

Skill Swap Platform

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Abstract— People in the contemporary world desire to know and improve things. Some of the issues that are faced by a lot of people include: courses that are too expensive cannot find good teachers or they cannot pass what they know to others. In order to correct these issues this project is developing something known as Skill Swap. Skill Swap is a location where individuals will be able to exchange skills amongst one another without necessarily paying money. In this manner individuals are able to learn with one another. Share personal skills, say, Skill Swap, which is all, on sharing skills. Skill Swap system is user friendly. It is made for everyone. Skill Swap is interactive. It can be used without any difficulty by people. Skill Swap desires individuals to collaborate and contribute their knowledge. In so doing Skill Swap creates the space where individuals may educate one another. The primary concept of Skill Swap is to simplify the process of learning skills. Skill Swap achieves this by rendering the learning process cheaper and enjoyable. People can also use Skill Swap to instruct others in what they know.

Keywords— Skill Exchange; Peer Learning; Collaborative Education; Digital Learning Platform.

I. INTRODUCTION

It is vital to learn things these days not only in our good but also in our employment. Good learning materials cannot be obtained by everybody. This implies that many good looking learners are unable to be as good as they can be. Personal growth: still, learning skills are important to the personal growth. Professional growth: learning skills are important to the professional. The emergence of AI and Machine Learning will allow us to make the learning more user-centered and adaptable [1],[4],[10]. New systems cannot focus on listening to a teacher but stimulate people to learn with each other. This peer-to-peer strategy allows individuals to share their expertise and learn new skills by collecting ones that make the learning process more interesting [3],[7]. Through doing, individuals learn through one another and AI and Machine Learning make this achievable [5],[8], [9].

II. RELATED WORK

Existing Multiple online platforms facilitate learning and competence building. The majority of them are concentrated on a single aspect of learning. Recorded material is predominantly available in the online course platforms. This content can be pricey. Lacks interaction. These sites are beneficial, to theory learning. They are not necessarily in favour of studying with others and practical work [5],[6], [11]. On the one hand certain communities that have common skills allow users to network and exchange knowledge. These platforms lack other features such as matching users with the appropriate skills that propose personalized content or monitor the performance of users [2],[7]. This renders learning not so good and not effective to the users, in skill-sharing communities.

LITERATURE REVIEW

Our learning and acquisition of skills are now different due to new technologies such as Artificial Intelligence and Machine Learning. The new tools are simplifying people learning in their style and at their pace [4],[8], [9].

2.1 AI in Personalized Learning

Artificial Intelligence can be useful in designing learning experiences that suit individuals appropriately. The Artificial Intelligence systems are able to observe what the users do and what they like and propose what will assist them in learning [4],[5].

2.2 Matching Skills and Peer-to-peer Learning Systems.

The matching of people with the learning partners is a large focus of people-based learning platforms that were studied revealed how machine learning algorithms can be applied to match people with similar or complementary skills by grouping and analysing their similarity [2],[7].

III. METHODOLOGY

Skill Swap system is a platform that assists individuals to share skills amongst themselves. This

is done with the help of smarts and knowledge regarding the users. Clustering and recommendation systems are machine learning models that match a user with skills suggestions [8]. The data will be collected and pre-processed in 3.2.

Table I presents the ideation of the proposed system by comparing existing solutions with the proposed approach.

Sr. No.	Requirements	Available Solutions	Proposed Solution
1.	Skill discovery and learning opportunities	1. Online courses (paid) 2. YouTube tutorials (unstructured content)	1. AI-based skill matching system 2. Peer-to-peer learning without cost.
2.	Interactive and practical learning	1. Limited interaction 2. Lack of real-time	1. Live interactive sessions. 2. Feedback and rating
3.	Personalization and accessibility	1. Generic recommendation 2. Limited language support	1. AI-based personalized suggestions 2. Multilingual & simple interface

The research shows AI-based personalization together with peer-to-peer learning systems which successfully overcome the existing platform restrictions according to sources [2], [8], [9].

3.2 Data Collection and Preprocessing

To provide advice and pair individuals with the most appropriate system gathers the information at numerous locations and collates them to be examined in the future.

User Profile Information: By signing up, the people inform us about what they are good at what they want

3.1 System Overview

Table I. Ideation of system ([2], [8], [9])

to learn how experience they are having, what they would like to do and when they are free. We package all this information into a format thus making it easy to use.

Interaction Records: We record what users are doing on the site such as what sessions they are attending how they rate what feedback they are leaving. The way they socialize with others. This enables us to make recommendations in the long run.

Skill Repository: It has a good-organized database on skills, with some of the areas being technical, creative and academic. This provides uniformity as it aligns users and proposes learning opportunities.

3.3 Workflow and Architecture of Applications.

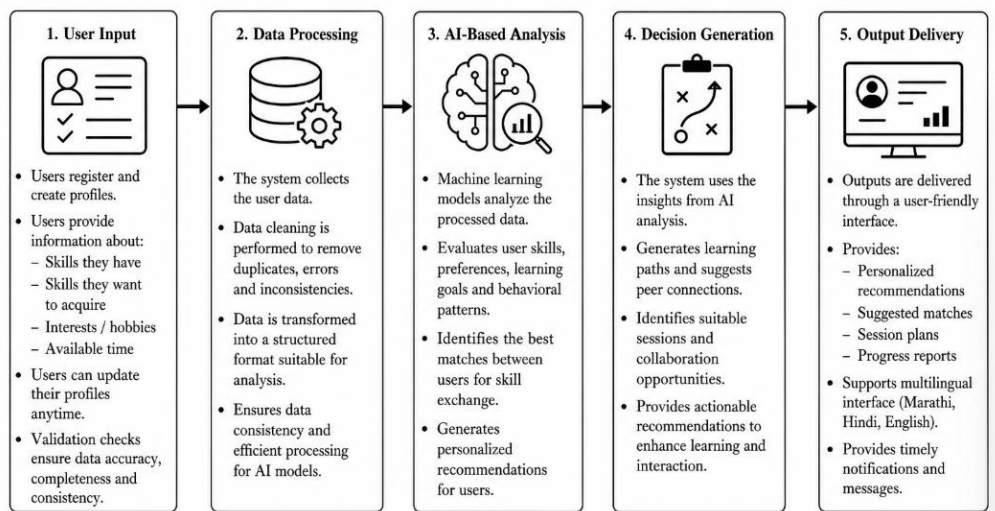


FIG.1. Workflow of system [2], [8], [9]

The system follows a step-by-step process which allows users to successfully interact with the platform. The process starts with user input according to Fig. 1 which shows users must first register before sharing their skill information, their interests, and their available time slots. The data collection process leads to data processing which produces an organized structure that enables proper analysis. The AI-based models start to analyze user behavior together with their preferences and their competencies to find appropriate matches while creating individualized recommendations. The system generates decisions through its analysis. This produces recommended learning paths together with suggested peer connections and teamwork opportunities. The system delivers its output through an interface which users can easily navigate to access session recommendations, progress reports, and language options including Marathi, Hindi, and English [2], [8], [9]).

3.4 Summary

The given approach demonstrates the way AI may be employed to enhance the process of learning skills through collaboration. AI is used to match individuals with the learning opportunities. It is also interactive and provides recommendations. It makes learning very viable and entertaining. Skill Swap also enables one to share and learn with others. It assists the individuals to develop as they are linked with others. Users can. Enhance their capabilities virtually. Skill Swap supports growth. It simplifies learning and sharing of knowledge.

IV. RESULTS AND DISCUSSIONS



FIG.3. Home page

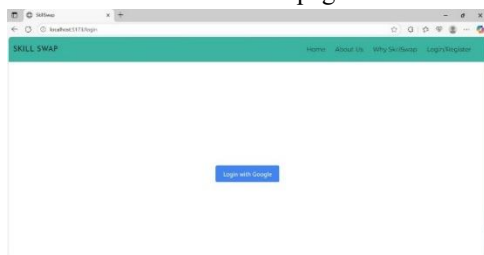


FIG.4 Login page

The workflow diagram is a diagram which illustrates the functioning of our system step by step. It begins in the case that a user enters and ceases when he or she completes a task. The design of the diagram is designed to allow easy navigation through the system by the users to have an experience.

Workflow diagram assists the user to navigate the system easily.

1. Start and Welcome Screen The process begins at the start point and then the screen appears. This is the screen that informs you about the platform. Facilitates forward movement to the users.

2. Login Process

- Users go to the login page. Enter their details.
- The system verifies the data that you have typed.
- In case the details are incorrect, an error message is displayed. You are asked to try again.

3. Menu Display and Navigation The next thing after you log in is the menu where you can access various sections of the platform. The platform has things like:

- Skill matching
- Joining learning sessions
- Viewing recommendations
- Tracking your progress

4. Performing Actions Depending on your decision on the platform does what you require.

This can be things like:

- Locating the right learning partner.
- Having an interactive learning session.

5. End of Process When you are finished with what you selected the process is finished, at that moment.

V. CONCLUSION

The project is concerning a platform which enlists the aid of intelligence to enable individuals share skills with one another. Generally, Skill Swap is a means of individuals to acquire new skills and disseminate what they have known among themselves. It is one of the ways through which individuals continue learning and improving in a world where nothing is isolated. Skill Swap helps people to share knowledge and acquire skills.

Future Work.

- Integration of Career and Job Recommendation Systems:

Future enhancements can include AI-based job and internship recommendations aligned with user skills, helping users connect learning outcomes with career opportunities.

- Advanced Skill Verification and Certification: Incorporating certification mechanisms and skill validation using AI or blockchain can enhance credibility and trust among users.

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