard, and they are frequently owned by businesses who are SSO members. Due to the fact that SEPs are regarded as crucial components of technical standards, it would be challenging or impossible to execute a standard without employing the patented technology.

According to the FRAND requirement, patent owners must provide fair, reasonable, and non-discriminatory conditions for licencing their SEPs. This often implies that licences must be given to all parties on equal terms and that the royalty rates paid for licencing SEPs must be reasonable and not too exorbitant. The intention is to prevent the employment of necessary patented technology from acting as a roadblock to market competitiveness and innovation.

The operation of several sectors, including telecommunications, consumer electronics, and the automobile sector, depends on SEPs. SEPs are used by standard-setting organisations (SSOs), who create and maintain technical standards, to guarantee compatibility and uniformity between goods made by various producers.

However, when the parties are unable to come to an agreement on the terms of licencing, ownership and licencing of SEPs can also result in disagreements and legal action. In certain instances, patent owners have attempted to utilise SEPs to increase their market dominance and prevent rivals from entering the market, which has sparked antitrust investigations and legal actions.

SSOs have created FRAND policies to ensure that SEPs are licenced on fair and reasonable terms in order to solve these challenges. FRAND provisions often comprise providing non-discriminatory access to the patent and establishing a

reasonable royalty charge for using the patented technology. This guarantees that the usage of SEPs won't result in exorbitant licencing costs or limit market competitiveness.

Implementing FRAND regulations and determining what "fair" and "reasonable" licencing conditions are, however, may be difficult and contentious. The best approach to strike a balance between the interests of all parties engaged in SEP licencing is an issue that is always being discussed among stakeholders, including patent owners, implementers, and regulators.

SEPs are essential for the creation and implementation of technical standards overall, although disagreements over ownership and licencing might arise. To prevent excessively stifling innovation and competition, it will be crucial to increase openness, predictability, and justice in SEP licencing.

A patent portfolio is often analysed as part of a SEP investigation to determine which patents are crucial for adopting a certain technical standard. The analysis may be carried out by the company that owns the patent portfolio or by a different entity, such as a legal or analytics business that specialises in patents.

The following stages are commonly included in performing a SEP study:

Finding the applicable technical standard is the first step in determining how the patent portfolio corresponds to that standard. Examining industry standards papers or other pertinent sources may be required for this.

The next stage is to determine which patents in the portfolio are pertinent to the standard after the technical standard has been determined. This can entail looking at technical descriptions, patent claims, and other pertinent data.

Determine if the patents are necessary for implementing the technical standard: After the pertinent patents have been located, the following step is to determine whether each patent is necessary. This might entail speaking with technical specialists and reviewing the patent claims, technical specifications, and other pertinent data.

Report or other format that lists which patents in the portfolio are necessary for implementing the technical standard is usually used to document the conclusions of a SEP analysis.

An SEP study's goal is to be transparent and clear about which patents are necessary to achieve a technical standard. Potential licensees of the patents must have access to this information in order to negotiate licences with confidence and prevent any SEP violation.

3.3 Landscape Analysis

Identifying the current patents, patent applications, publications, products, and firms active in a certain technology domain is the goal of a landscape analysis, a sort of intellectual property search. The goal of a landscape study is to give a thorough overview of market trends and the competitive environment so that firms can make educated decisions about strategic partnerships, licencing, and R&D projects. In order to help our clients better comprehend the IP environment in their chosen technology domain, GreyB provides landscape analysis services.

Some of the primary components of our landscape analysis services include the following:

1. We employ cutting-edge methods and tools to locate and map the patents that are pertinent to the technological fields of our clients. To comprehend the technical specifics, legal status, and market applicability of the patents, our experts analyse them.
2. Patent citation analysis: To identify the major players and technological trends in the field, we examine the patent citations. We employ citation analysis to pinpoint the most significant patents, active businesses, and cutting-edge technological fields.
3. Data Analysis: To find trends, patterns, and connections in the patent landscape, the obtained data is examined. In order to do this, it is necessary to look at the number of patents filed over time, the geographic distribution of patent filings, the top patent assignees, rising technologies, and influential inventors in the industry.

4. **Technology Mapping:** To visualise the links and linkages among various technologies within the environment, a technology mapping exercise is carried out. This aids in locating regions of convergence, overlap, or "white spaces" with few patent applications.

sector, the landscape analysis also includes a competition analysis. This aids clients in comprehending the market environment and available chances for licencing or collaboration.

6. **Strategic Insights:** Based on the analysis, clients are given strategic insights and suggestions. Identifying possible research and development areas, business partners or rivals, and potential patenting tactics are a few examples of these insights.

7. Clients receive a thorough picture of the patent and technological landscape in their area of interest via landscape analysis. It aids in the identification of prospective areas for innovation and the making of well-informed decisions regarding investments in R&D and IP strategy.

An SEP study may include identifying key patents as well as evaluating each patent's strength and validity as well as estimating the potential licencing income that the portfolio may provide. For patent owners, this information is crucial since it enables them to assess the prospective worth of their patent portfolio and determine the right licencing fees.

SEP studies may also be carried out on behalf of implementers by independent companies, like companies that provide equipment that adhere to the standard. In order to inform talks with the patent owners and to assess the possible cost of licencing the patents, this is generally done.

However, depending on the methodology employed and the level of expertise of the individuals involved, the accuracy and reliability of SEP studies can vary. Certain patents' necessity or the proper licencing conditions may give rise to disputes in some situations. In circumstances when the patent holder wants to enforce their rights against potential licensees, this may result in litigation or other legal difficulties.

Some standard-setting organisations have established procedures for determining FRAND licencing conditions and verifying essentiality in order to encourage openness and justice in SEP licencing. For instance, the European Telecommunications Standards Institute (ETSI) has developed a procedure for determining whether patents are important and for resolving disagreements on licencing conditions. These procedures seek to encourage effective and equitable licencing of SEPs while lowering the likelihood of litigation and other legal problems.

CHAPTER 4

PERFORMANCE ANALYSIS

Project Worked Upon

4.1 Fintech:

Fintech is a term used to depict budgetary development, an industry remembering any kind of advancement for cash related organizations - from associations to clients. Fintech delineates any association that offers cash related kinds of help through programming or other advancement and consolidates anything from convenient portion applications to computerized money.

Exhaustively, FinTech depicts any association using the web, phones, and programming development or cloud organizations to perform or interface with financial organizations. Various FinTech things are proposed to relate customers' records gracefully of use, disregarding the way that the term is furthermore applied to business-to-business (B2B) headways moreover.

The term "fintech," a portmanteau of "financial technology," denotes the use of technology to provide consumers and businesses with financial services. In recent years, the fintech sector has expanded quickly and upset the conventional banking sector. To elaborate on the following major points:

1. Fintech businesses use technology to deliver cutting-edge financial services and products that conventional financial institutions might not be able to. This covers services like robo-advising, digital wallets, mobile banking, online lending, and more.
2. Customer experience: Fintech businesses place a high priority on using technology to create a seamless and convenient customer experience. This comprises user-friendly software, clear user interfaces, and quick and effective procedures.
3. Accessibility: Thanks to fintech, more people, particularly those who were previously underserved or unbanked, now have easier access to

financial services. This is because operating digitally is less expensive and it is possible to reach clients through internet channels.

4. Fintech has challenged the status quo by providing fresh and cutting-edge financial services and solutions, upending established financial institutions. Traditional banks have.
5. Regulation: To maintain consumer safety and financial stability, government organisations must regulate and monitor the fintech sector. However, the regulatory environment can differ depending on the nation or region, and for fintech companies, navigating these regulations can be difficult.
6. The way we access and engage with financial services is changing as a result of the quickly developing fintech sector. It has improved accessibility, sparked new avenues for innovation, and upended established financial institutions.

4.1.1 Lending

Cash related development organizations are altering the advancing strategy. People don't have to visit banks for the cash or transactions. Many FinTech organizations are again and again credits clearly to buyers. The customers can send the request for the credit cards on internet.

The emergence of fintech companies has had a substantial impact on a number of sectors of the financial sector, including lending. Fintech lending is the use of technology to challenge established lending paradigms by providing both consumers and businesses with cutting-edge financial goods and services.

The convenience it provides to borrowers is one of the primary benefits of fintech lending. Fintech businesses make it simple and quick for customers to apply for loans and obtain funds online or through a mobile app without having to go to a physical location or complete time-consuming paperwork. For many consumers, borrowing has become more convenient and accessible because to this streamlined approach.

The utilisation of different data sources to evaluate borrowers' creditworthiness is another benefit of fintech lending. To evaluate borrowers who might not have

a traditional credit history, fintech companies use non-traditional data sources like social media activity, transactional data, and other digital footprints. This has made it possible for many customers to acquire financing who might have been passed up by conventional lenders.

Peer-to-peer lending platforms, which link borrowers and investors directly, have grown as a result of fintech lending. Compared to traditional lending, this model enables borrowers to obtain capital at lower rates while offering investors competitive returns.

Fintech lending has altered the lending market significantly overall, improving accessibility, effectiveness, and flexibility for both individuals and enterprises.

4.1.2 Payments

Installments are another order of the money related advancement promote. Organizations are making it easy for people to transfer money without going to the bank. But Banks will charge over the top charges for important parts like conveyed trades. FinTech organizations allow clients to transfer money right away. It is made practical for these organizations to process installments more sufficiently than banks can, all this is done by advances like square chain.

Fintech businesses are revolutionising the payment process and enabling more simple and easy money transfers without the need for in-person bank visits. This is accomplished by creating new, frictionless payment methods that include e-wallets and mobile payments.

PayPal, which enables users to send and receive money online without having to disclose their financial information to the other party, is one of the most well-known examples of fintech payment services. Although there is a small fee for using PayPal, it is frequently more affordable and practical than using traditional bank transfers.

Mobile payments are another area of fintech innovation in payments. Without using cash or real cards, customers can make payments directly from their mobile devices using apps like Apple Pay and Google Wallet. To ensure quick

and safe transactions, these apps combine biometric authentication with near-field communication (NFC) technology.

E-wallets, which are digital wallets that hold payment information and may be used to make payments online or in stores, are another product being developed by fintech companies. E-wallets are growing more and more popular because they provide a safe and practical means to make payments without the need for actual currency or cards, especially in nations where mobile banking is more widely used.

Fintech payment services can be more practical than conventional banking methods, but it's crucial to remember that they can also have hazards, such as the possibility of fraud or data breaches. To maintain the security of their financial information, users must take the necessary precautions, such as creating secure passwords and often checking their accounts.

4.1.3 Money Transferred Internationally

By and large, internal money moves have been over the top costly. Banks and traditional money move associations stimulate to 8% in charges. For gigantic money moves, these costs incorporate quickly. Increasingly deplorable, standard trades are moderate.

By and large, internal money moves have been over the top costly. Banks and traditional money move associations stimulate to 8% in charges. For gigantic money moves, these costs incorporate quickly. Increasingly deplorable, standard trades are moderate. Fintech associations for this characterization are offering speedier and progressively moderate overall money transfers, like Ripple, an association in this class, can send all inclusive money moves in eight seconds.

Financial technology firms have also revolutionised international money transfers, giving people and businesses more affordable and quick options. When compared to conventional banks and money transfer businesses, fintech companies are able to offer services that are more affordable and effective thanks to the use of technology.

Fintech businesses provide a range of options for sending money internationally, including digital currencies, mobile wallets, and online transactions. These techniques offer a practical and affordable approach for people to move money across international borders. International money transfers are frequently subject to lower fees from fintech providers, which typically range from 0.5% to 3% of the transaction value.

When compared to conventional banks and money transfer businesses, fintech companies can offer faster transfer times in addition to lower fees. Blockchain technology, which enables immediate settlement of transactions, is used by many fintech businesses. This implies that, in contrast to traditional transfers, which may take several days to complete, the money is transmitted and received virtually immediately.

International money transfers are now easier for people and businesses in poor nations thanks to fintech companies. These nations frequently have limited access to conventional banking services, which makes it challenging for them to receive and send money internationally. These services can be offered by fintech businesses via mobile devices, which are commonly used in developing nations.

The use of quicker, more affordable, and more accessible solutions by both consumers and corporations has caused fintech companies to upend conventional methods of international money transfer.

4.1.4 Personal Finance

Individual Finance is another tremendous gathering of the money related advancement show off. As of now, individuals expected to visit with money related associates at banks to get particular record counsel. To spending plan, they expected to utilize spreadsheets or an envelope framework.

Before long, there are a huge amount of uses open that can offer course and help with masterminding. Customers can get particular record asking any place, at whatever point. Associations like Mint assistance clients with making spending

game plans, while Level Money enables purchasers to spare. There are likewise FinTech associations giving retirement or experience counsel.

Everybody's life revolves around personal finance, and financial technology has fundamentally changed how people handle their money. Fintech businesses offer a range of digital tools for managing personal finances, which were previously managed by visiting a bank's financial advisor.

Personal finance services provided by fintech businesses include retirement planning, financial planning, investing platforms, and budgeting software. Customers can access these services on their mobile devices, making it simple to keep an eye on and manage their accounts while on the road.

One of the most popular services provided by fintech companies is budgeting tools. These tools enable users to keep track of their spending and develop a budget that is in line with their financial objectives. The apps frequently show expenditure patterns visually, making it simpler for consumers to spot areas where they can make financial savings.

Fintech firms also frequently provide investment platforms as a service. These platforms enable consumers to make investments in stocks, bonds, and other financial instruments without using a conventional broker. Fintech businesses frequently charge cheaper costs than conventional brokers, which makes it simpler for people to invest their money.

Another service that fintech companies provide is financial planning. Advanced algorithms are used by fintech companies to analyse customer financial data and offer individualised financial advice. These resources support people in making both short- and long-term financial goals plans.

Another crucial area of personal finance that fintech companies support is retirement planning. Fintech businesses provide tools for retirement planning that assist people in estimating their retirement income, budgeting for their retirement costs, and choosing the most profitable investments for their money.

In conclusion, fintech has revolutionised personal finance by enabling users to manage their accounts on mobile devices through digital tools. These resources

offer services for financial planning, retirement planning, investment, and budgeting. These services are frequently more affordable through fintech startups than through traditional financial institutions, making them available to more people.

4.1.5 Equity Financing

Value Financing is in like manner evacuating among Fintech associations. Associations in this class are making it straightforward for associations to raise money. A couple of associations work to interface ensure monetary masters with new organizations. A crowd funding model is used by each other individual and grants anyone to have the choice to place assets into new associations.

These associations unravel the raising help process for associations. Virtual raising help is also more straightforward for money related authorities, since everything should be conceivable on the web.

A corporation can raise money through a type of financing known as equity financing by exchanging a piece of its ownership position for cash. It is a well-liked substitute for debt financing, which calls on businesses to pay back borrowed money plus interest.

By utilising technology to provide cutting-edge solutions to businesses looking for capital, fintech companies are challenging the conventional equity financing paradigm more frequently. These enterprises connect investors with start-ups and small businesses looking for funding through online marketplaces and platforms.

The ability to raise money rapidly and with very minimal transaction costs is one of the main benefits of equity financing through Fintech businesses. Businesses can access a wide pool of possible investors by using internet platforms, which can result in a quicker and more effective fundraising process.

Data analytics and machine learning are also being used by fintech companies in the equity financing sector to deliver more precise and effective valuations of startups and small enterprises seeking finance. By reducing the knowledge gap

between investors and businesses, this can make it simpler for both sides to weigh the risks and rewards of a given investment.

In general, equity financing through Fintech firms is offering a disruptive alternative to conventional financing structures, allowing startups and small businesses to access the money they need to expand and prosper in a fast-paced and constantly changing business environment.

4.1.6 Customer Banking

The panorama of financial technology (fintech) includes customer banking inextricably. The way that clients engage with banks and handle their financial transactions is being revolutionised by fintech companies.

Digital banking is one of the main client banking segments that fintech has significantly affected. Innovative mobile banking applications have been released by fintech companies, enabling users to conduct various banking operations directly from their smartphones. These programmes offer options for managing accounts, checking balances, transferring money, paying bills, and even applying for loans. Fintech businesses have improved customer access to banking by providing convenient and user-friendly interfaces.

Peer-to-peer (P2P) payments are another area of client banking that has been changed by fintech. Fintech businesses have created platforms that let people send money to each other directly without the use of conventional middlemen like banks. These P2P payment options are preferred by tech-savvy clients because they are frequently instant, affordable, and simple to use.

Digital wallets, which clients may use to safely keep their credit card information on their mobile devices, have also been offered by fintech companies. Customers can use digital wallets to pay in real stores by tapping their smartphones on terminals that accept contactless payments. This technique has become very popular, particularly in areas where mobile payments are commonly used.

Personal financial management solutions that help users track their spending, create budgets, and examine their spending trends have also been introduced by

fintech companies. These tools give customers an in-depth understanding of their financial situation and empower them to make wise financial decisions.

Additionally, robo-advisors—automated investment platforms that offer individualised investment advice based on algorithms and artificial intelligence—have become increasingly popular in customer banking. These platforms let users invest money in diversified portfolios without requiring a deep understanding of finance or a sizable minimum investment.

Fintech has, in general, transformed customer banking by offering practical, safe, and effective digital alternatives for a range of financial activities. Banking is now more accessible and user-friendly than ever before thanks to the use of technology by fintech companies, which have improved the consumer experience and brought banking services to clients' fingertips.

4.1.7 Insurance

Cash related progression associations have beginning late spread out into the protection advertise, too. Different associations in this class are concentrating on dispersal. They're utilizing new movements like applications to appear at clients that are underserved by affirmation. They're moreover more flexible than conventional wellbeing net providers. For instance, individuals who need to secure a mate's vehicle can purchase vehicle assurance for only a couple of hours. Since the protection advance is remarkably controlled, associations in this class will all around accumulate as one with customary protection workplaces.

Companies that specialise in financial technology (fintech) are also upending the insurance business. Fintech businesses are introducing new technology and innovation to the insurance sector, enhancing its accessibility, affordability, and adaptability.

Distribution is one area of emphasis for fintech startups in the insurance industry. To reach underserved people who have little access to conventional insurance products, fintech companies are utilising cutting-edge technologies like mobile apps and web platforms. In addition, they provide on-demand or

pay-per-use insurance products, making them more adaptable than conventional insurers. For instance, people who need to insure a friend's car can do so for a short period of time.

Using data analytics and artificial intelligence to create individualised insurance policies is another area of interest for fintech companies in the insurance industry. Fintech companies can design customised insurance policies that better fit the demands of specific consumers by utilising data from a variety of sources.

4.2 Invalidation Search

A patent search type used to assess the validity of an existing patent is an invalidation search, also known as a validity search or invalidity search. Finding previous art that was overlooked during the first patent prosecution process and may invalidate the patent is the goal of an invalidation search.

In order to ascertain whether any previous art can be used to invalidate the claims of the existing patent, a patent analyst will do a thorough search of the prior art, including published patent applications, granted patents, and non-patent literature. In order to decide if the novelty or non-obviousness of the disputed patent's claims could be contested, the patent analyst would assess the significance and influence of the relevant previous art.

Companies or individuals who are considering releasing a new good or service that would violate a patent already in force frequently undertake invalidation searches. They can find out if the current patent is valid and whether there are any potential market entry restrictions by doing an invalidation search. A party that is contesting the validity of a patent owned by another party may also undertake an invalidity search as a part of a patent lawsuit.

4.2.1 Search Subject: A granted Patent

For a set amount of time, typically 20 years from the date of filing, a granted patent gives an inventor or business the only authority to produce, use, and sell an invention. A issued patent is the government's formal acknowledgement that an invention is new, inventive, and valuable.

After receiving a patent, the owner has the right to sue anyone who violates the patent's terms. When a patented innovation is used, produced, sold, or imported without the patent holder's consent, there has been an act of infringement.

A thorough search is conducted to find any previous art that could render a given patent invalid in an invalidation search for a granted patent. Prior art is any knowledge that was previously known to the general public and that was potentially relevant to the invention's patentability at the time the patent application was filed. Finding previous art that was overlooked during the assessment of the patent application and that could invalidate the granted patent is the aim of an invalidation search.

E.g., Patent Number (EP....) + may be a specific Claim 1

Key-Features: Key Novelty Aspects Derived From Clauses of the Claim

4.2.2 Search Strategy:

Finding previous art that could render one or more of the granted patent's claims invalid is the main objective of an invalidation search for a granted patent. Any publicly accessible information that existed before the patent's filing date, such as active patents, published patent applications, scientific and technical literature, conference proceedings, and other publicly accessible resources, can be considered prior art.

The search technique often entails a careful examination of the patent's claims in order to pinpoint the essential components of the invention. The search is focused on discovering previous art that discloses each of the important components, either alone or together, after the key components have been identified. The findings of the search are then examined to see if the invention's essential components have already been disclosed by the previous art, which might render the patent void.

It's crucial to understand that an invalidation search is not restricted to the prior art that was cited when the patent application was being examined. Any prior art found during the search may be used to contest the patent's legality. As a result, the search should be thorough and

include all pertinent technical areas, legal systems, and languages. Additionally, skilled patent searchers who have a solid grasp of patent law and the capacity to recognise potential problems that may affect the validity of the patent should conduct the search.

4.2.3 Search Report Structure

The following sections are commonly present in an invalidation search report:

1. The search parameters utilised, including the keywords and search strings, patent classification codes, and databases searched, are described in this section.
2. Results of the search are summarised in this part, together with the number of papers discovered, the significance of each item, and any other pertinent data.
3. Analysis: The search results are analysed in this section, and each document's relevancy and potential influence are assessed.
4. Conclusions: The key findings of the search report are outlined in this section, along with any pertinent prior art that could be used to invalidate the patent that has been granted.
5. Recommendations: Based on the search findings, this section makes suggestions for additional action, such as whether to initiate an invalidation proceeding or alter the patent claims to avert probable invalidity difficulties.

The overall goal of the structure of an invalidation search report is to give customers the information they need to make informed decisions about their intellectual property strategy by giving a clear and concise review of the pertinent prior art and potential invalidity concerns related to a granted patent.

4.2.3.1 About the Search

- List of Objective
- Key-Features identified & Corresponding Relevance Criteria
- Term Sets and Search Strategies Used & Corresponding Log
- Databases and Any Other Information Source Used

4.2.3.2 List of Relevant Documents

- Patent Numbers/ Literature Title
- Publication and Other Important Dates
- Mapping/Analysis Details (Textual/Visual)
- Legal Status and Expiry Dates (FTO Searches/ State-of-the-Art searches)
- Sequence/Structure Details
- Trends and Charts (State-of-the-Art/ Landscape Studies)

4.2.3.3 Additional Details That can be added depending on the Search Type

- Legal Status and Expiry Dates (FTO Searches/ State-of-the-Art searches)
- Sequence/Structure Details
- Trends and Charts (State-of-the-Art/ Landscape Studies)

4.3 Sensing Technologies

Mobile telephone based detecting programming is a class of programming for mobile telephones that utilizes the telephone's sensors to secure information about the client. A few uses of this product incorporate psychological wellness and in general health observing. This class of programming is significant in light of the fact that it has the capability of giving a commonsense and minimal effort way to deal with convey mental intercessions for the anticipation of psychological well-being issue, just as carrying such mediations to populaces that have no entrance to conventional human services.

Mobile phone-based sensing technologies collect information about a user's environment and behaviour using the sensors built into a mobile phone. These sensors include, among others, the microphone, gyroscope, magnetometer, GPS, and accelerometer.

Applications for mobile phone-based sensing software include activity detection, environmental sensing, and health monitoring. For instance, mobile phone sensors can be used to measure and monitor fitness levels by detecting physical activity like walking or running. They can also be used to track sleeping habits and spot sleep disruptions.

Mobile phone-based sensing technologies can be utilised for environmental sensing in addition to health monitoring. They can, for instance, detect temperature, noise levels, and air quality. With the use of this data, pollution levels may be mapped, and people can be guided away from noisy or polluted places.

Activity recognition is another use for mobile phone-based sensing software. The user's activities, such as whether they are walking, driving a car, or sitting at a computer, can be detected using this technology. By using this data, the user can receive personalised feedback or have some processes automated, such turning on the navigation system in the automobile when the user starts driving.

Sensing software for mobile phones has the potential to collect a variety of information about user behaviour and their surroundings. Applications for this data range from activity recognition to environmental sensing to health monitoring.

This involved the following steps:-

Understanding the domain in detail by going through the latest technical literature published in the domain to build upon the classification scheme ; and extracting patents/applications having high relevance to the domain (by using keywords, inventors, assignees, patent classes, etc.) based logic. Then categorizing the patents by leveraging automated techniques like scatter plots, automated taxonomies generated by commercial patent databases and intelligent use of search strings that will be run on the entire patent document to group patents talking about similar concepts/technology.

CHAPTER 5

CONCLUSION

5.1 Conclusions

This industrial training at GreyB Research Pvt Ltd. provides a huge boost to my career. It actually provides me exposure to the corporate world. It provided me platforms to utilize my skills and path to take a leap towards success. The training has given me many opportunities to use my skills and demonstrate my abilities. I've had the opportunity to work on issues from the real world and help develop useful answers. This has made it easier for me to see the value of cooperation and teamwork in attaining shared objectives.

It provides me the opportunities to work on various live projects. I have learned a lot about SEP Analysis and predicting future technologies.

References

1. <https://www.greyb.com/patent-infringement-search-approach/>
2. <https://www.techpats.com/patent-services/patent-infringement-analysis/>
3. <https://www.greyb.com/>
4. <https://www.lexisnexisip.com/knowledge-center/six-practical-uses-for-file-wrapper-searches/>
5. <https://patinformatics.com/file-wrapper-analysis-of-us6932368-apparatus-for-harnessing-wind-to-drive-a-bicycle/>
6. <https://medium.com/@angeladams/what-is-an-image-file-wrapper-or-patent-file-wrapper-35e3>