SYLLABUS

- Name of Course : Development of Chemistry Learning Media
- Code Number : PIK – 215
- Credit : 2 credits per semester
- Semester : VI
- Course Group : Chemistry Education
- Study Program : Chemistry Ed.

LECTURER:

Drs. Jaslin Ikhsan, M.App.Sc, Ph.D.

The Department of Chemistry Education,
The Faculty of Mathematics and Natural Sciences
Yogyakarta State University

2013

The Development of Chemistry Learning Media (2 sks, semester II)

This course studies the development of media for Chemistry learning. It is well-known that the advancement of Information and communication technology (ICT) at this moment has allowed excellent support for gaining information and knowledge to anybody, anywhere, and anytime. ICT has also been a major issue dealing with education in order to improve the quality of learning, to improve access to education and training, to reduce the costs of education, and to improve the cost-effectiveness of education. The use of ICT in education is to enable opportunities for activities and interaction between learners and resources in flexible learning environments to meet the needs of students. Learning can become self-paced including media in the form of text, image, animation, video and audio.

By this lecture, students are expected to be able to develop Chemistry learning media, including video, web, computer, animation, and Java. This lecture is product oriented in which students should submit their dummy products of media that students have developed in the end of lecture. The media included website as CMS, Java-based games, Augmented Reality, animation by flash, and web-based media.

The **chosen methods** for student learning and teaching are *forum group discussion, brainstorming,* and *practicum in computer laboratory of Chemistry*. The **interaction** will be the important part of learning that is most emerged in most 16 times of face-to-face lectures. Besides that, online interactions using various media, such as LMS edmodo, and other social networking such as twitter, YM! were emerged.

Delivery system in this course is a kind of *hybrid learning*, e.i a mixture between face-to-face lecture and online lecture using learning management system (LMS) of edmodo.com. edmodo.com will be most the media of online interaction in which the materials are uploaded, the assignments are given, the online discussions are carried out, and the results/achievements of students are saved and displayed. Online discussion (conference) is sometimes carried out using skype or fb-video-chat when it is expected by students.

1. Identity of Course

- Name of Course   : The Development of Chemistry Learning Media
- Credit   : 2 credits per semester
- Semester   : VI
- Study Program   : Chemistry Ed. / Chemistry
- Course Status   : Compulsory
- Pre-requisite Course   : --

2. Objectives

This lecture will train students to develop media of Chemistry learning which are based on ICT. The detail objectives of this lecture are:
- To understand the importance of media in learning Chemistry,
- To be able to identify the need of ICT-based media for chosen topic of Chemistry,
- To identify the right scientific steps on the development of learning media,

- To develop ICT-based media for Chemistry
- To measure validity and reliability of ICT-based media of Chemistry.

3. Content Description

The topics in this course may include:
- The development of interactive video for Chemistry learning,
- Managing Chemistry Learning using LMS (Learning Management System) edmodo
- Building personal CMS website for Chemistry assistance
- The development of Android-based digibook
- The development of Java-based game for Chemistry Learning,
- The development of Augmented Reality-based Chemistry book
- The development of animation-based Chemistry media

4. Learning Strategy

- Methods   : practice and assignments, product-oriented
- Assignment   : independent
- Media   : infocus, materials resources (ppt/pdf, video, LMS edmodo, online)

5. Evaluation
- Assignment
- Face-to-face activities
- 4 products of media on Chemistry: Augmented Reality (AR), Java, animation, and digital book (digibook).

6. Learning material for each meeting of lecture

Meeting		Learning Materials
1	:	Introduction and overview
2	:	Theory: Integration of ICT into Chemistry Learning
3	:	Theory: Steps of media development and measurement of its validation
4	:	Writing of story board for Java-based mobile games
5	:	Pract. 1 Of the development of Java-based mobile game using Eclipse Indigo
6	:	Pract. 2 Of the development of Java-based mobile game using Eclipse Indigo
7	:	Pract. 3 Of the development of Java-based mobile game using Eclipse Indigo
8	:	Pract. 1 Of the development of AR-based game
9	:	Pract. 2 Of the development of AR-based game
10	:	Pract. 3 Of the development of AR-based game
11	:	Pract. 1 Of the development of Animation-based game (Flash)
12	:	Pract. 2 Of the development of Animation-based game (Flash)
13	:	Pract. 3 Of the development of Animation-based game (Flash)
14	:	Pract. 1 Of the development of digibook (Sigil)
15	:	Pract. 2 Of the development of digibook (Sigil)
16	:	Wrapping up the Chemistry media Session

7. References

a. Lukmanul Hakim, (2004), Cara Ampuh Menguasai Macromedia Flash MX, Jakarta: Gramedia Komputindo.

Dosen,

Dr. Jaslin Ikhsan

COLLECTION OF LEARNING MATERIALS

Paper were taken from some sources

- Name of Course : Development of Chemistry Learning Media
- Code Number : PIK – 215
- Credit : 2 credits per semester
- Semester : VI
- Course Group : Chemistry Education
- Study Program : Chemistry Ed.

LECTURER:

Drs. Jaslin Ikhsan, M.App.Sc, Ph.D.

The Department of Chemistry Education,
The Faculty of Mathematics and Natural Sciences
Yogyakarta State University

2013

PRINT SCREEN OF
ENRICHMENT AND COLLABORATIVE
ASSISTANCE TROUGH ONLINE LEARNING
USING LMS edmodo

- Name of Course : Development of Chemistry Learning Media
- Code Number : PIK – 215
- Credit : 2 credits per semester
- Semester : VI
- Course Group : Chemistry Education
- Study Program : Chemistry Ed.

LECTURER:

Drs. Jaslin Ikhsan, M.App.Sc, Ph.D.

The Department of Chemistry Education,
The Faculty of Mathematics and Natural Sciences
Yogyakarta State University

2013

The Online Class is used for communication and enrichment assistance as well as to store important shared file for the class. The class were gropued into three different Class: Learning Media, Augmented Reality, Android Development Classes.

*Member of the Class:*

Dr. Jaslin Ikhsan as the lecturer
Mr. Fathia Muhammad as the assistance and coordinator for Android development class
The others are students, leaded by Arif Yoga Pratama
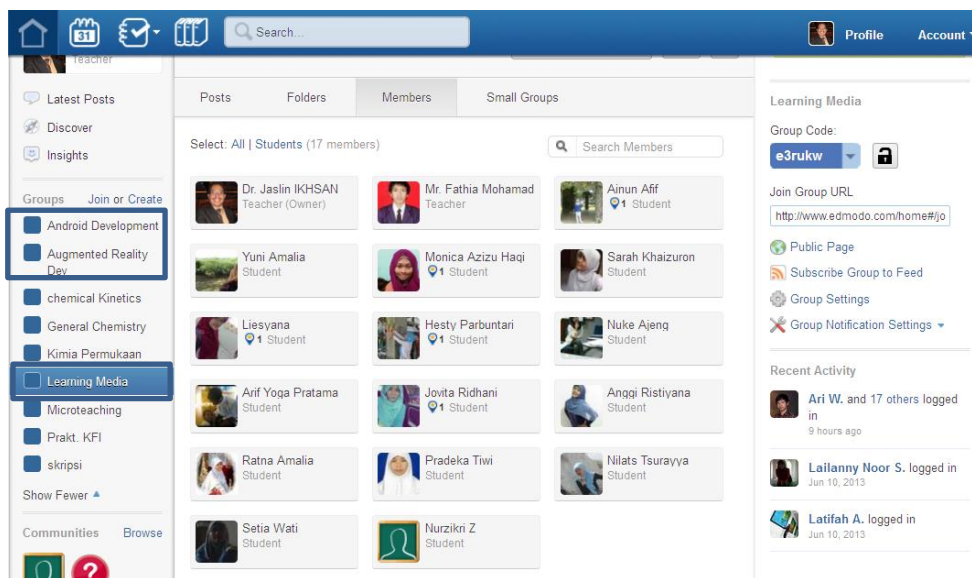
Sharing materials by lecturer as the documents to develop Augmented Reality (AR) product
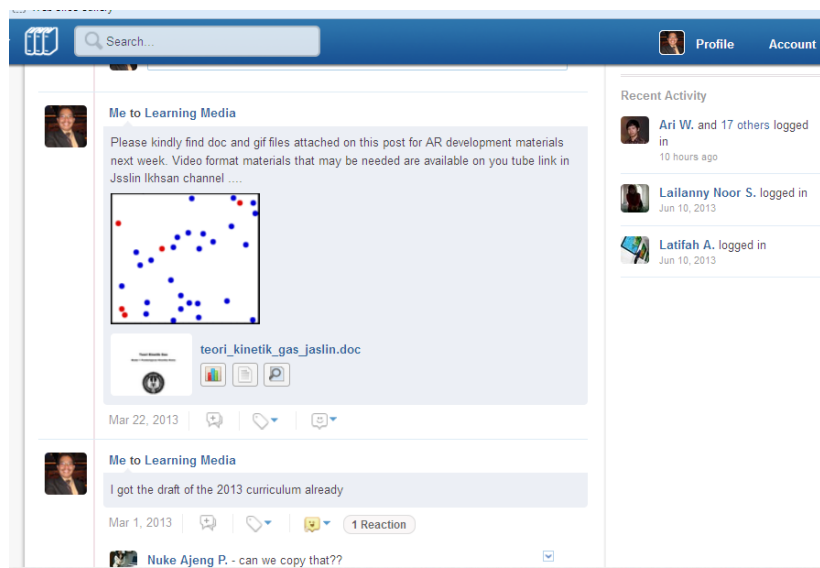
Samples of AR products for Chemical molecules to be studied by students shared in AR group
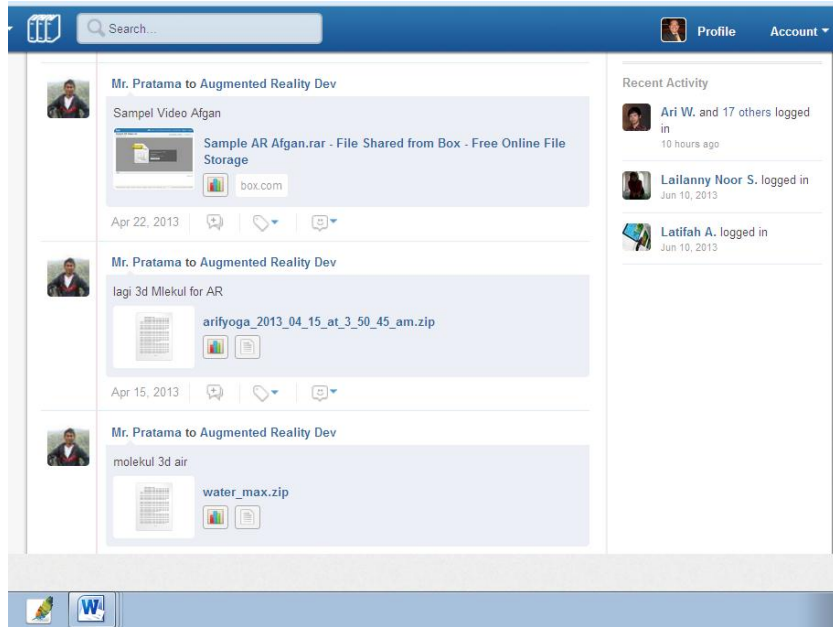
Assignment of Augmented Reality shared into the group of Augmented Reality
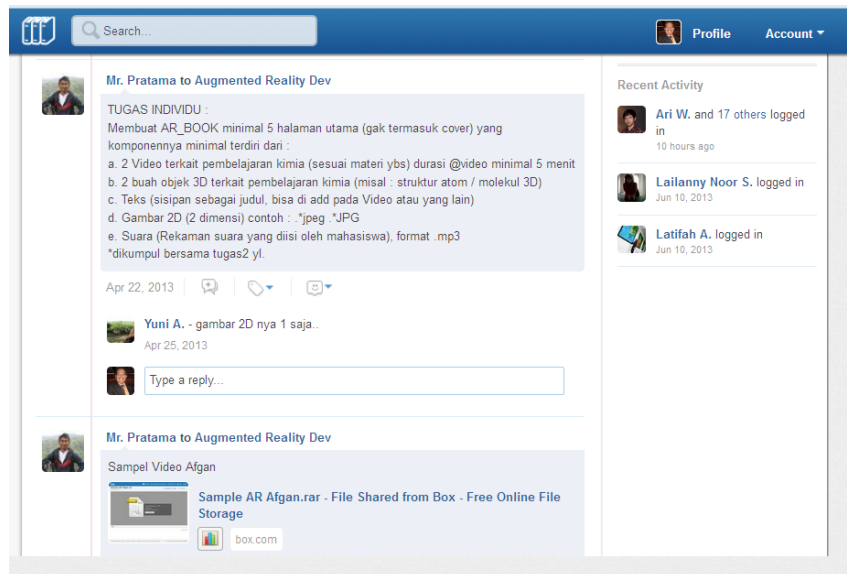
Application for the development of mobile games used in the class:

Assignment to produce storyboard of Mobile Games:

Sharing Manuals amongst the students for Animation games Development using Adobe Flash CS 6.0 in the group of Learning Media