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(54) Title of the invention : A COLLABORATIVE LEARNING SYSTEM USING SOCIAL MEDIA AND CLOUD TECHNOLOGY

 (51) International classification (86) International Application No Filing Date (87) International Publication No (61) Patent of Addition to Application Number Filing Date (62) Divisional to Application Number Filing Date 	:G06N 030400, G06Q 101000, G06Q 201400, G06Q 500000, H04L 671000 :PCT// :01/01/1900 o: NA :NA :NA :NA :NA	 (71)Name of Applicant : (71)Dr. Radhika CA Address of Applicant : Assistant Professor, Department of Media Studies, Kristu Jayanti College, Autonomous, K. Narayanapura, Kothanur, Bengaluru, Pin: 560077
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(57) Abstract :

The present invention relates to a collaborative learning system that utilizes social media and cloud technology to provide a more interactive and engaging learning experience. The system allows learners to share knowledge and expertise with each other through various social media channels, and provides real-time access to a range of learning resources, including interactive multimedia content, online assessments, and discussion forums. The system leverages the power of cloud technology to enable seamless collaboration and communication between learners and instructors, regardless of their location. This collaborative learning system is designed to enhance the quality and effectiveness of learning and training programs in educational institutions, corporate organizations, and other settings. Accompanied Drawing [FIGS. 1-2]

No. of Pages : 21 No. of Claims : 10

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authenticated within the prescribed period).							
I/We, the above named inventor(s) is/are the true & first inventor(s) for this Invention							
a	and declare that the applicant(s) herein is/are my/our assignee or legal						
representative.							
(a) Date 30/	/04/2023					
	(b) Name (c)Signatur			e			

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(ii) Declaration by the applicant(s) in	the convention of	country				
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I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative. (a) Date (b) Signature(s)						
(iii) Declaration by the applicant(s)						
I/We the applicant(s) hereby declare(s)	I/We the applicant(s) hereby declare(s) that: -					
\in Lam/ We are in possession of the above-mentioned invention.						
€ The provisional/complete specification relating to the invention is filed with this application.						
C The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.						
$finite{figure}$ There is no lawful ground of c	f There is no lawful ground of objection(s) to the grant of the Patent to me/us.					
€ Lam/we are the true & first inv	ventor(s).					
€ I am/we are the assignee or le	egal representative	of true & first inventor(s).				
€ The application or each of the applications, particulars of which are given in Paragraph-8, was the first application in convention country/countries in respect of my/our invention(s).						
$ m \in$ I/We claim the priority from	the above ment	ioned application(s) filed in				

conven	tion country/countries	and state that no a	oplication for protection in		
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13. FOLLOWING	ARE THE ATTACHN	IENTS WITH THE AP	PLICATION		
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Abstract	No. of pages: 01				
No. of Drawing(s)	No. of drawings: 02				
	No. of pages: 02				

In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13(4), the number of such pages filed with the provisional specification are

required to be mentioned here.

- (b) Complete specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).
- (c) Sequence listing in electronic form
- (d) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).
- (e)Priority document(s) or a request to retrieve the priority document(s) from DAS (Digital Access Service) if the applicant had already requested the office of first filing to make the priority document(s) available to DAS.
- (f) Translation of priority document/Specification/International Search Report/International Preliminary Report on Patentability.
- (g) Statement and Undertaking on Form 3

(h) Declaration of Inventorship on Form 5

(i)Power of Authority

(j)Total fee ₹.....in Cash/ Banker's Cheque /Bank Draft bearing No..... Date on Bank.

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters slated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this 30th day of April 2023

Rulyika.c.A

Name: Dr. Radhika CA et. al.

To,

The Controller of Patents The Patent Office, at Chennai

Signature:

Note: -

- * Repeat boxes in case of more than one entry.
- * To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned.
- * Tick ()/cross (x) whichever is applicable/not applicable in declaration in paragraph-12.
- * Name of the inventor and applicant should be given in full, family name in the beginning.
- * Strike out the portion which is/are not applicable.
- * For fee: See First Schedule";

FORM 2

THE PATENTS ACT, 1970

(39 of 1970)

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The Patent Rules, 2003

COMPLETE SPECIFICATION

(See section 10 and rule 13)

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TITLE OF THE INVENTION

"A COLLABORATIVE LEARNING SYSTEM USING SOCIAL MEDIA AND CLOUD

TECHNOLOGY"

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The following specification particularly describes the nature of the invention and the

manner in which it is performed:

FIELD OF THE INVENTION

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[001] The field of invention for the proposed invention is a collaborative learning system that utilizes social media and cloud technology. The invention aims to provide a platform for students and teachers to collaborate and share learning resources and content in real-time, without the limitations of time and space.

[002] The proposed system is designed to leverage the power of social media and cloud computing to enhance the learning experience for students and enable effective communication and collaboration between teachers and students. The system utilizes a variety of technologies, including social media platforms, cloud storage, and machine learning algorithms to provide a seamless and personalized learning experience for users.ve our understanding of the environment and enhance sustainability.

BACKGROUND OF THE INVENTION

- **[003]** The rise of social media and cloud computing technologies has significantly transformed the way people interact with each other, access information, and learn new things. These technologies offer vast opportunities for collaboration and information sharing, which have proven to be highly beneficial for many fields, including education.
- 20 **[004]** Collaborative learning is an approach to education that emphasizes teamwork and cooperation among students. It is an effective way to enhance learning outcomes and foster critical thinking and problem-solving skills. However, traditional collaborative learning methods are limited by several factors, including time and space constraints, access to resources, and the

inability to scale. As a result, educators are increasingly turning to technology to facilitate collaborative learning.

[005] Social media platforms such as Facebook, Twitter, LinkedIn, and Instagram, have emerged as popular tools for communication and collaboration among people. These platforms allow users to create and share content, communicate with each other, and collaborate on projects. They also offer features such as groups, pages, and hashtags that can be used to organize information and facilitate collaboration.

[006] Cloud computing technology is another innovation that has revolutionized the way people access and store information. It allows users 10 to store and access data and applications over the internet, eliminating the need for local storage devices. Cloud computing also offers a scalable and flexible platform for collaboration, making it an ideal solution for collaborative learning.

[007] The combination of social media and cloud computing technology 15 presents a unique opportunity to create a collaborative learning system that leverages the strengths of both technologies. This system could enable students to collaborate on projects, share resources, and communicate with each other in real-time, regardless of their location. It could also provide educators with tools to monitor and track student progress, facilitate 20 discussions, and provide feedback.

> [008] To enable social media and cloud technology to support collaborative learning, several systems have been developed in recent years. For example, collaborative learning can occur through social networking sites such as Facebook, LinkedIn, and Twitter. These sites provide an opportunity

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for students to connect with each other and share information and resources. However, there are limitations to using these platforms, such as the potential for distractions, privacy concerns, and lack of control over content.

[009] To address these limitations, collaborative learning systems have been developed that integrate social media and cloud technology. These systems provide a more structured and secure environment for collaborative learning. One such system is the Learning Management System (LMS). LMSs provide a centralized platform for creating and managing learning content, tracking student progress, and facilitating communication and collaboration. LMSs can be integrated with social media tools to provide a more interactive and engaging learning experience.

[010] Another approach to collaborative learning is the use of cloud-based platforms. Cloud-based platforms allow students to access learning materials and collaborate with each other from anywhere, at any time. These platforms can be accessed from any device with an internet connection and can support a range of collaborative activities, such as group discussions, document sharing, and online project management.

[011] In addition, there are several emerging technologies that are being integrated with collaborative learning systems to enhance the learning experience. For example, gamification is being used to make learning more engaging and interactive. Virtual and augmented reality technologies are being used to provide immersive learning experiences. Artificial intelligence and machine learning are being used to personalize learning content and provide students with real-time feedback. . some Patent prior art related to proposed invention mentioned below .

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[012] US20180031214A1 - A social media platform for online learning that enables users to create and share multimedia content, ask and answer questions, and provide feedback to each other.

[013] US20170355121A1 - A collaborative learning system that integrates social media and cloud technology to provide real-time communication, shared workspaces, and access to learning resources.

[014] US20190132453A1 - A cloud-based learning management system that integrates with social media platforms to provide a collaborative learning experience.

10 **[015]** US20190331452A1 - A learning management system that uses social media platforms to facilitate group discussions, content sharing, and collaborative learning.

[016] US20190017014A1 - A cloud-based learning platform that enables students to collaborate on projects, share content, and communicate with each other using social media tools.

[017] US20190228882A1 - A collaborative learning system that uses cloudbased technology to enable real-time communication, document sharing, and group work.

[018] US20180262320A1 - A cloud-based social learning system that allows users to create and share content, connect with other learners, and collaborate on projects.

[019] US20180006710A1 - A social media platform for collaborative learning that includes features such as discussion forums, content sharing, and real-time messaging.

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[020] US20200152724A1 - A collaborative learning system that uses cloudbased technology to provide access to learning resources, enable real-time communication, and facilitate group work.

[021] US20200238309A1 - A social media platform that integrates with learning management systems to provide a collaborative learning experience, including features such as discussion forums, content sharing, and real-time messaging.

SUMMARY OF THE PRESENT INVENTION

[030] The proposed invention is a collaborative learning system that utilizes social media and cloud technology to facilitate effective and efficient learning among students. The system integrates various features such as group discussions, collaborative assignments, and interactive quizzes to provide a comprehensive learning experience to students.

[031] Through the use of social media platforms such as Facebook, Twitter, and LinkedIn, students can connect with their peers and instructors to engage in discussions, share ideas, and receive feedback. The system also allows for the creation of virtual classrooms, where students can collaborate on assignments and projects in real-time using cloud-based tools such as Google Docs and Dropbox.

20 **[032]** Moreover, the system provides personalized learning experiences through the use of machine learning algorithms that analyze student data and provide recommendations for areas of improvement. This allows instructors to identify and address individual learning needs, ultimately leading to better academic outcomes.

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Overall, the proposed collaborative learning system aims to enhance the learning experience for students by leveraging the power of social media and cloud technology. It offers a dynamic and interactive learning environment that promotes engagement, collaboration, and personalized learning.

5 BRIEF DESCRIPTION OF THE DRAWINGS

[033] when considering the following thorough explanation of the present invention, it will be easier to understand it and other objects than those mentioned above will become evident. Such description refers to the illustrations in the annex, wherein:

10 **[034] FIG. 1,** illustrates a general simple working process block diagram connecting point , in accordance with an embodiment of the present invention.

[035] FIG. 2, illustrates a Detailed schematic diagram of the functional layer of learning system using cloud , in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

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[036] The following sections of this article will provide various embodiments of the current invention with references to the accompanying drawings, whereby the reference numbers utilised in the picture correspond to like elements throughout the description. However, this invention is not limited to the embodiment described here and may be embodied in several other ways. Instead, the embodiment is included to ensure that this disclosure is extensive and complete and that individuals of ordinary skill in the art are properly informed of the extent of the invention.

[037] Numerical values and ranges are given for many parts of the implementations discussed in the following thorough discussion. These numbers and ranges are merely to be used as examples and are not meant to restrict the claims' applicability. A variety of materials are also recognised as fitting for certain aspects of the implementations. These materials should only be used as examples and are not meant to restrict the application of the innovation.

[038] Referring now to the drawings, these are illustrated in FIG. 1&2. A Collaborative Learning System using Social Media and Cloud Technology is a novel approach to education that utilizes the power of social media and cloud technology to enhance collaborative learning experiences for students. This system allows students to collaborate with their peers and teachers in real-time, regardless of their physical location, through the use of online platforms and tools. This invention aims to provide a more personalized and flexible learning experience, as well as foster communication, collaboration, and knowledge sharing among students.

[039] The proposed system is designed to be integrated with existing learning management systems (LMS) to extend their functionality and provide additional features. The system is built on a cloud-based platform that enables students and teachers to access the system from any device and location with internet connectivity. The platform is equipped with various tools and functionalities to support collaborative learning, such as social networking, messaging, file sharing, video conferencing, and real-time document collaboration.

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[040] The social networking feature of the platform allows students to create and join online communities to connect and collaborate with their peers. These communities are centered around specific subjects or topics, enabling students to engage in discussions, share knowledge and resources, and seek help from their peers. The messaging feature allows students to communicate with their peers and teachers in real-time, providing a more convenient and efficient means of communication.

[041] The file-sharing feature of the platform allows students to upload and share files with their peers and teachers, enabling them to collaborate on assignments and projects. This feature also allows teachers to provide feedback and suggestions on students' work, facilitating the learning process.

[042] The video conferencing feature of the platform enables students and teachers to conduct virtual meetings and lectures, regardless of their physical location. This feature also facilitates guest lectures and discussions with experts in various fields, providing students with access to diverse perspectives and knowledge.

[043] The real-time document collaboration feature of the platform allows students and teachers to collaborate on documents in real-time, enabling them to work together on assignments, projects, and presentations. This feature also allows teachers to provide feedback and suggestions to students in real-time, facilitating the learning process.

[044] The proposed system also provides features to track student progress and performance, enabling teachers to monitor and assess students' learning outcomes. The system generates reports and analytics on student

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participation, engagement, and performance, providing teachers with valuable insights to enhance their teaching strategies and approaches.

[045] Furthermore, the system will offer the users the ability to rate and give feedback on each other's contributions, allowing for an improved and more personalized learning experience. The collaborative learning system will also enable real-time communication, including video and audio conferencing, as well as instant messaging and chat features. This aspect of the system will facilitate discussions and debates between learners, providing a more comprehensive understanding of the course materials.

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[046] Moreover, the system will have cloud-based capabilities, making it easier for users to access the learning material from any device with an internet connection. The cloud technology will enable the system to store, manage, and deliver digital content, such as videos, audio, and text files. Additionally, the system will offer advanced analytics and data tracking features, allowing instructors to monitor learner progress and performance.

[047] The social media aspect of the system will enable learners to interact and engage with their peers and instructors. The platform will have social media integration, enabling learners to share content, such as course materials, links, and other resources. Users will also be able to join groups, create study circles, and connect with learners who share similar interests.

[048] To ensure that the collaborative learning system provides an optimal learning experience, it should be designed with several key features. First, the system should have a user-friendly interface that allows for easy navigation and access to the system's features. This includes features such

as creating and joining groups, accessing learning resources, and participating in discussions.

[049] Second, the system should have robust security features to ensure that the user data and learning resources are protected. This includes features such as user authentication, data encryption, and access control.

Third, the system should incorporate machine learning algorithms to provide personalized learning recommendations to each user. This can include recommendations for learning resources, groups to join, and discussion topics to participate in.

10 **[050]** Fourth, the system should incorporate gamification elements to increase user engagement and motivation. This can include features such as badges and rewards for completing tasks, leaderboards to track progress, and social recognition for accomplishments.

[051] Fifth, the system should be designed with scalability in mind to accommodate a large number of users and learning resources. This includes using cloud technology to ensure that the system can handle a high volume of traffic and users.

[052] Another key aspect of this proposed invention is the use of cloud technology, which enables the collaborative learning system to operate on a larger scale and with more flexibility. Cloud technology allows for the storage and processing of large amounts of data, as well as the ability to access that data from anywhere with an internet connection. This means that students and teachers can collaborate from different locations and devices, without being limited by the resources available on a single computer or server.

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[053] In addition, the use of social media as a tool for collaboration and communication can facilitate the exchange of ideas and feedback between students and teachers in real-time. Social media platforms such as Twitter and Facebook can be integrated into the collaborative learning system, allowing students to share resources, ask questions, and receive feedback from their peers and instructors.

[054] Overall, this proposed invention has the potential to revolutionize the way we approach collaborative learning in the digital age. By leveraging the power of cloud technology and social media, it can provide students with a more flexible, accessible, and interactive learning experience that enhances their educational outcomes and prepares them for the demands of a rapidly changing world.

We Claim:

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- A collaborative learning system comprising social media integration and cloud technology for real-time communication, file sharing, and collaborative learning activities among a group of learners.
- 2. The system of claim 1, wherein the social media integration includes access to social media platforms for sharing information, comments, feedback, and discussions related to learning activities.
 - **3.** The system of claim 1, wherein the cloud technology includes a cloud-based platform for storing, sharing, and managing learning materials, resources, and assessments.
 - 4. The system of claim 1, wherein the system allows for real-time video and audio communication between learners and instructors for synchronous learning activities.
 - **5.** The system of claim 1, wherein the system includes a feature for gamification
- to enhance learner engagement and motivation in the learning process.
 - 6. The system of claim 1, wherein the system includes an analytics module to track and analyze learner performance and provide personalized learning recommendations and feedback.

- 7. The system of claim 1, wherein the system includes a feature for peer evaluation and feedback to enhance learner engagement and collaborative learning.
- 8. The system of claim 1, wherein the system includes a feature for adaptive learning to personalize the learning experience for individual learners based on their learning preferences and progress.
 - 9. The system of claim 1, wherein the system includes a feature for content curation and recommendation based on learner preferences, performance, and feedback.
- **10 10.** The system of claim 1, wherein the system includes a feature for seamless integration with existing learning management systems (LMS) and other educational tools for a comprehensive learning experience.

Dated this 30th day of April 2023

Signature:

Applicant(s) Dr. Radhika CA et. al.

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ABSTRACT

A COLLABORATIVE LEARNING SYSTEM USING SOCIAL MEDIA AND CLOUD TECHNOLOGY

- [055] The present invention relates to a collaborative learning system that utilizes social media and cloud technology to provide a more interactive and engaging learning experience. The system allows learners to share knowledge and expertise with each other through various social media channels, and provides real-time access to a range of learning resources, including interactive multimedia content, online assessments, and discussion forums. The system leverages the power of cloud technology to enable seamless collaboration and communication between learners
- and instructors, regardless of their location. This collaborative learning system is designed to enhance the quality and effectiveness of learning and training programs in educational institutions, corporate organizations, and other settings.

Accompanied Drawing [FIGS. 1-2]

15 Dated this 30th day of April 2023

Signature:

Applicant(s) Dr. Radhika CA et. al.



Figure 1

Rulyika.c.A Signature:



Figure 2

Dated this 30th day of April 2023

Rulyika.c.A Signature:

	FORM 3				
THE PATENTS ACT, 1970 (39 of 1970)					
		THE P	and ATENTS RULES	S. 2003	
	STA	TEMENT	AND UNDERTA	KING UNDER	
		(Se	SECTION 8 e section 8: Rule	12)	
		(00)		, , , , , , , , , , , , , , , , , , , ,	
1. Name of the	applicant(s).	I/We	e Dr. Radhika	CA et. al., all a	are citizen of India,
		Add	ress of one of	the Applicant:	Assistant Professor,
		Dep	partment of Me	dia Studies, Kris Iaravananura Ko	stu Jayanti College, othanur Bengaluru
		Pin:	560077.		Striaria, Derigalara,
2. Name, addre	ess and nationa	ality of	(i) that I/We ha	ave not made any	y application for the
the joint ap	olicant.		same/substanti	ally the same inve	ention outside India
			Or		
			(ii) that I/We w	ho have made th	nis application No
			dated alone/	jointly with	,
			made for the	same/ substantia	ally same invention,
			application(s) for patent in the other countries, the		
			particulars of w	hich are given be	low:
Name of the	Date of	Applicatio	Status of the	Date of	Date of grant
Country	Application	n No.	Application	Publication	
-	-	-	-	-	-
3. Name and a	ddress of the		(iii) that the rig	ghts in the appli	ication(s) has/have
assignee			been assig	ned to	none
				that I/V	Ve undertake that
			upto the date	e of grant of t	he patent by the
			Controller, I/W	e would keep him	n informed in writing
			the details re	garding correspo	onding applications
			for patents file	ed outside India	within six months
			from the date of	of filing of such ap	plication.
			Dated this 30 ^t	^h day of April 20	23

4. To be signed by the applicant or his authorized	Signature:
registered patent agent.	Rulyika.c.A
5. Name of the natural person who has signed.	Dr. Radhika CA et. al.
	Name of the Applicant(s)
	То
	The Controller of Patents,
	The Patent Office, at
	Chennai
Note Strike out whichever is not applicable;	

FORM- 5 THE PATENTS ACT, 1970 (39 of 1970) &

The Patents Rules, 2003 DECLARATION AS TO INVENTORSHIP [See Section 10(6) and Rule 13(6)]

1. NAME OF THE APPLICANT(S)

6. Dr. Breez Mohan

Hazarika

I/We Dr. Radhika CA et. al., all are citizen of India, Address of one of the Applicant: Assistant Professor, Department of Media Studies, Kristu Jayanti College, Autonomous, K. Narayanapura, Kothanur, Bengaluru, Pin: 560077.

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of my/ our application numbered ______ dated 30/04/2023 is/are

2. INVENTOR(S) (a) NAME (b) NATIONALITY (c) ADDRESS 1. Dr. Radhika CA Indian Assistant Professor. Department of Media Studies, Kristu Jayanti College, Autonomous, K. Narayanapura, Kothanur, Bengaluru, Pin: 560077 2. Dr.Swapnil Indian Principal, Bhalchandra Nirmal Department of Education, Motiwala College of Educational Sciences, Pin: 422003 3. Mr.Rahul Suresh Indian Lecturer. Honrao Department of Interior Spaces, Faculty of Architecture, Vishwakarma University, Survey No 2, 3,4, Kondhwa Road, Laxmi Nagar, Pune, Maharashtra, Pin: 411048 Assistant Professor, 4. Dr. Bondu Raju Indian MANUU College of Teacher Education, Shaheen Nagar, Shahpur Gate, Bidar, Pin: 585403 5. Solasa Manikanta Indian Student B.tech. Department of Computer Science & Kumar Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, Pin: 522403

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8. Aditya Kumar	Indian	Sr Faculty 'IT',			
Tripathi		CCSIT, TMU (Collaboration			
		iNurture), Teerthankar Mahaveer			
		University, Delhi Road, Moradabad,			
		Pin: 244001			
3. DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT(S) IN THE CONVENTION COUNTRY: -					
	N.A.				
We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).					
Dated this 30 th day of Apri	1 2023				
		Dr. Radhika CA et. al.			
		Applicant(s)			

To, The Controller of Patents The Patent Office, Chennai

FORM 9

THE PATENT ACT, 1970 (39 of 1970) & THE PATENTS PLUES 200

THE PATENTS RULES, 2003

REQUEST FOR PUBLICATION

[See section 11A (2) rule 24A]

I/We Dr. Radhika CA,Dr.Swapnil Bhalchandra Nirmal,Mr.Rahul Suresh Honrao,Dr. Bondu Raju,Solasa Manikanta Kumar,Dr. Breez Mohan Hazarika,Dr. Ujjal Aloke Sarkar,Aditya Kumar Tripathi hereby request for early publication of my/our [Patent Application No.] TEMP/E-1/35292/2023-CHE

Dated **30/04/2023 00:00:00** under section 11A(2) of the Act.

Dated this(Final Payment Date):------Signature Name of the signatory

To, The Controller of Patents, The Patent Office, At Chennai

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