



# Information Architecture Redesign

Presented by **Team Kurin**

REWORK NTU'S SCHOOL OF ELECTRICAL & ELECTRONIC  
ENGINEERING (EEE) WEBSITE'S INFORMATION  
ARCHITECTURE

# Presentation Agenda

## RESEARCH

Heuristic Evaluations  
Current User Flows  
Competitive Analysis  
Business Analysis  
User Testing  
Content Inventory



## SYNTHESIZING

Card Sorting  
Sitemap Revamp  
Tree Testing  
Sitemap Iteration



## DESIGN

Wireframing  
Prototyping in Axure  
RP



# Presentation Agenda

## ITERATE

Adding/Changing IA

Make changes to  
Prototype

Usability Test Again



## USABILITY TESTING

Usability Tests  
(In-House)

Usability Tests  
(Outside)

Usability Score



## PRODUCT

Adding Frills, Colour,  
Pictures, Text.

Presentation

Research



## **Heuristic Evaluation**

*How we did it*

Current User Flows

Competitive Analysis

Business Analysis

User Testing

Content Inventory

# Doing Heuristic Evaluation

A not-too-basic evaluation using Nielsen's 10 + IA Heuristics

	User 2: Jess Needs	User 3: John's Needs	ID	User Flow	Heuristic Violated	User Rating 1 = Low usability	Notes	Ref img
User 1: Mark Needs	#1. Syllabus to evaluate Course Content	<b>1. Searching for information about continuing education</b>	1.1	Home page	N8 - Competing for Attention	2	Banner occupying first fold. Have to scroll to realize there are options to click underneath. Could have avoided two click-throughs if Graduate Programs button was visible on Homepage.	J1.1
1. Admission Requirements			1.2	Prospective Students	N4 consistency between menu, N8 minimal repeated menu	2	Undergrad and Grad is repeated twice in very close proximity	J1.2
2. Scholarship Opportunities			1.3	Graduate Programmes	Content is too deep	1	Clicking 3 times to get to graduate programmes.	J1.3
3. Student body makeup/teach ratio			1.4	Select Master of Science (MSc) Programmes	N4 consistency	2	The title is suddenly different. The breadcrumb jumps from selecting Master of Science (MSc) Programmes	J1.4
4. College programmes and specialities	#2. If a class fulfills a degree requirement	I am considering a return to school. I live close to the school I graduated from and am interested in whether they have any opportunities for continuing education.	1.5	Selecting Course - Communications Engineering Loads into Programme Overview	N1 visibility of status N4 consistency Content is too deep	1	Programme overview page. Does not have the select button. For example if you click Programme Structure, there's a selected icon that appears	J1.5A J1.5B
5. Campus Housing Info			1.6	Selected Admission requirements, Online Application, Scholarships, Tuition fees, Important Information.	N1 breadcrumb N4 consistency Lost/Navigation design (IA)	2	All these buttons exist on earlier pages, that are repeated and click them will bring you back to the earlier page. It jumps the user back to previous menu, user has to click all the way back into Communications Engineering again.	J1.6A J1.6B J1.6C
Mobile			1.7	Clicked Tuition Fees -> Before Applying -> Started to browse Coursework Programmes -> Graduate Admissions -> LOST	Not accessible. N3 N4	1	Unable to get back to EEE, Confused and went in circles. He got lost.	J1.7A J1.7B
	#4. Looking for career advice		1.8	Clicked Home but returned to NTU.EDU.SG instead of EEE.NTU.EDU.SG		1	He clicked Home to try to get back, and realized he was in the main NTU.EDU.SG instead of what he needed.	J1.8

Most commonly violated Nielsen's Heuristics

**N2. MATCH BETWEEN SYSTEM & THE REAL WORLD**

**N4. CONSISTENCY & STANDARDS**

**N8. AESTHETICS & MINIMALIST DESIGN**

Main Nav and Footer were linked only to ntu.edu.sg and  
**NOT EEE.NTU.EDU.SG**

PROSPECTIVE STUDENTS

STUDENTS

ALUMNI

FACULTY/STAFF

MEDIA

PARTNERS/PEERS

LOGIN

中文

Enter search term



School of Electrical and Electronic Engineering

HOME

ABOUT US

PROGRAMMES

RESEARCH

NEWS & EVENTS

ALUMNI

CONTACT US

Prospective  
Students

Current Students

EEE Safety



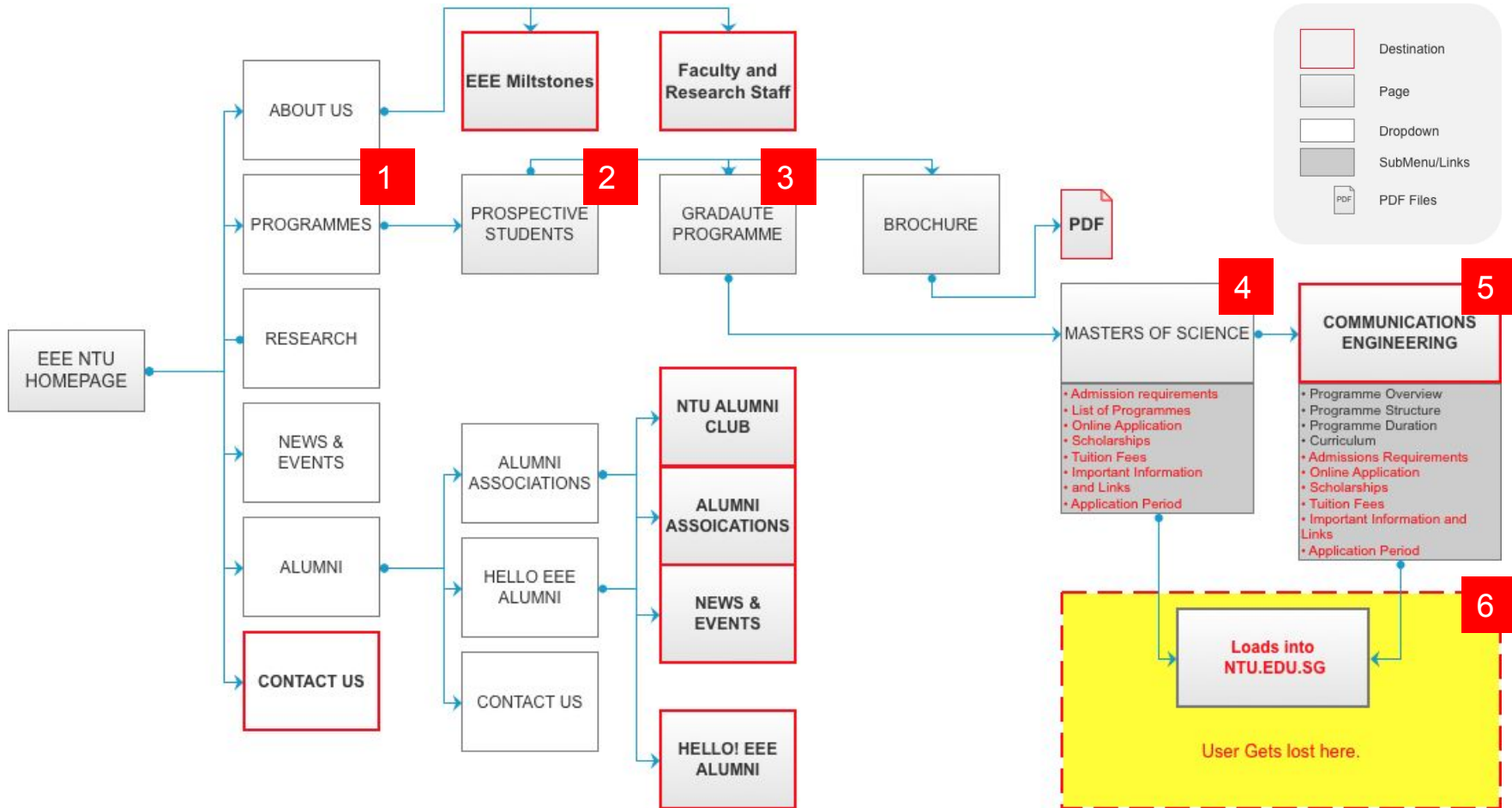
Other problems. #fail

**UNCLEAR OR LACK OF CONTENT**

**CONFUSING NAVIGATION**

**TOO MANY LAYERS**

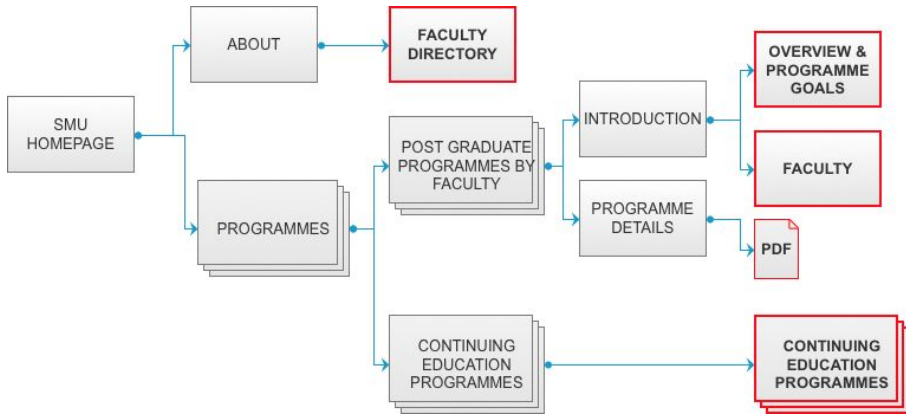




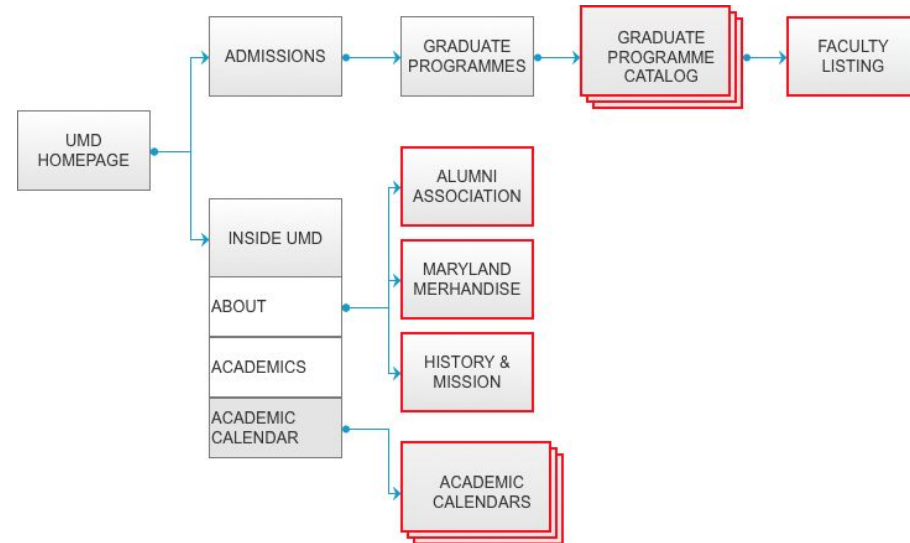
# Competitive Analysis

Comparing User Flows from other Schools, such as NUS, SUSS, SMU, UMD

## SMU



## UMD



# Competitive Analysis

Websites we analysed: UMD, NUS, SMU, SUSS. Sample section:

Criteria	NTU		UMD		NUS	
Achieves goals easily	Information spread across multiple sections	2	All info about a course is on the same page	5	All in one page although page is deep to get to	3
Easy to navigate	Several instances of getting lost in deeper levels	1	Consistent. Sub-menus on hover reduce clicks	5	Messy navigation	1
Header	Confusing. Leads to main NTU site	1	No header	-	Leads to main NUS site	1
Branding visibility	Hidden in ABOUT US and main NTU site	1	Values visible on landing page	5	Consistent logo and colours. Designs change	3

# Business Analysis

Prospective Students, Current Students,  
Alumni, Teachers, Lecturers, Professors, Dean,  
Board of Directors, Investors. MOE, Faculty,  
Entrepreneurs, Startups, Researchers

**NTU EEE IS RANKED #12 SCHOOL  
WORLDWIDE IN ELECTRICAL AND  
ELECTRONIC ENGINEERING.**

*“NTU IS ONE OF THE TOP 4 SCHOOLS  
IN SINGAPORE, I WOULD SAY, NUS,  
NTU, SMU then SUSS.”*

-User on what he thinks of NTU

[NTU's DESIGN GUIDELINES](#)

Doing User tests with Current Site/Quotes

**“I DON’T KNOW WHERE THE LEARNING OUTCOMES  
ARE, IT DOES NOT TELL ME ENOUGH.”**

- User on what he wants when he’s looking into further education.

Doing User tests with Current Site/Quotes

**“I LIKE TO SEE EVERYTHING ON ONE PAGE. I’M LOST  
HOW DO I GET BACK TO NTU EEE PAGE.”**

- User on finding the info he needed.

Doing User tests with Current Site/Quotes

**“NOT ATTRACTIVE. SITE IS MESSY. IMPORTANT LINKS ARE TOO SMALL. THE BROCHURE LOOKS MUCH MORE PLEASING.”**

- User on overall impression of NTU site.

SYNTHESIZING



## **Card Sorting**

*And...*

Identifying Problems

Sitemap Revamp

Tree Testing

Sitemap Iteration



# Card Sorting - Most Commonly Sorted

Header
Student Portal
Staff Portal
Contact Us
Login
Search Bar

About Us
Dean's Message
Testimonials
Awards & Achievements
Board of Directors
Vision Mission Values

Programmes
Undergraduate Programmes
Graduate Programmes
Course Schedules
Course Outcomes
Course Exemptions

# Card Sorting - Most Commonly Sorted

## Life on Campus

Campus Life

ECAs

Safety on Campus

Campus Housing

Career Counselling

## Admissions

Admission Requirements

Tuition Fees

Application Period

Check Application Status

Financial Aid

## Landing Page

Banner

Graduate Brochure

Undergraduate Brochure

Voted by 21 Participants:

They feel the most important aspect of visiting a University site is the **Efficiency of Accessing Relevant Information**

Visual Design

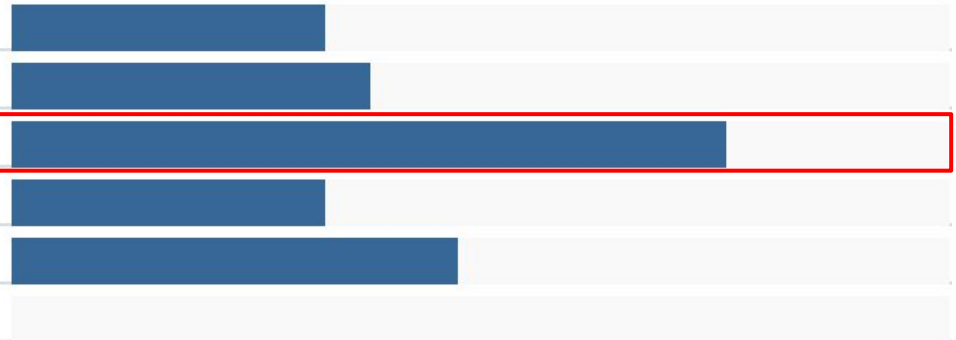
Awards and Achievements

Efficiency of accessing relevant information

Campus Facilities

Branding

Unanswered

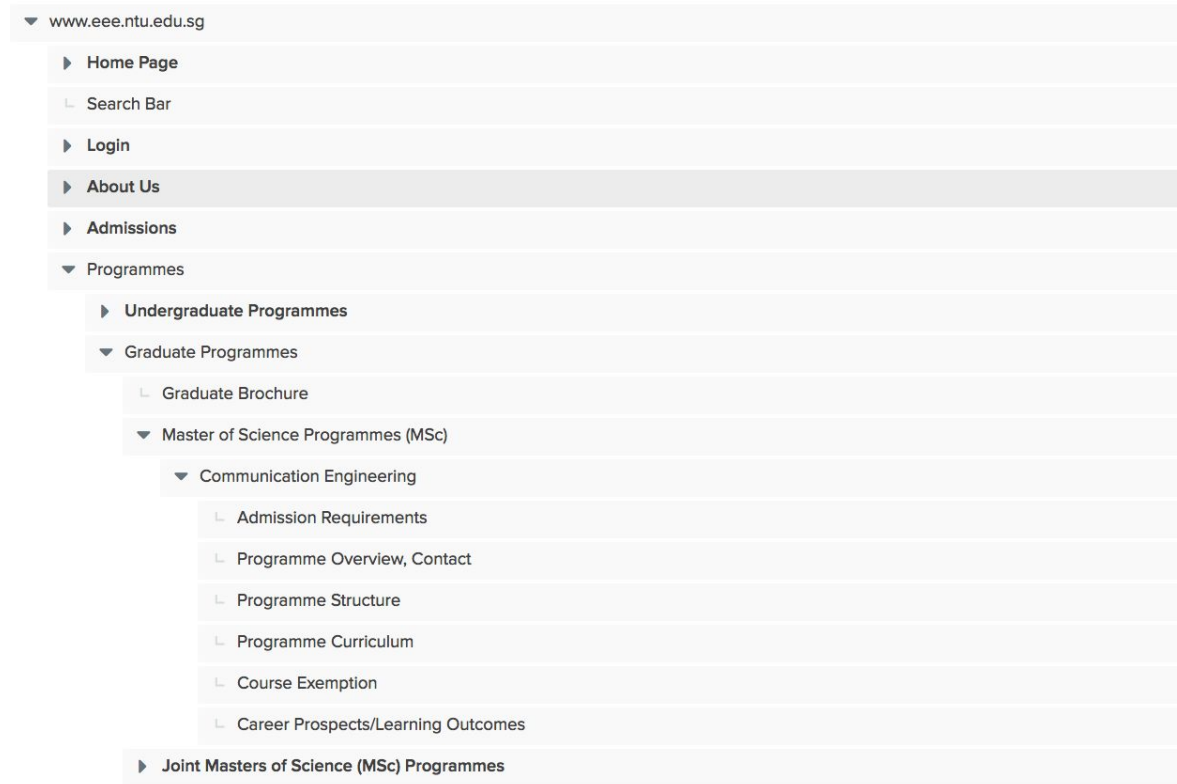


# Sitemap - *Simplified.*

[You can view the full one here](#)



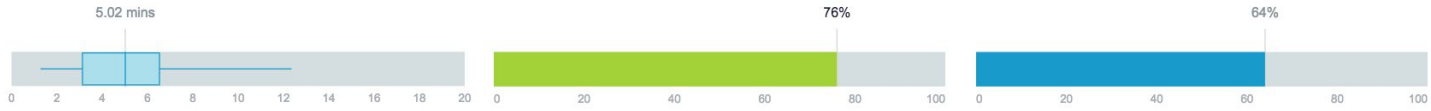
# Tree Test Results



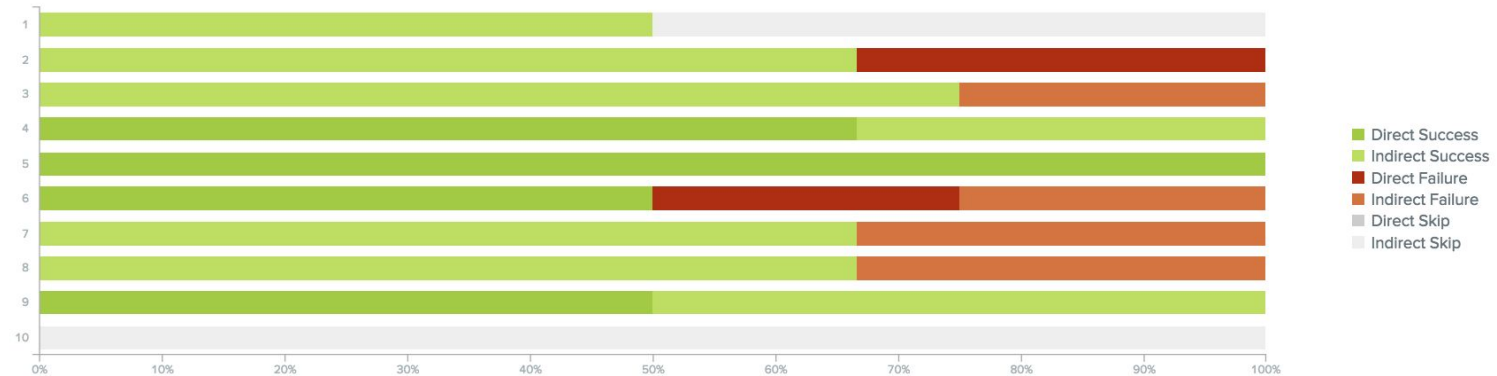
# Tree Test Results

Overall

Time Taken [?](#)



Tasks



DESIGN

**Wireframing**

*Paper prototypes...*

Templates

Prototyping in Axure

# Wireframes

Home

[Detail Pages](#)

Admission Req

Programmes

Financial Aid

Contacts

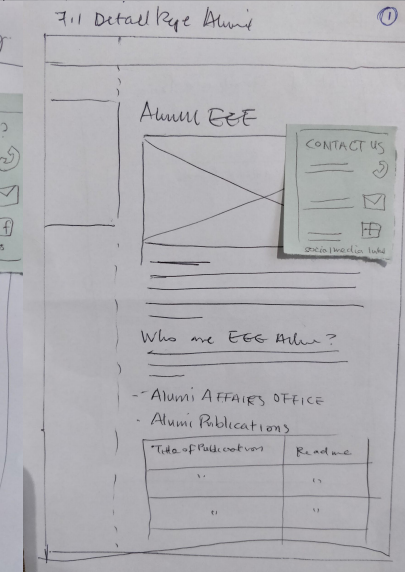
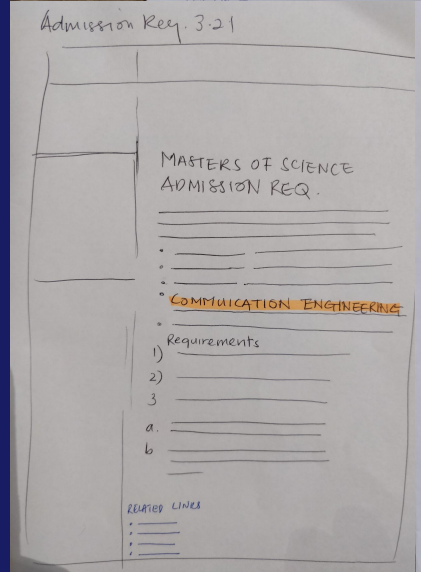
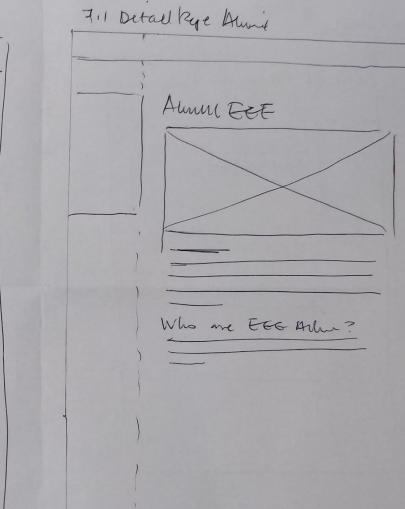
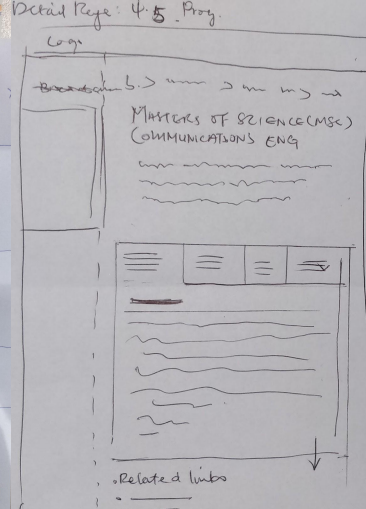
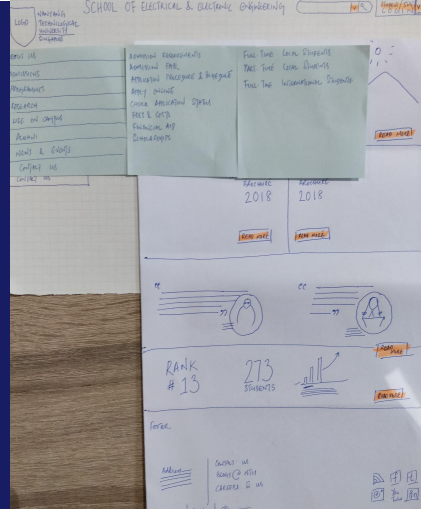
Alumni

Tuition Fees

[Menu](#)

Main Menu

Dropdown





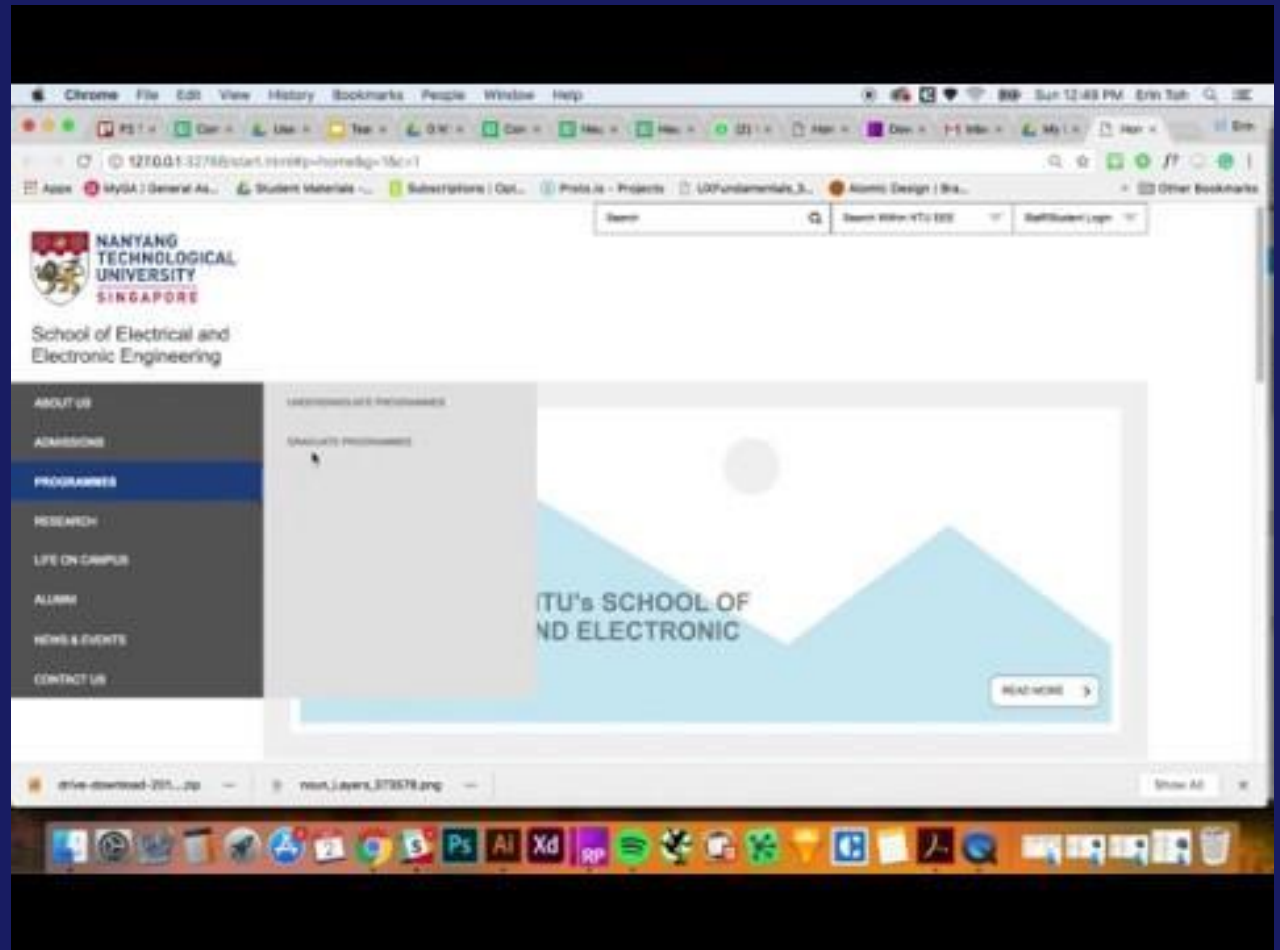
# Prototype

**Axure**

Menu

**Clickable.**

**Linking pages.**



# Design Style guide

## Colours



## Text

**HEADING 1**

ARIAL BOLD Size 30 #333333

**HEADING 2**

ARIAL BOLD Size 28 #6B6B6B

**HEADING 3**

ARIAL BOLD Size 18 #333333

**BODY TEXT**

BODY TEXT

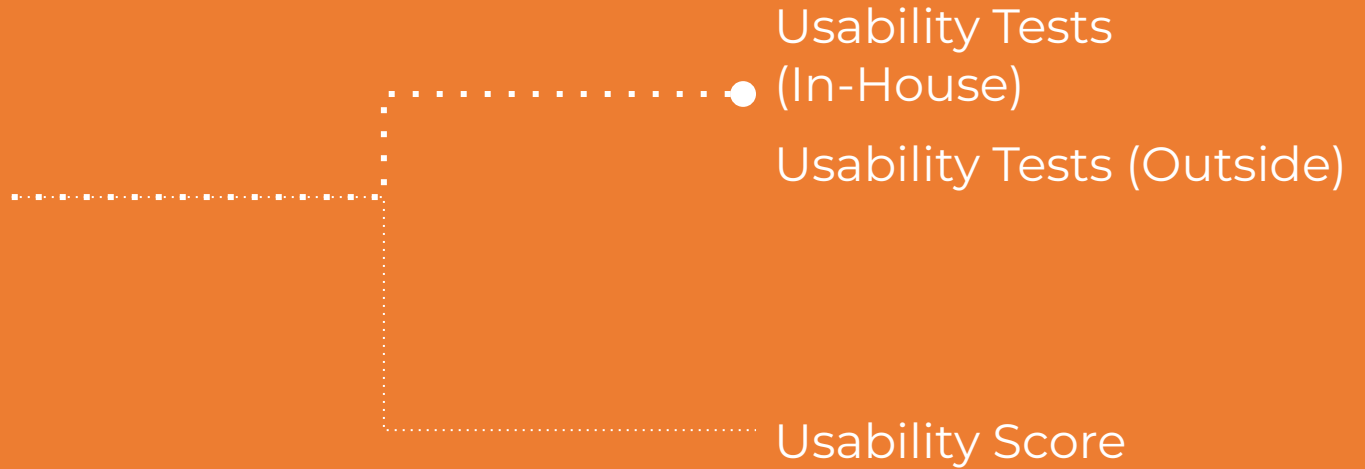
ARIAL REGULAR/BOLD  
Size 13 #333333

# USABILITY TESTING

Usability Tests  
(In-House)

Usability Tests (Outside)

Usability Score



# USABILITY TESTING

Sample of our User Script with Tasks and Post-task review



## Review

- What is your overall impression of the website?
- What do you like best about it?
- What do you think needs to be improved?

User 1 – GLOW: user friendly, likes side navigation, like that it is not colourful, clean. GROW: Need to add 'Masters' in the sidebar, font size too small in sidebars

User 2 – GLOW: easy navigation, informative.

User 3 – GLOW: Tabbing is great. GROW: not used to side navigation

User 4 – GLOW: clear, clean, easy to nav, able to find things, simple, current NTU is shit! GROW: font too small in sidebars, maybe use large buttons? prefers click interactions than mouseover as it prevents errors.

User 5 - easy to use, info is accessible, clear, enough assistance like search and filter, sticky menu is good. IMPROVE - Fees & costs could be tabbed on the same page as programme. Prefer popups or open new tab.

# USABILITY TESTING

Sample of our spreadsheet & tasks

Tasks	User 1	User 2	User 3	User 4	User 5	%
#1 : User is able to find Entry Requirements for Programme						100
#2 : User is able to find tuition and miscellaneous fees?						100
#3 : User is able to find Financial Aid page						80
#4: User is able to find the schedule & curriculum for the programme			> 30 sec			80
<b>General</b>						100
Uses "Related Links" instead of main navigation						80

# USABILITY FINDINGS

**100%** users: went to **PROGRAMMES** and **NOT ADMISSIONS** for Admission Requirements.

**40%** users: “Sidebar menu items, **fonts are too small.**”

**80% users** **liked the Related Links** at the bottom of a page

Some preferred **pages to open in new tabs.**

# ITERATIONS

- 1 Rename ADMISSIONS section to APPLY ONLINE (no changes in content).
- 2 Sidebar items more readable - font size & CAPS.
- 3 New pages to open in new tabs.
- 4 Bigger, readable related links.
- 5 Fees to be included in the Programme page as well.

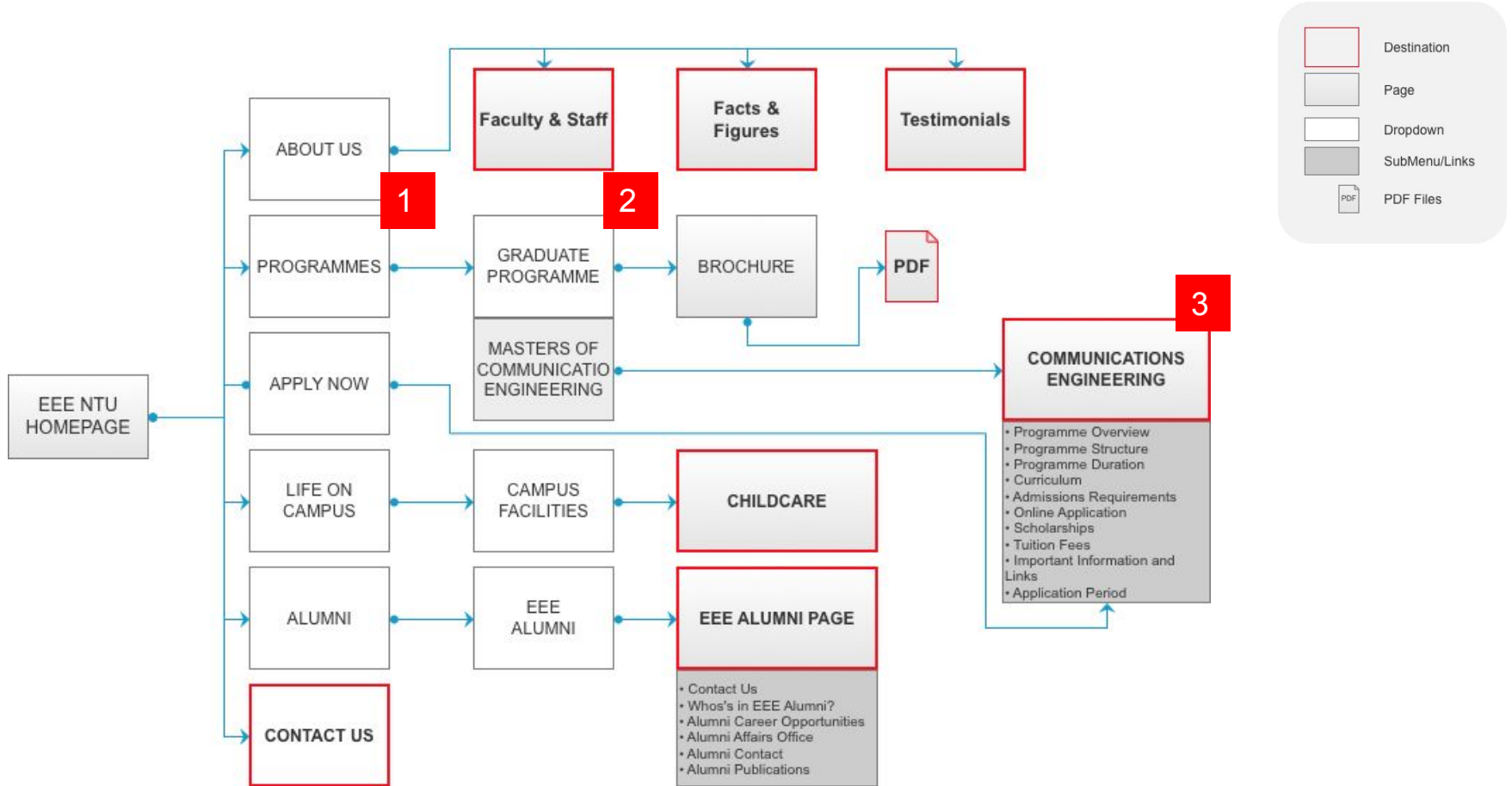
# 'Before' & 'After' Heuristic Analysis

Sample of Qualitative/Quantitative analysis based on Usability Test responses

Criteria	Before		After	
Achieves goals easily	Information spread across multiple sections	2	Task completion (97.5%) for John's user needs	5
Easy to navigate	Several instance of getting lost in deeper levels	1	Number of levels reduced to 3	5
Header	Confusing. Leads to main NTU site	1	Clear demarcation between NTU and EEE. Persistent sidebar for EEE only.	5
Branding visibility	Hidden in ABOUT US and main NTU site	1	Highlights and figures in Landing page	5



# Mapping John's New Flow in NTU





# FINAL PRODUCT

Presented by **Team Kurin**

AXURE PROTOTYPE...