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## Chatbot as a digital counselor

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## INDEX

INTRODUCTION .....	3
WHAT IS A CHATBOT.....	4
"SKILLBOT": the Chatbot of the INTRA project.....	7
CONCLUSION .....	9



## INTRODUCTION

In the context of adult education and lifelong learning, the integration of innovative technologies such as chatbots is becoming increasingly relevant.

This paper explores the concept of chatbot as a digital counselor, with a focus on the INTRA project and its implementation in the Moodle platform.

The goal is to provide an in-depth understanding of how chatbots can enhance the learning experience by offering personalized support and facilitating access to educational resources.



## WHAT IS A CHATBOT

A chatbot is a software program designed to simulate human conversations through the use of artificial intelligence.

It can interact with users via text or voice messages, answering questions, providing information, and assisting with specific tasks.

Chatbots can be integrated into different platforms, such as websites, messaging apps, and learning management systems (LMS) such as Moodle.

The chatbot can be used for different functions:

1. **User Support:** A chatbot can provide immediate assistance to users, answering frequently asked questions and resolving technical issues. This is especially useful in educational settings, where users may have questions about course modules, deadlines, and enrollment procedures.
2. **Personalized Orientation:** It can guide users in choosing the courses or learning materials that best suit their needs and goals, offering recommendations based on individual progress and interests.
3. **Instant Feedback:** Chatbots can provide feedback on quizzes and completed tasks, helping users understand their mistakes and suggesting resources to improve their skills.
4. **Access to Resources:** They can facilitate access to learning materials, links to external resources, and information about upcoming events or courses, making learning more fluid and integrated.
5. **Promoting self-learning:** Chatbots can encourage users to explore new topics and develop soft skills by providing tips on how to apply what they have learned in daily life.

In summary, a chatbot acts as a virtual assistant, enhancing users' learning experience and supporting their personal and professional development in an efficient and interactive way.

In educational contexts such as the INTRA project, the chatbot can include:



- **User support:** Answer frequently asked questions about the platform, courses, and content. Helping users navigate the platform and find the resources they need. Provide technical assistance for common problems.
- **Personalized guidance:** Guiding users in choosing the training modules that best suit their needs and goals. Suggest personalized learning paths based on the user's profile and interests.
- **Feedback and assessment:** Provide immediate feedback on completed quizzes and tests. Helping users understand their mistakes and how to improve. Suggest additional resources to learn more about specific topics.
- **Motivation and engagement:** Encourage learners to complete courses and activities. Send reminders and notifications to keep the effort. Provide encouragement and motivational support.
- **Data collection and analytics:** Monitor user interaction with the platform. Collect feedback to continuously improve content and user experience. Provide analytics on student learning and progress.
- **Learning Support:** Answer questions about the course content. Provide additional explanations on complex concepts. Suggest effective study strategies.
- **Integration with the blockchain:** Facilitate the issuance and verification of digital certificates of skills. Explain to users how the blockchain certification system works.



# HOW TO CREATE A CHATBOT INTEGRATED INTO THE MOODLE PLATFORM

Integrating a chatbot within Moodle can significantly improve the adult learning experience, offering personalized support and ongoing guidance. A well-designed chatbot can help users navigate the platform, answer frequently asked questions, provide immediate feedback on exercises and tests, and suggest additional resources based on individual needs. Additionally, it can act as a virtual guide, helping users identify their learning goals and plan their learning journey effectively.

## 1. Goal Setting

- **Support and Guidance:** The chatbot must be able to provide technical and educational support, helping users solve technical problems and better understand the course content.
- **Learning Personalization:** It must be able to personalize interactions according to the user's profile, suggesting relevant courses or materials.

## 2. Technical Development

- **Development Platform:** Use tools such as Dialogflow, IBM Watson Assistant or Microsoft Bot Framework to develop the chatbot.
- **Moodle integration:** Implement the chatbot using Moodle's API to access user data and interact with course modules.
- **Use of Artificial Intelligence:** Implement machine learning algorithms to improve the chatbot's responsiveness and adapt to user needs.

## 3. Key Features

- **Automatic Responses:** The chatbot must be able to answer frequently asked questions regarding the course, the platform and the content.
- **Feedback and Evaluation:** Provide immediate feedback on quizzes and tests, helping users understand their mistakes and how to improve.



- **Personalized Suggestions:** Based on the progress and interests of the users, the chatbot can suggest additional courses or study materials.

#### 4. Implementation and Testing

- **Usability Testing:** Conduct tests with a group of users to ensure that the chatbot is easy to use and effectively responds to user needs.
- **User Feedback:** Collect feedback from users to continuously improve the functionality and effectiveness of the chatbot.

#### 5. Monitoring and Updating

- **Interaction Analytics:** Use analytics tools to monitor user interactions with the chatbot and identify areas for improvement.
- **Regular Updates:** Update your chatbot regularly to include new features and improve the user experience.

### "SKILLBOT": the Chatbot of the INTRA project

A specific chatbot, called SKILLBOT, has **been developed for the INTRA project**, which emphasizes the development and certification of skills.

The introductory message was then devised, with which **SKILLBOT** introduces itself and communicates the ways in which it can interact with it.

*«Welcome, I'm Skillbot, your personal digital counsellor! I am excited to offer you innovative and interactive support in your learning journey within the INTRA platform.*

*Choose from the requests, and I will do my best to provide you with the information you need. Whether it's clarification on course content, tips on how to approach the activities or simply encouragement, I'm here for you!»*







## CONCLUSION

The integration of a chatbot into the Moodle platform represents a significant step towards a more interactive and personalized education. A well-designed chatbot not only improves accessibility and learning efficiency, but also supports adult users in their personal and professional development journey, providing continuous and personalized support. With the adoption of innovative technologies such as artificial intelligence, the chatbot can become a valuable ally in facilitating the learning and orientation of users in a dynamic and constantly evolving educational context.