

HCI Project 2

To help decrease failure rates in the Science Faculty, this system is for new incoming students to get an idea of how their academic trajectory may play out given a course they pick and some background, individual and pre-university information.

1) Need finding:

A survey was conducted with 43 participants all of whom are or have attended the university and all are Science students. These were the questions:

- a. Are/were you a student in the Science Faculty?
Yes/No
- b. Have you ever failed a year?
Yes/No
- c. Prior to the commencement of your degree, did you believe you would pass in minimum time (3 years)?
Yes/No
- d. How would you rate the quality of the academic advisory you received prior to the commencement of your degree?
Excellent/Above average/Average/Below average/Poor
- e. If you did not receive any advisory, do you think it would have been beneficial if you did?
Yes/No
- f. If there was a system that allowed you to input some details, choose any degree from the Science Faculty and would output a likelihood of you passing in that degree, would you have used it?
Yes/No
- g. If this system told you that you were likely to fail, which of the following would you have done?

Changed to a different degree that I was likely to pass in/
Still enrolled in the course but would have worked much
harder/

I would not have changed anything

h. Do you think a system like this would be beneficial?

i. Yes/No

Prototype 1: Paper prototype:

Fill out all fields

Background:

Home province ☐ Go to 1

School quintile ☐ Go to 2

School setting ☐ Go to 3

Nationality ☐ Go to 4

Age at first year

Individual:

NBTAL

NBTMA

NBTQL

Pre-University:

Core mathematics

Mathematics Literacy

Additional mathematics

English HL

English FAL

Computer Science

Physical Science

Geography

Life orientation

Plan Description ☐ Go to 5

Calculate probability Go to 6

Results:

2.5% chance of passing in minimum time

Sticky Notes:

- GA, MP, LP, EC, KZN, NC, FS, WC, NW
- Q1, Q2, Q3, Q4, Q5
- Rural, Urban
- South African, International
- Computer Science, Geography, Actuarial Sciences, Chemistry, Plant Sciences, General, Biochemistry, Economic Sciences

Prototype 2:

Background	Individual Attributes	Pre-University
Home Province <input type="text" value="EC"/>	NBTAL <input type="text" value="0"/>	LO <input type="text" value="0"/>
School Setting <input type="text" value="RURAL"/>	NBTMA <input type="text" value="0"/>	Core Maths <input type="text" value="0"/>
School Quintile <input type="text" value="1"/>	NBTQL <input type="text" value="0"/>	Maths Lit <input type="text" value="0"/>
International Student <input type="text" value="Yes"/>		English HL <input type="text" value="0"/>
Age at first year <input type="text" value="0"/>		English FAL <input type="text" value="0"/>
		Computers Studies <input type="text" value="0"/>
		Additional Maths <input type="text" value="0"/>
		Physical Sciences <input type="text" value="0"/>
		Life Sciences <input type="text" value="0"/>
		Geography <input type="text" value="0"/>

Plan Description

CALCULATE PROBABILITY