Inquire for iPad: Bringing Question-Answering AI into the Classroom

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Inquire

Inquire is a new type of electronic textbook that integrates a reasoning system and a rich biology knowledge base, allowing it to answer a wide variety of biology questions.

Inquire offers new ways for students to explore and interact with educational materials, and ultimately improves their understanding of a domain.

The question-answering capability is provided by our Aura system, which runs on a remote server, and answers a wide variety of biology questions.

Inquire augments the textbook content with a biology knowledge base and has links from concept to concept.

Inquire enters a knowledge representation and reasoning system that combines description logic and logic programs.

The reasoning mechanisms in Aura include inheritance, backward chaining, subsumption and classification. It also includes specialized reasoning modules to deal with under-specified knowledge bases, and property values.

Aura embeds in a software management environment for adding knowledge bases and includes error checking and built-in reasoning capabilities.

DECONSTRUCT THE PROBLEM

Inquire suggests questions related to the homework problem, including several about mitochondrial membranes. Glossary links provide quick reminders, like H+ means hydrogen ion.

ASK QUESTIONS

Ask novel or suggested questions, such as this one about the functions related to mitochondrial membranes. Answers are generated by Aura, and contain links to the glossary just like the textbook. Inquire also suggests related questions for further exploration.

BROWSE GLOSSARY

Follow links to full glossary pages generated by Aura. Inquire contains the entire content of the popular Campbell Biology textbook, including graphics.

PORTRAIT & LANDSCAPE

In portrait orientation, Inquire’s screen is filled with full-screen images and concept graphs. Like glossary pages, these are also generated by Aura.

Key terms from our knowledge base are hyperlinked; tapping a link shows a brief definition. Tapping “read more” opens the full glossary page.

FULL TEXTBOOK

Inquire contains the entire content of the popular Campbell Biology textbook, including graphics.

GLOSSARY LINKS

Inquire’s three interlinked components move beyond the brevity of conventional textbooks:

1. Inquire offers free-form question-asking capability with a wide range of questions and drill down to more detail.

2. Answers generated by Aura.

3. Detailed glossary pages for key concepts. These are also generated by Aura, and contain links to related concepts and questions.

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Active reading is a strategy that emphasizes continuous direct engagement with a text during the reading process. Inquire facilitates active reading through support for note-taking, looking up unfamiliar terms, posing questions, and exploring answers and explanations.