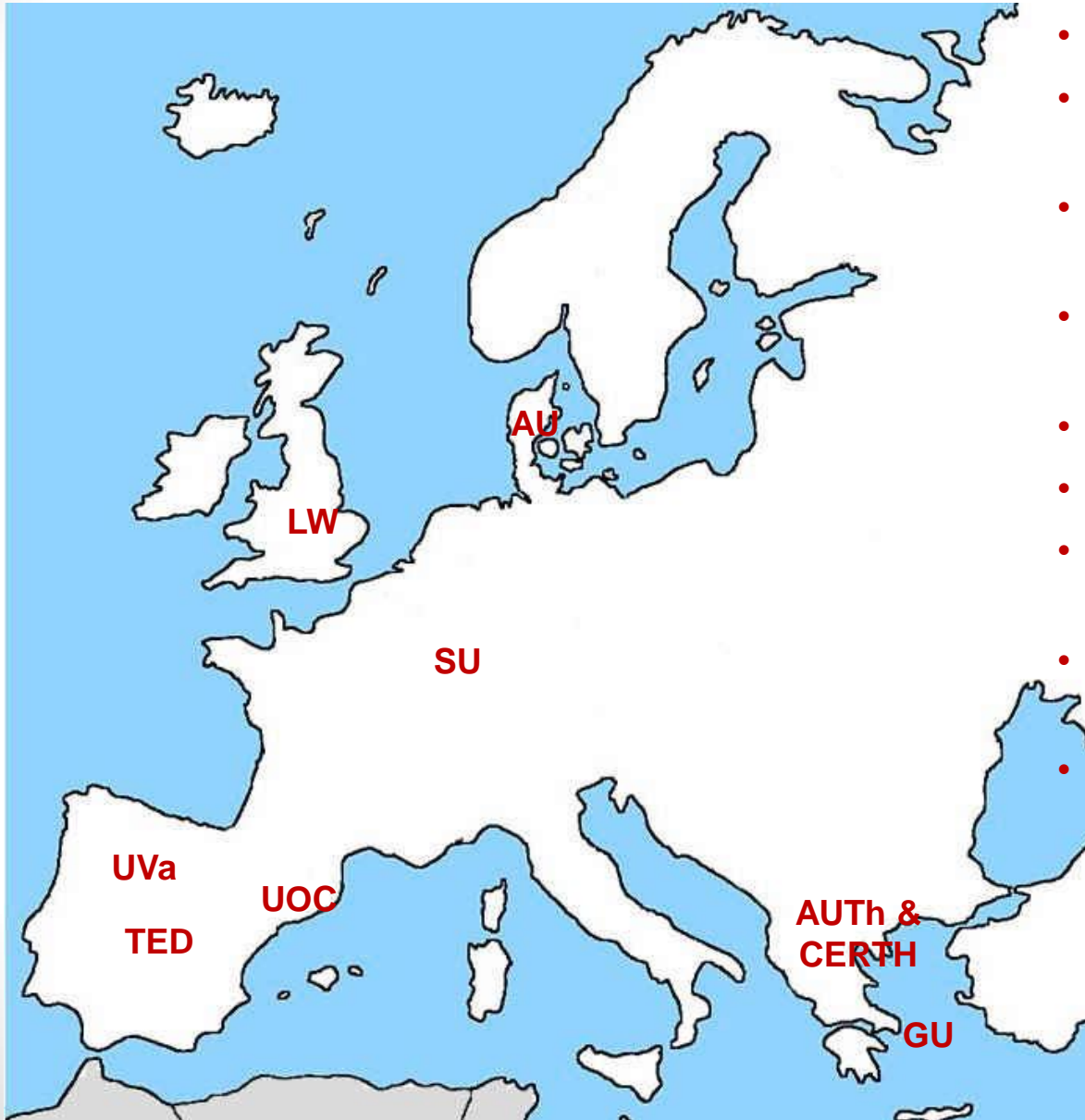# colMOOC

Project Overview

colMOOC Partners

- **AU**: AARHUS UNIVERSITY
- **AUTh**: ARISTOTLE UNIVERSITY OF THESSALONIKI
- **CERTH:** Centre for Research & Technology, Hellas
- **GU**: GUNET (Greek Universities Network)
- **LW**: LEARNWORLDS
- **SU**: SAARLAND UNIVERSITY
- **TED**: TELEFONICA EDUCATION DIGITAL
- **UOC**: OPEN UNIVERSITY OF CATALUNIA
- **UVa**: UNIVERSITY OF VALLADOLID

What is the pedagogical background of the colMOOC project?

Conversation theory

- Theoretical underpinnings of the approach: **Conversation Theory**
  - See, for example: Wikipedia, Instructional Design, Communication Theory

- Some theory tenets:

- *Explicit explanation or manipulation of the subject matter facilitates understanding*

- *Participants do not profit from the variety they bring as an individual but from the variety that evolves from these interactions (i.e conversation)*

- In colMOOC **a software component of a conversational agent** will be developed to support learners sustain a productive peer dialogue. (p. 8)

How to use a Conversational Agent (CA) to support learning interactions (conversation)?
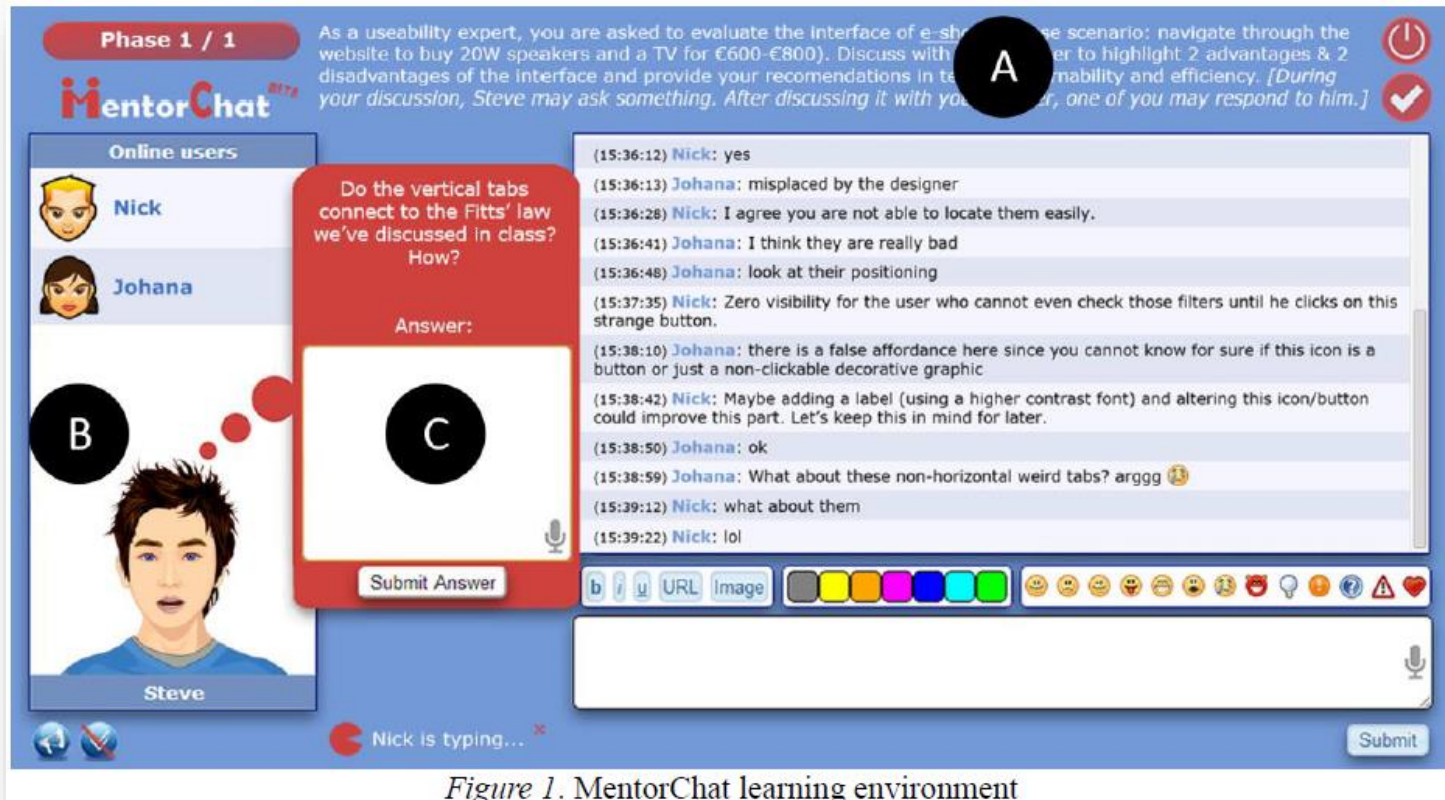

Figure 1. MentorChat learning environment

- **Two students (Nick and Johana) discuss online on a subject matter (A).**
- **The agent (B) models students' dialogue and intervenes when it "decides" to do so**
- **The agent poses a relevant question (C) that students need to explicitly answer**
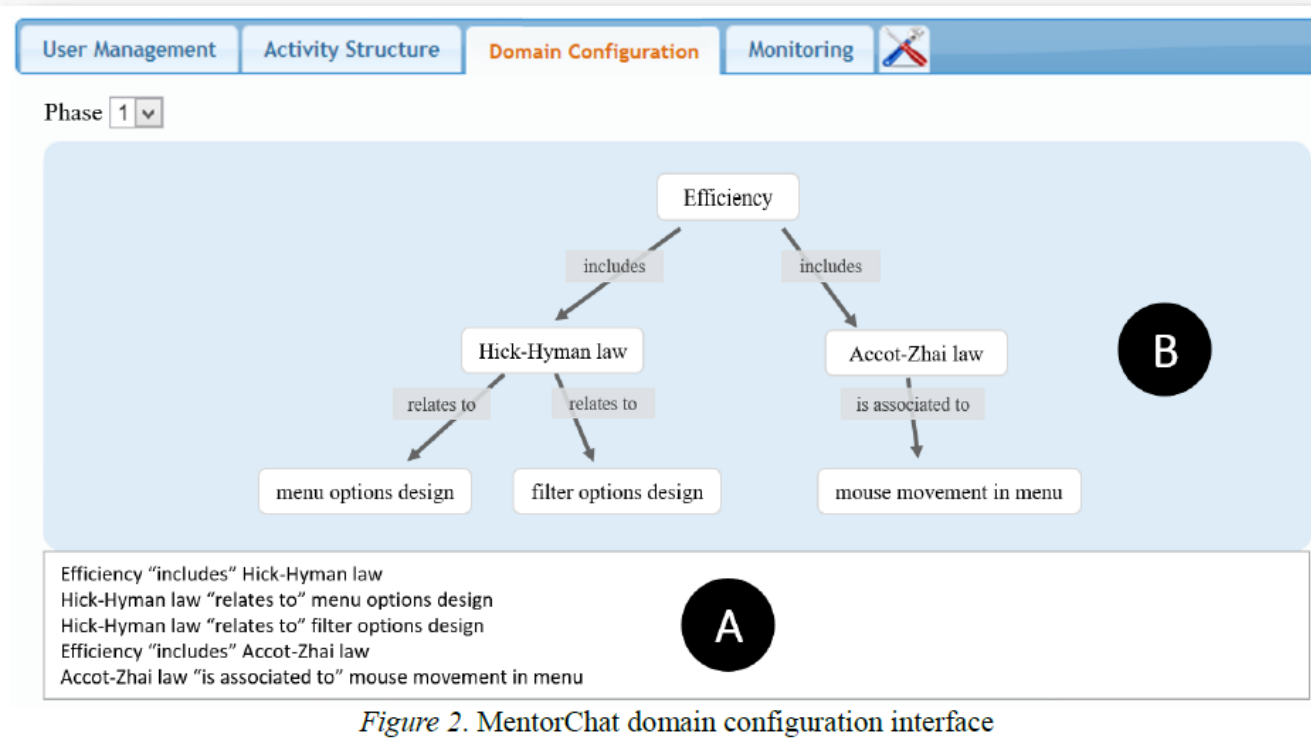
How does the CA model the subject domain?

Figure 2. MentorChat domain configuration interface

- **The teacher integrates the domain in the system based on her understanding**
- **A teacher interface is provided so that the subject domain is entered as a series of statements indicating concept relationships (A) which is then transformed to a concept map (B)**
- **The CA uses a computational representation of the domain based on the concept map**

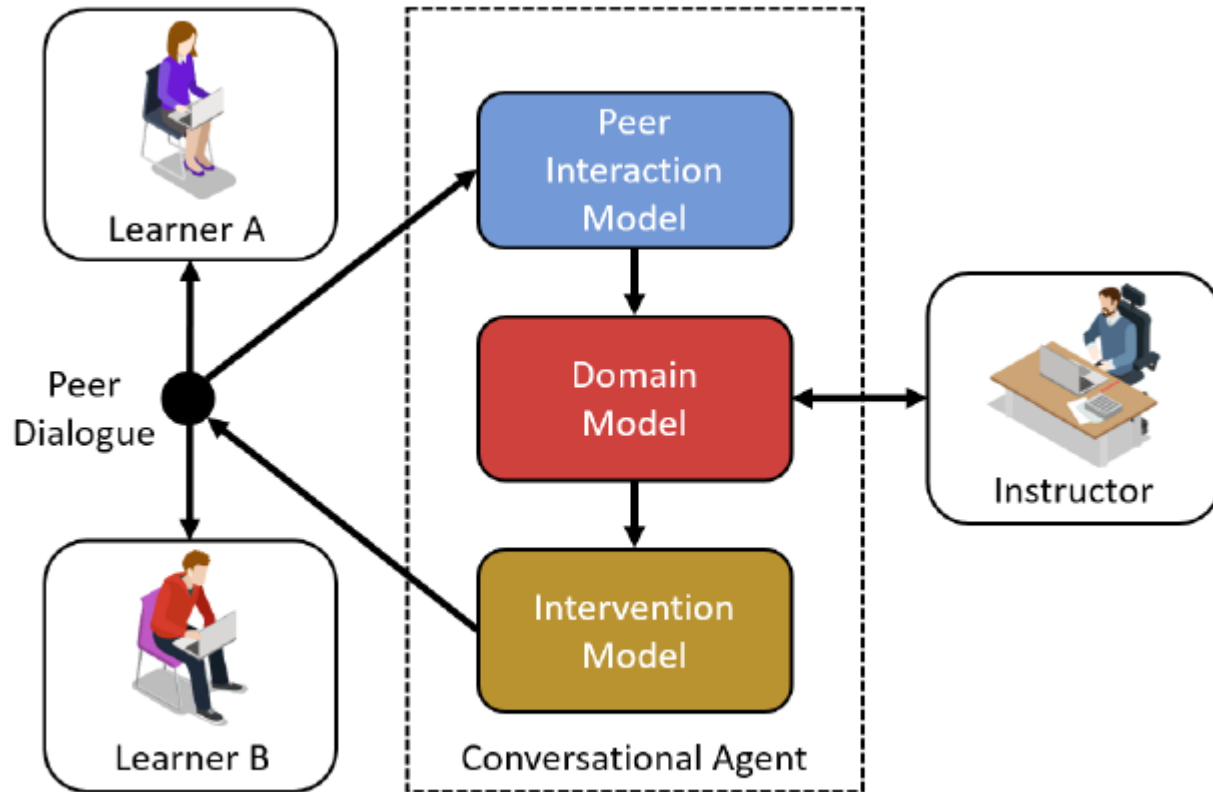# A high level architecture of the Agent

Figure 3. Conversational agent architecture

- Tegos, S., & Demetriadis, S. (2017). Conversational Agents Improve Peer Learning through Building on Prior Knowledge. *Educational Technology & Society, 20* (1), 99–111.

colMOOC key actions

The consortium aims to develop **three** pilot MOOCs

- 1.**Programming for Non-Programmers**
- 2.**Computational and Design Thinking**
- 3. **Educational Technologies in the Classroom**

- (p. 7)

Key innovation :
1) **Conversational Agent** component (CA)
2) **Learning Analytics** component (LA)

- Our project aims to enhance the MOOCs experience by integrating:

- Collaborative settings based on **Conversational Agents (CA)** both in synchronous and asynchronous collaboration conditions

- Screening methods based on **Learning Analytics (LA)** to support both students and teachers during a MOOC course

- (p. 5)

- *Clarification: The LA component is expected to strongly focus on CA-based interactions*

Integrate CA and LA components in colMOOC platform

- What is a colMOOC platform?

- '...These integration mechanisms (that will be able to integrated in any MOOC platform) are called the **colMOOC platform**...'
- (p. 63)

- *Clarification: colMOOC platform is a name for **any** MOOC platform that hosts the CA+LA components, thus offering the colMOOC learning experience to learners*
- *In the context of the project these MOOC platforma are: GU, TED and LW MOOC platforms*

How do we develop the pilot MOOCs?

- Although all partners are expected to contribute this is NOT exactly clarified in the project description

- In the proposal we state that: 'The pilots will be implemented in four different countries (Greece, Spain, Germany, Denmark)' (p 11)

- **SUGGESTION**: Form three groups and work as follows:

  - **Group1: UVa, UOC, TED**
  - UVa and UOC → Develop a pilot MOOC on '3. Educational Technologies in the Classroom' in **Spanish** language and make it available through the LW platform
  - **Group2: SU, AU, LW**
  - SU and AU → Develop a pilot MOOC on '2.Computational and Design Thinking' in **German** and **Danish** language and make it available on the LW platform
  - **Group2: AUTh, CERTH, GU**
  - AUTh and CERTH → Develop a pilot MOOC on '1.Programming for Non-Programmers' in **Greek** language and make it available on the GU platform

- An issue is whether we built one or more of the above pilots in **English** too

How do we conduct research studies ('trials')

- '… Five **pilots** will be carried out in university settings and in business training settings. More specifically, all academic partners will carry out trials in various undergraduate courses. ..'

- (p. 69)

- *Clarification: the use of 'pilots' above is a typo. Pilots (pilot MOOCs) are clearly three while 'trials' (which refers to research activities with pilot MOOCs) are **five***

- '… all partners will design their lesson plans for their respective subjects..' (p. 69)

- '… educators will develop the educational materials that will be used in the trial activities..' (p. 69)

- 'The educational material will be made available as OER and in 4 languages (German, Greek, Danish, Spanish)' (p. 70)

How many publications?

- '..A minimum of 10 scientific papers will be published in International Journals and conferences..'
- (p. 44)

Work-Packages concise review

WP1 - **Educational approach construction and framework**

- '.. It will initially provide an in depth needs analysis on the areas of CA and LA area...'
- (p. 53)

- Literature review in CA and LA domains
- Pedagogical design (for example, collaboration scripts and scenarios)

WP2 - **Conversational agent component**

- '...identify and document existing CA approaches...'
- '...define and develop the CA pedagogical model and software component architecture...'
- (p. 57)

- Literature review in CA domain
- CA Pedagogical model
- CA software architecture

WP3 - **Learning analytics component**

- '…identify, configure and adapt Learning analytics tools to meet the needs of the MOOCs approach…'
- '…deploy a set of tools regarding MOOCs, LA and the learning assessment and analytics…'
- (p. 60)

- LA component design specifications
- Development of LA component

WP4 - **System Integration**

- '…develop the integration mechanisms…'
- '…Based on this integration mechanism the new two modules from WP2 and 3 are going to be integrated in the three different platforms (LW, GU, TE)…'
- '…These integration mechanisms (that will be able to integrated in any MOOC platform) are called the **colMOOC platform**…'
- (p. 63)

- CA and LA component integration in MOOC platforms

WP5 - **Courses preparation, trials and evaluation**

- '…Design courses for educational and training purposes using the educational approach …'
- '… Carry out educational and training activities in multiple countries and large numbers of learners to test and validate the project's results …'
- (p. 68)

- Offering pilot MOOCs as experimental learning environments
- Conducting research activities ('trials')
- Collecting research data

WP6 - **Policy recommendations and Community of Practice**

- '...Draw out and suggest a number of recommendations that address issues in the existing education and training policy agendas ...'
- '... Foster a community building ecosystem for existing and future practitioners of the new pedagogical paradigm that integrates MOOCS with CA and LA...'
- (p. 73)

- Recommendations
- Online community-of-practice

WP7 - **Dissemination, Exploitation & Impact**

- '…Dissemination will be targeted at potential end-users in the public and private sectors, academia, as well as the wider European and International public. ..'

- '…Targets for further exploitation of techniques and technologies developed within the colMOOC Consortium will be identified..'

- (p. 76)

- Also: Report, logo, leaflets, poster, website

WP8 - **Project Management**

- '..The goal of WP8 is to plan and undertake all necessary activities for the project's effective coordination…'
- (p. 80)