Design and Implementation of Engineering Education Knowledge Service Platform

TIAN Huijun    GUAN Jian
Outline

• Introduction
• Design of EEKS
• Implementation of EEKS
• Case Study
Background

**ICEE**

International Centre for Engineering Education
under the auspices of UNESCO

---

**TIAN Huijun**

Project Manager
Ph.D. Lecturer

*Address:* The 11th Floor, the Main Building, Tsinghua University, Beijing China
*Tel.:* +86 10 62791751-801
*E-mail:* tian2017@mail.tsinghua.edu.cn

**GUAN Jian**

Vice President
Ph.D.

*Address:* Kejian Building 8/F, TUS Park, 1 Zhongguancun East Road, Haidian District, Beijing 100084, China
*Tel.:* +86-10-82152502
*E-mail:* guanjian@xuetangx.com
Introduction

- About Engineering Education Knowledge Service (EEKS)

inclusive, equal, lifelong learning
Outline

• Introduction
• Design of EEKS
• Implementation of EEKS
• Case Study
Design of EEKS

- Business Framework
• Technical Structure
Design of EEKS

• Service Mode
Outline

• Introduction
• Design of EEKS
• Implementation of EEKS
• Case Study
## Implementation of EEKS

<table>
<thead>
<tr>
<th>Data</th>
<th>May. 2017</th>
<th>May. 2018</th>
<th>May. 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page Views</td>
<td>6,532</td>
<td>172,065</td>
<td>310,342</td>
</tr>
<tr>
<td>Registered Users</td>
<td>26</td>
<td>334</td>
<td>553</td>
</tr>
</tbody>
</table>
Implementation of EEKS

Nationality:
- China: 61.32%
- Bangladesh: 5.66%
- Pakistan: 4.72%
- Nigeria: 2.83%
- Ghana: 2.83%
- Kenya: 1.89%
- Hashakstan: 1.89%
- Congo: 1.89%
- Zambia: 0.94%
- Sri Lanka: 0.94%

Age:
- Under 20: 2.83%
- 20-30: 73.58%
- 31-40: 19.81%
- Over 40: 3.77%

Identity:
- Student: 50.00%
- Engineer: 16.98%
- Researcher: 11.32%
- Teacher: 10.38%
- Other: 11.32%

Profession:
- Engineering: 58.49%
- Science: 17.92%
- Humanities: 16.04%
- Other: 7.55%
Implementation of EEKS

Database Evaluation

MOOC: 90.63%
Visual Image: 62.50%
Database: 62.50%
News: 54.17%

Popular Section

Research literature: 66.04%
Academic trend: 44.34%
Conference: 39.62%
Engineering Capacity: 35.85%
Publication: 31.13%
Accreditation: 29.25%
Assessment: 22.64%
Policy document: 22.64%

Section Evaluation

MOOC: 80.19%
News: 73.58%
Visual Image: 70.75%
Database: 68.87%
Other: 66.98%

Knowledge Service Evaluation

MOOC: 83.02%
Academic Voice: 81.13%
Micro-Diploma: 80.19%
Knowledge Point Gathering: 76.42%
Engineering Instruction: 76.42%

Investigation Report of EEKS May.2019
Outline

• Introduction
• Design of EEKS
• Implementation of EEKS
• Case Study
Case Study: Micro-Diploma in CS

2019 Micro-Diploma in Computer Science

Online Learning: From March to June, 2019
Offline Learning: In July, 2019
Tsinghua University, Beijing, China
# Micro-Diploma of Computer Science-Online Learning

<table>
<thead>
<tr>
<th>MOOC</th>
<th>In 2018</th>
<th>In 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Computational Thinking and Data Science</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Data Structures and Algorithm Design</td>
<td>340</td>
<td>340</td>
</tr>
<tr>
<td>Introduction to Computer Science and Programming Using Python</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Agile Development Using Ruby on Rails - Basics</td>
<td>158</td>
<td>216</td>
</tr>
<tr>
<td>Data Mining: Theories and Algorithms for Tackling Big Data</td>
<td></td>
<td>268</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>958</strong></td>
<td><strong>1074</strong></td>
</tr>
</tbody>
</table>
Micro-Diploma of Computer Science-Offline Learning
## Micro-Diploma of Computer Science-Offline Learning

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Nationality</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADRIA NIRERE</td>
<td>Rwanda</td>
<td>Control Science and Engineering</td>
</tr>
<tr>
<td>2</td>
<td>CHIM MYUWINA</td>
<td>Cambodia</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>3</td>
<td>ALTYN AKMYRADOVA</td>
<td>Turkmenistan</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>4</td>
<td>GULJAHAN GULTYYEVA</td>
<td>Turkmenistan</td>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>5</td>
<td>MARAL HOJAMYRADOVA</td>
<td>Turkmenistan</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>6</td>
<td>MOROGO FRESHINA MAHATHO</td>
<td>Kenya</td>
<td>Computer Science and Technology</td>
</tr>
<tr>
<td>7</td>
<td>NOELANI DAVID HOLOMOANA PINE</td>
<td>Kiribati</td>
<td>Computer Science and Technology</td>
</tr>
<tr>
<td>8</td>
<td>PHORN LITA</td>
<td>Cambodia</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>9</td>
<td>CASSANDRE ACHILLE NKOUNKOU BAZOUNGA</td>
<td>Congo</td>
<td>Information and Communication Engineering</td>
</tr>
<tr>
<td>10</td>
<td>DANIELA</td>
<td>Burundi</td>
<td>Information and Communication Engineering</td>
</tr>
</tbody>
</table>
Students’ Impression (video)

Carl Kwesi Asemso
Ghana

Maral Hojamyradova
Turkmenistan

M. A. Maruf Hossain
Bangladesh
Thank you!

Website:
http://engedu.ikcest.org/unesco/

Email:
tian2017@mail.Tsinghua.edu.cn
guanjian@xuetangx.com