

Learning without Borders: A qualitative exploration of a service-learning collaboration between healthcare and computer science students in the Dominican Republic

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Presentation Layout

I. Background

II. Mission Trips to the Dominican Republic

III. Engineering Projects in Community Service (EPICS) @ Butler

IV. Electronic Medical Record (EMR) Mobile Application

V. Service-learning Study

Background



- Healthcare students partnered with Engineering Projects in Community Service (EPICS) students
- An electronic medical record (EMR) was built to be used in a medical clinic in the Dominican Republic
- EMR = Safer patient care



COPHS Mission Trips to the Dominican Republic



- Healthcare students partner with the nonprofit organization, Barnabas Task
 - Organize and execute a medical clinic complete with diagnostics and pharmacy
- Each May since 2014



EPICS @ Butler University

- Established at Butler in 2001 based on the national EPICS model started at Purdue University
- Undergraduate Computer Science & Software Engineering students form teams to develop cutting-edge software for local non-profit organizations



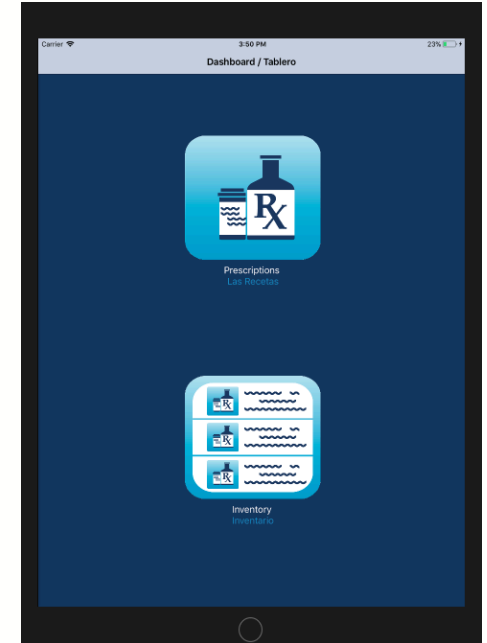
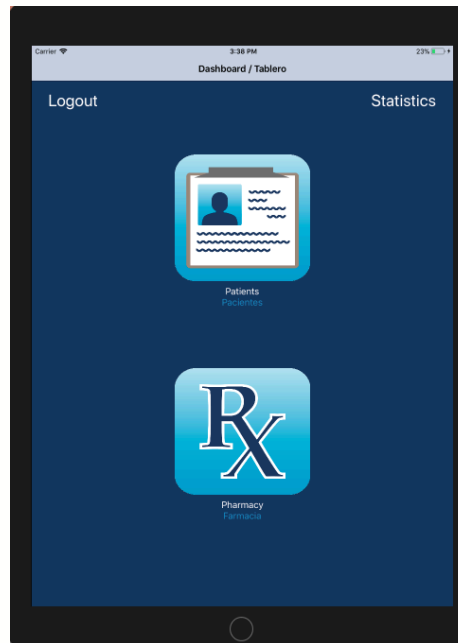
About the Clinic



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Electronic Medical Record (EMR) Mobile Application



Electronic Medical Record (EMR) Mobile Application

Carrier 3:37 PM 23%

DiagnosisViewController

First Name: [] Last Name: []
DOB: [] Age: [] Sex: []

Height: [] ft in
Weight: [] kgs Allergies: []

Español English

Heart Rate: [] BPM
Blood Pressure: [] mmHg
Glucose: [] mg/dL

Purpose of Visit: [] Notes: []

Diagnosis:

- Anemia
- Arthritis
- Asthma
- Back Pain
- Bronchitis
- Cellulitis
- Common Cold
- Constipation
- Dental Caries
- Depression
- Dermatitis
- Diabetes
- Ear Infection
- Flu
- Folliculitis
- GERD
- Gastritis
- Gastroenteritis
- Gingivitis
- Gout
- Oripe
- Heat Rash
- High Blood Sugar
- High Cholesterol
- Hypertension
- Impetigo
- Kidney Stone
- Laryngitis
- Menopause
- Migraine
- Muscle Pain
- Otitis Media
- Parasites
- Pharyngitis
- Psoriasis
- Refer to Hospital
- Scabies
- Seasonal Allergies
- Sinusitis
- Skin Infection
- Headache
- Tonsillitis
- URI
- UTI
- Other

Save

Carrier 5:32 PM 45%

Medication: [English Name] Quantity: [Quantity]
Medicación: [Spanish Name]

English Notes:
[]

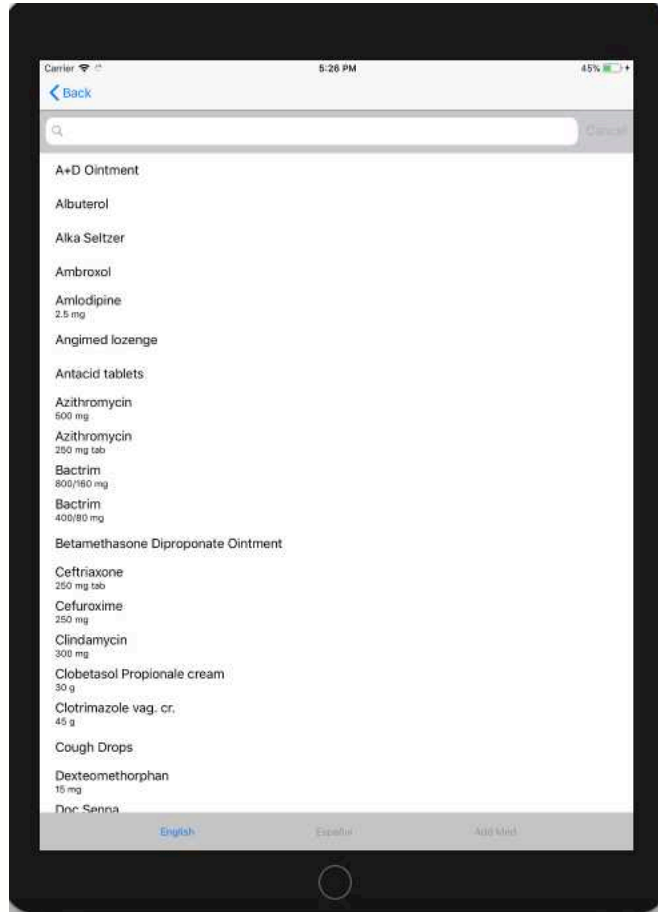
Spanish Notes:
[]

Save New Med

English Español Add Med



Electronic Medical Record (EMR) Mobile Application



Study Objectives

- 1. Identify student learning and cross-cultural awareness when students travel abroad for a medical mission trip.
- 2. Analyze student experiences of interprofessional relationships.



Methods

Study Population:

- 65 volunteers
 - 20 EPICS students, 15 healthcare students, 20 DR volunteer student translators, 10 American and DR healthcare providers

Survey Instrument/Description:

- Formatted on Qualtrics
 - 50 questions utilizing skip logic, multiple choice, and free response questions
 - Demographics, role in the project, experience knowledge gained



Results

- A total of 65 participants were sent the survey, with 51 opting to complete the survey for a response rate of 89%.
- Students gained:
 - Cultural awareness
 - Interprofessional collaboration
 - Communication
 - Teamwork
 - Technical skills (Swift, XCode, blood pressure measurements)



Student Experiences

- “They {EPICS students} were so important to the clinic running smoothly.”
- “I was impressed with the all-around project because the work we would be doing would have a meaningful impact.”
- “They {EPICS students} are incredible! The trip wouldn’t have been the same without them. I’m thankful for the skill set they brought to work each day but more importantly, I’m blessed to now be able to call them my friends.”
- “They {healthcare students} provided inspiration for how we can continue to make a difference.”
- “It was incredible and even better on our end to see the work we put in over the semester at work in real time helping people in need. It really gives us a different perspective. It has made me want to go back again next year.”



Conclusion

- Collaboration between computer science/software engineering students and healthcare students facilitates:
 - Advances in education
 - Skills of communication, leadership, and teamwork
 - Appreciation for other fields
- Collaboration with students of another country developed appreciation of differing cultures



Questions?

- Feel free to stop by during the poster session to check out our app up close!

