StoreRooms

Science and Technology Opportunities and Resources Portal for Kenyan Female University Students

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Roadmap

- Introduction
- Literature Review
- Research Questions
- Methodology and Progress
- Q & A

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Introduction

- In Kenya, it is extremely *difficult* to attract and retain female students in science and technology courses.
- There are very *few* female students in Kenya's institutions of higher learning pursuing science and technology courses.
- The problem could be attributed to factors such as:
  - Lack of information and inaccurate negative image: stereotypes, myths and misconceptions
  - Lack of support from parents and/or guardians
  - Role models and/or influential females in science and technology
  - etc

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Introduction

- As a girl attempts to pursue higher education, the less support she is likely to get.
- Need to encourage and support female science and technology students in higher institutions of learning.
- Impact of online portals:
  - Positive changes in people's motivation, attitude and behaviour toward health (Webb et al., 2010; Baghaei et al., 2011).
  - Increased learning and flexibility (Liebeskind et al., 1996).
- Paulsenand Bransfield (2009) indicate that, 88% of 631 girls report that the website engineeryourlife.org made them more interested in engineering as a career, and 76% said that it inspired them to take an engineering course.

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Introduction

- Thus, online portals could lead to positive changes in female students' motivation, perception and behaviour toward science and technology.

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Introduction

- Web has science and technology resources (e.g. e-books, etc) and opportunities (e.g. scholarships, etc):
  - Scattered all over the Web.
  - Not relevant to the specific needs of female science and technology students from developing countries.
  - Contextual challenges in developing countries e.g. limited or unreliable Internet access.
- Important to develop an online portal:
  - Integrated avenue/access.
  - Relevant to female students from developing countries.
  - Address contextual requirements in developing countries.
- Science and Technology Opportunities and Resources Portal for Kenyan Female University Students (*StoreRooms*)

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Literature Review

- There exist several web-based applications that provide science and technology resources and opportunities e. g. National Science Digital Library, Science, Science Careers, State Science and Technology Institute, etc.
  - While acknowledging the role played by such, they don't take into account the unique contextual challenges and needs of female students from developing countries.
- Females and technology websites e.g. prigepp.org, catunescomujer.org, wigsat.org, awis.org, engineeryourlife.org.
  - The proposed portal will take into account the unique contextual challenges and specific needs of female science and technology students from Kenya.

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Research Questions

- This research project intends to address the following research questions:
  - What are the characteristics and needs of the Kenyan female science and technology students?
  - What kind of tasks do Kenyan female science and technology students normally perform with existing Science and Technology web applications?
  - What is the Kenyan female science and technology students' attitude or impression toward (or experience when using) existing Science and Technology web applications?
  - What tasks or services would Kenyan female science and technology students want to be offered or supported by the portal?

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Methodology and Progress

1. Detailed literature analysis and pilot study

- *Global level*: attraction and retention statistics, factors, explanations, interventions.
- *National level*: attraction and retention statistics, factors, explanations, interventions.
- *Pilot study*: stakeholders (teachers, parents, guardians, Ministry of Education, universities with female science and technology students): their experience, obstacles, solutions/recommendations.
- *Outstanding Women and Technology web applications* (web designers/administrators): design, sections, objectives, services/features, lessons learned, recommendations.

Methodology and Progress

2. Collection and analysis of requirements

- Iterative evaluations by HCI experts and users, and corresponding refining/improving of design.
- Determine online requirements of Kenyan female science and technology students.
- Questionnaire-based study (Kenyan female science and technology students):
  - 2 public universities and 3 private universities.Collect data inline with research questions.
  - Structure of questionnaire: biodata, reasons why it is difficult to attract/retain, suggested solutions, characteristics and needs, tasks/services, impression.
  - Obtained results and requirements => online portal requirements specification.

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Methodology and Progress

3. *Design, evaluation and implementation*
   - Use the realized requirements to develop an appropriate portal.
   - Three main components: the client, the application layer, and the data layer.
   - Iterative evaluations by HCI experts and users, and corresponding refining/improving of design.
   - Final evaluation to get students' feedback and perception regarding the realized portal.

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Q & A

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References

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