CHALLENGE DRIVEN EDUCATION & INTERNSHIPS

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Background

- Applications of science and availability of a skilled workforce can transform our society.
- Investment in STEM fields and shortage of skilled engineers and applied scientists remains a big challenge in the West African region.
- Strong technical skills to develop leaders in entrepreneurship and project management needed
- Faculty typically lack the industry experience and knowhow to deliver leadership and PM skills.
- Research driven innovations or projects with NRENs and RRENs can help alleviate the skills, leadership and investment challenges.

WHAT IS CHALLENGE DRIVEN EDUCATION?

- Challenge Driven Education - CDE is pedagogical approach to learning aimed at inspiring teachers, students and ‘challenge owners’ i.e. businesses or industry users to jointly develop solutions that solve societal problems in a sustainable way.
- Students work in team-based challenge driven project courses to take on open ended real world challenges and provide graduate skills for the labour market in the process.

HOW CHALLENGE DRIVEN EDUCATION WORKS

- Involves a number of activities and structures some of which include:
- Setting up multi-disciplinary team of students
- Defining project with goals and learning outcomes
- Peer learning and peer feedback process.
- The extra-curricular activities involved in CDE required a different framework separate from normal academic structure.
- Student internships are a good complement to CDE

CAMPUS TECHNOLOGY INTERNSHIP PROGRAM - CTIP

eK KONNECT

- Promote technical innovation and social entrepreneurship on campus.
- Hands on program with emphasis on Python programming with physical computing including Raspberry Pi, Robotics and IoT platforms.
- Integrated social media platform for dissemination and management of CTIP
- Develop & maintain applications using Gitlab

CTIP GOALS

- Develop and enhance students' problem solving and critical thinking skills.
- Develop practical skills in students and provide opportunity for creative expression.
- Support innovative technology projects through CDE on campus.
- Promote greater inclusion of females in STEM education.
- Develop entrepreneurship mindsets in students

CTIP - STAKEHOLDERS

- Students (multi-disciplinary)
- Faculty (Lecturers, Management)
- NREN Organisations (Eko-Konnect, WACREN etc.)
- Campus Entrepreneership Centres
- Project Owners i.e. End Users & Business beneficiaries of CDE Projects delivered through Internships.

Who Should Be Involved In CTIP?...

- Students:
  - Want to have cutting edge technology skills,
  - Programming skills e.g. Python and learn Linux.
  - Interest and aptitude to build and use raspberry pi's, robots and other electronic devices.
- Online communities and User Groups:
  - Promoting development of coders and STEM
  - Women in Tech/STEM education
  - Interested in developing coding skills of secondary school students especially girls

…Who Should Apply For CTIP?...

- Faculty:
  - Lecturers, HODs or Deans exploring new ways of developing their students in STEM through extra curricular activities
  - STEM faculties and departments seeking to build new or enhance existing technology labs or maker spaces.
  - Faculties or departments seeking guidance and or collaboration with their NREN and or industry to develop projects.

Expected Impact

- Academic credits formally awarded to Interns engaged in CDE Projects.
- Formal Partnerships with Eko-Konnect and KTH (Royal Institute Of Sweden) to develop CDE across disciplines.
- Greater responsibility and roles for female lecturers in faculty anchoring CTIP and CDE Projects.
- Increased numbers of Female students in participating in Science/Engineering courses
- Innovative technology products coming to market

Further Information

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