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The Prospect of Using **Automatic Programming Assistant** for Providing **Direct Feedback** in an **Online Learning Environment**

Learner Oriented Roleplaying Environment

- Idea was formed in **2015**.
- **Faculty of Science,
University of Split,
Croatia**
- AI agent(s) in an online
learning environment
- Focus is on
programming education

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Goran Zaharija

COVID 19

- Enter 2019
- Pandemic caused by COVID 19 virus
- Early 2020 – lockdown
- Online learning
- Distance learning
- Asynchronous learning

Content Management



Teachers faced with content creation and management



Time consuming



Learning Management pushed into background

Automatic Programming Assistant



Content management
can be automated



Solves time
consumption problem
(**TEACHER**)



Serving content on
demand / as needed
(**LEARNER**)



Automatic code
generation (**CODE**)

Learning Management

Nonlinear learning paths

Repetition per need

Frequent evaluation

Automatic feedback (through code generation)

Individual needs, not group goals

The Need for Direct Feedback

Asynchronous learning

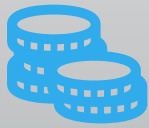
Asynchronous communication

Late feedback

Great number of students

Time consuming activity

Knowledge Management



Not in economic
sense



Individual
knowledge
management



Different
approaches



Different learning
types



Misconceptions

Misconceptions



PROGRAMMING
CONCEPTS



INTERACTIVITY



LEARNER PROFILE

Learner as an Individual

- Types of learners
- Abstractions of learning objects
- Learner intentions
- Learner roles in programming scope

Types of Learners

Myer Briggs Personality types

- Extrovert
- Sensate
- Feeler
- Judger

- Introvert
- Intuitive
- Thinker
- Perceiver

Abstractions of Learning Objects



Concept



Detailed Concept



Example



Case Study



Demonstration



Simulation

Bhaskar, Manju, et al. "Genetic algorithm based adaptive learning scheme generation for context aware e-learning." *International Journal on Computer Science and Engineering* 2.4 (2010): 1271-1279.

Learning Intentions



Basic Introduction



Assignment



Project



Seminar



Interview

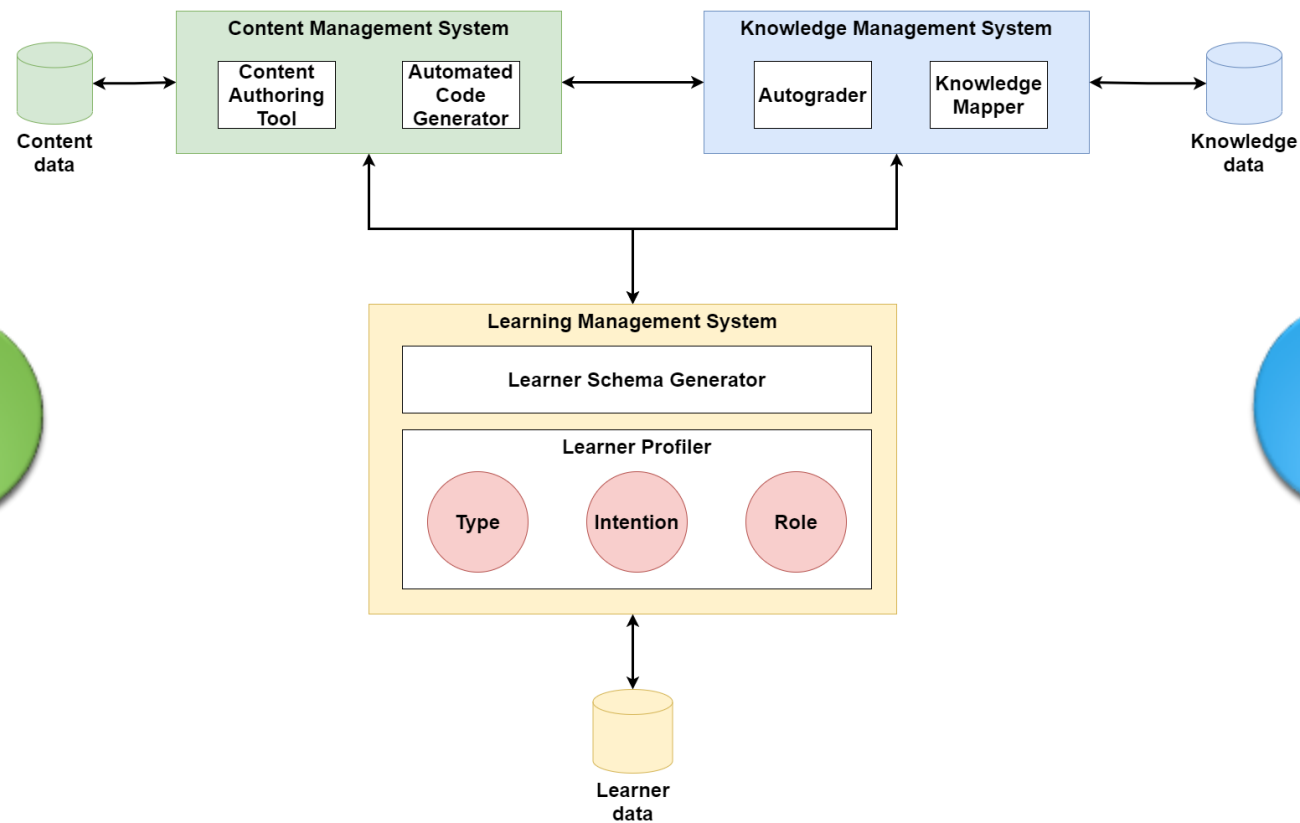


Survey



Research

see



do

learn

LORE architecture

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