



IEDA4180 SERVICE ENGINEERING AND MANAGEMENT

ANALYZING THE SERVICE QUALITY OF THE 'HKUST STUDENT' APPLICATION



Our Team

4
A C E

(pronounced 'ace')

Alicia Gigi Ku

Cheuk Siu To

Cheung Chiu
Fung

Chan Chun Yu ,
Sean

Chan Hoi Man



**How many of you
are studying
online right now?**



Background - Industry Overview

Covid-19 has accelerated the growth of
the e-learning industry



Global Education Apps Market, 2020-2024:

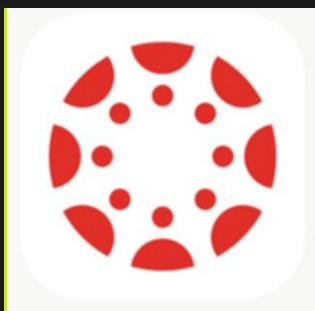
Market growth:
**USD
46.88B**

CAGR
increase:
26%

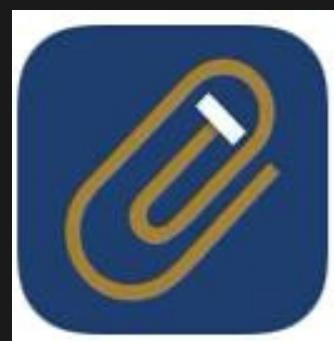
Increase in
2020:
23.13%



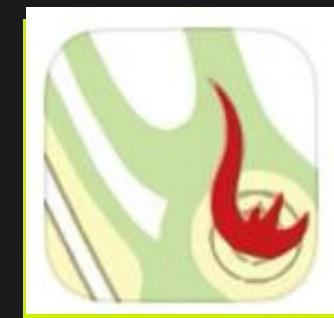
School Applications



HKUST Canvas



USThing



HKUST Path Advisor

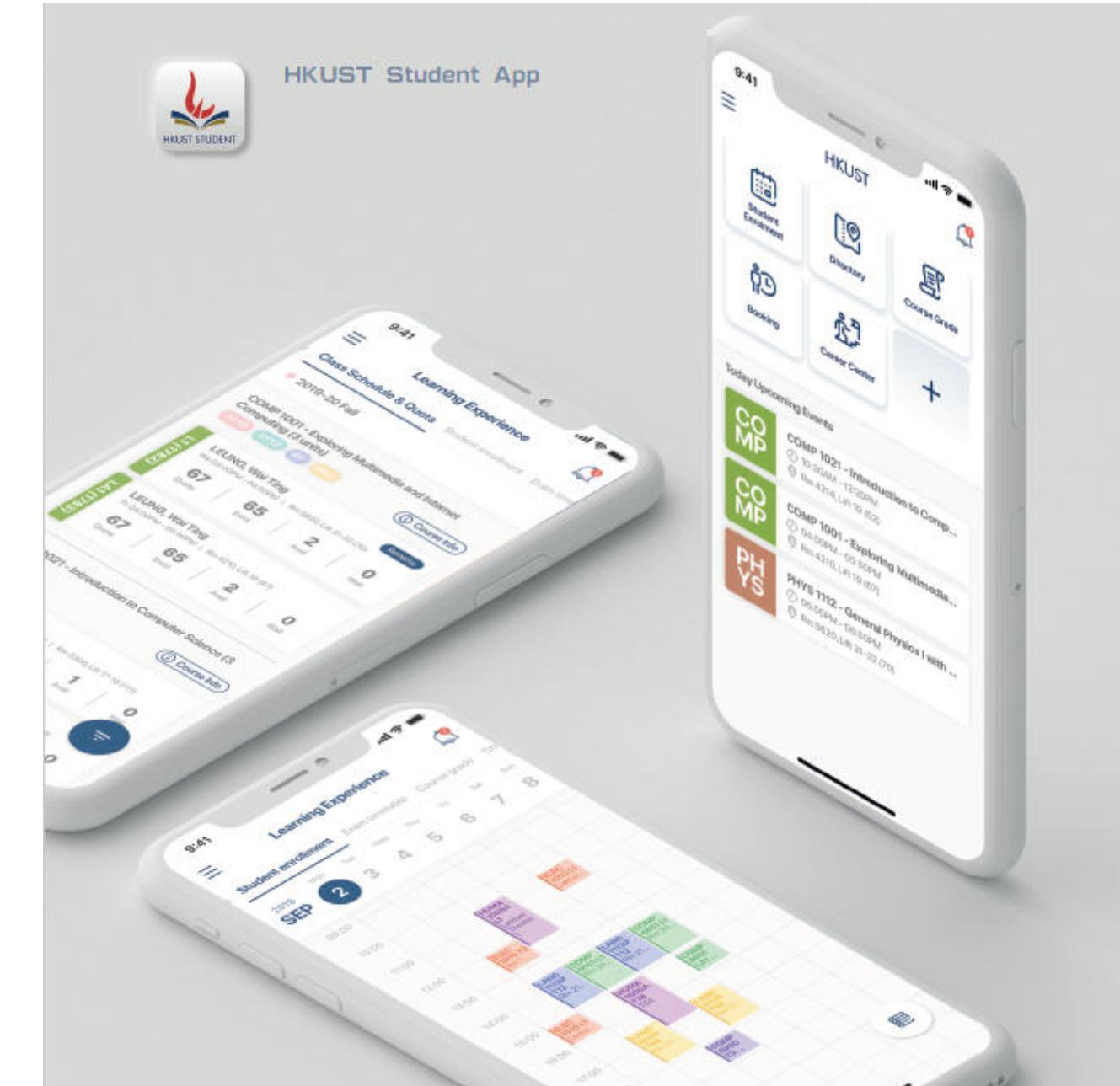


Background

HKUST Student Application

Official Mobile Application
developed by HKUST

Launched May 20, 2020
1K+ downloads as of May 2021
'All-in-One' Learning Application

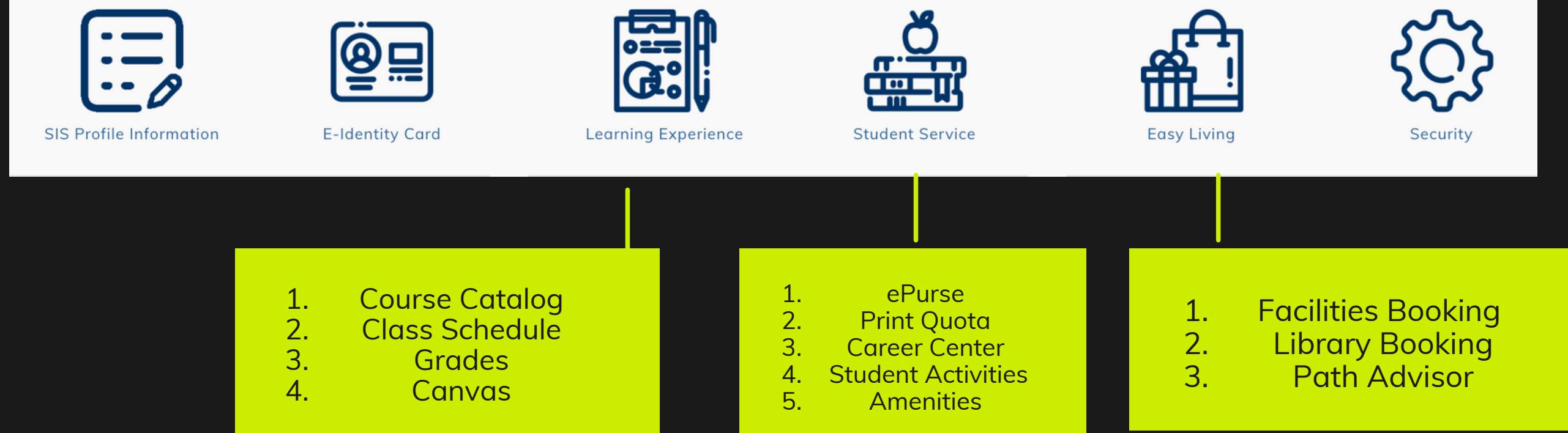


A BRAND NEW DIGITAL
EXPERIENCE IN YOUR JOURNEY
WITH THE UNIVERSITY



Background - Service concept

Services Provided by HKUST Student

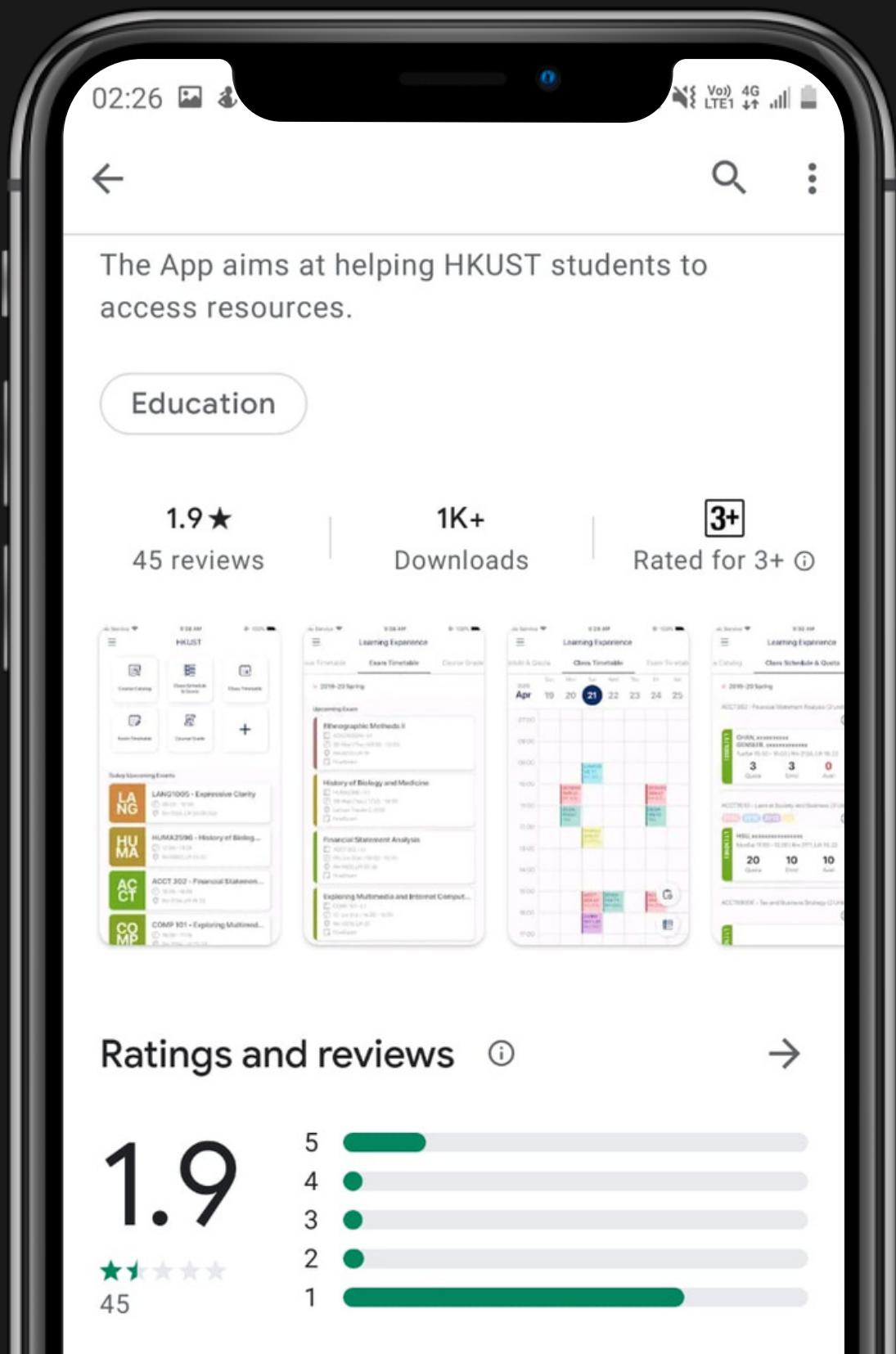


Services Received by Student(user)

1. Easy class enrolment and grade monitoring
2. Quick booking of locations
3. Advice on graduate career
4. Helpful directions on campus



Problem Background



- 1 year into launch, 1K+ Downloads
- Not well received by HKUST students
- 1.9 rating on the app store (Google Play)

Compare to HKBU Mobile:

5K+ downloads,
2 years into launch, 3.8 rating





Metrics for Mobile Applications (KPIs)

- App Downloads (total)
-

- App registrations
-

downloads \neq registered users

- User Activeness
-

Frequency of using the application (daily/weekly)

Time spent per session

- Session Depth
-

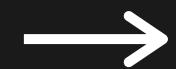
Interactions per session
how many pages are viewed per session

- User growth rate
-

registrations per month

- Retention rate %
-

Measure of proportion of users are still using the application after a specific time period
e.g. 1-day retention rate, 3-day retention rate, 1-month retention rate, etc



Research Methodology

Survey

Understand **user behavior** in more detail

1. Have you ever used the HKUST Student App?
2. How did you find the app?
3. For how long have you used/are you still using the app?
4. How often do you use it?
5. Which parts of the application do you visit?

Questionnaire: 'HKUST Student' Mobile Application



1. Have you ever used the "HKUST Student" Mobile App? *



- Yes
 No

2) How did you find the application?

- Word of Mouth
- Campus Event
- HKUST Website
- HKUST Social Media (Facebook/Instagram)
- Other: _____

3) Are you currently an active user of the application? (Y: how long have you been using it? ; N: how long before you stopped using it?)

Once >=3 days >= 1 month >= 3 months >= 6 months

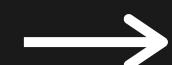
- | | | | | | |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Yes (still using) | <input type="radio"/> |
| No (stopped) | <input type="radio"/> |

4) How often do (or did) you use the application?

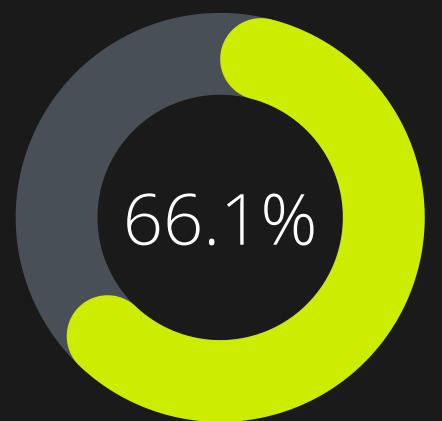
- Daily
- 2-3 times per week
- Once per week
- Once per month (or less)

5) Which parts of the application do you usually use or prefer?

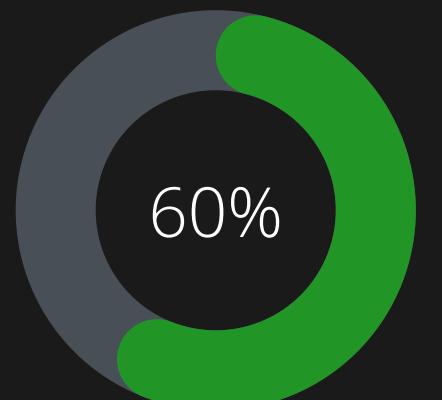
- e-identity
- Learning Experience (Courses, Class Schedule, Grades, Canvas)
- Student Service (ePurse, Print Quota, Career Center, Student Activities/Amenities)
- Easy Living (Facilities Booking, Library Booking, Path Advisor)



Research Methodology



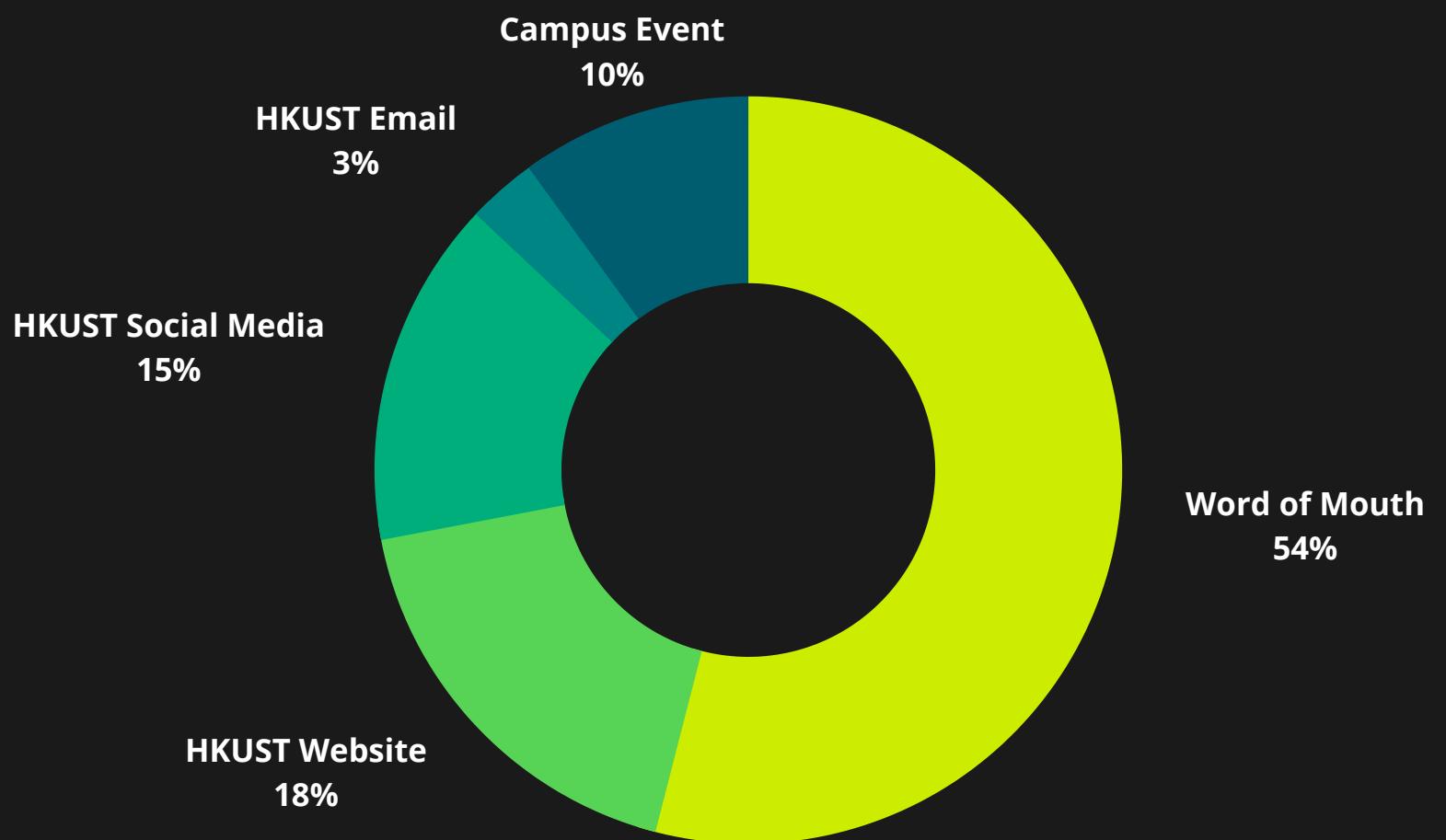
have used HKUST Student Before



Are still using the app , out of those who've used it at least once

User retention has room for improvement

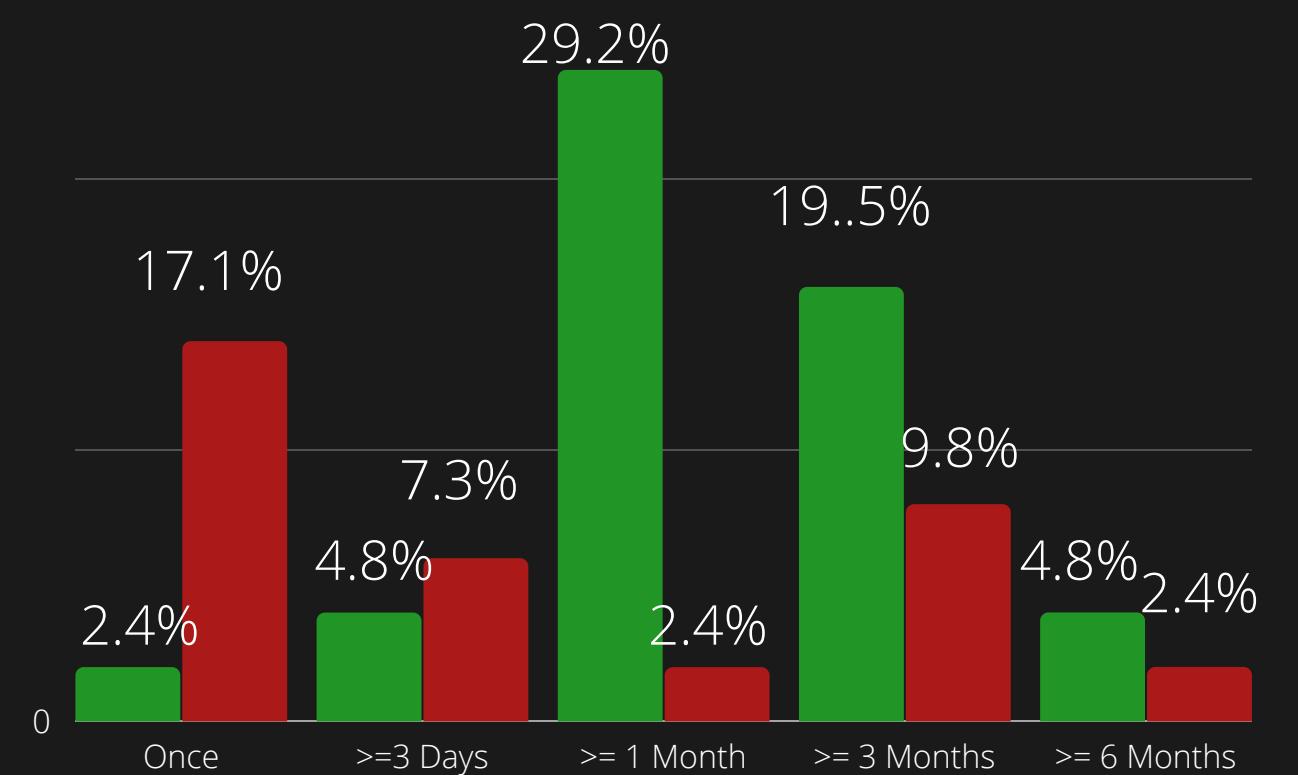
How did they find the app?



HKUST channels not effective for drawing in users

Research Methodology

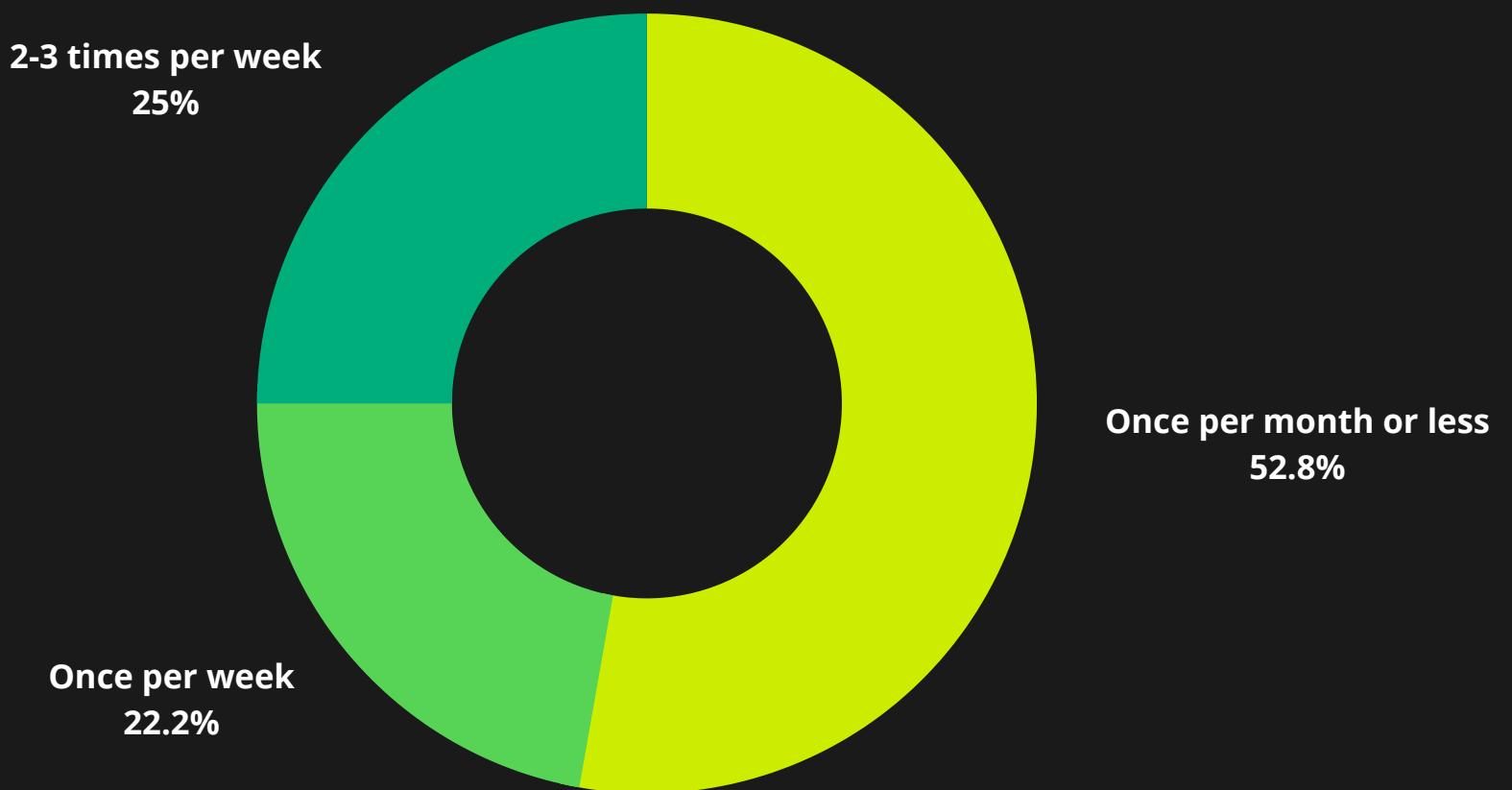
How long have you been using the app for?



29.2% still use it, and been using it for ≥ 1 months (~start of semester),

17.1% stopped using after first use, churn rate is high

How frequently do you use the app for?



0% answered daily, majority use it very infrequently

Research Methodology

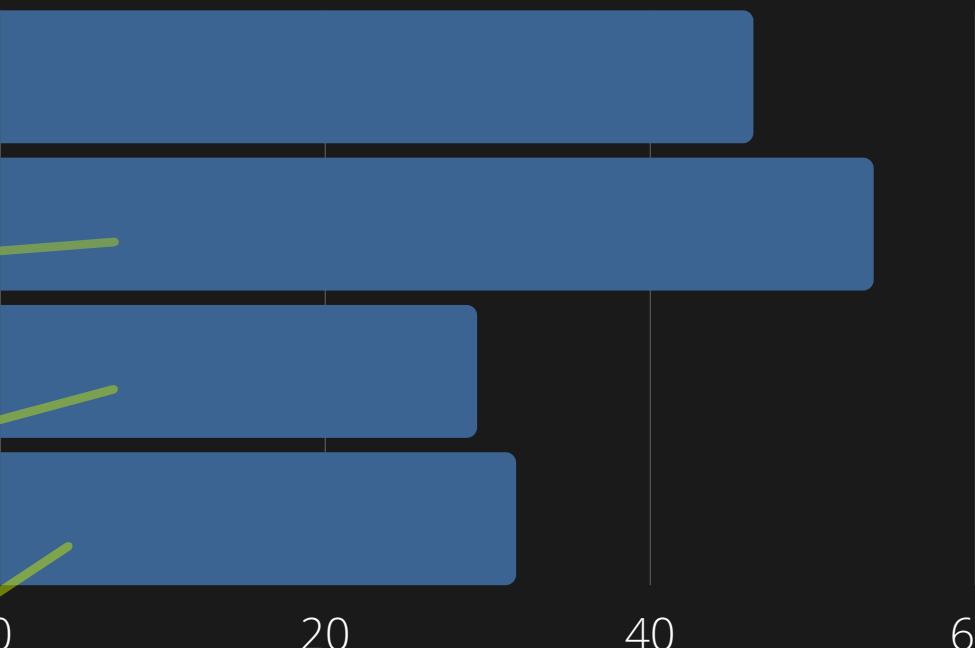
Which part of the application do you use?

- 1. Courses
- 2. Class Schedule
- 3. Grades
- 4. Canvas

- 1. ePurse
- 2. Print Quota
- Career Center
- 3. Student Activities
- 4. Amenities

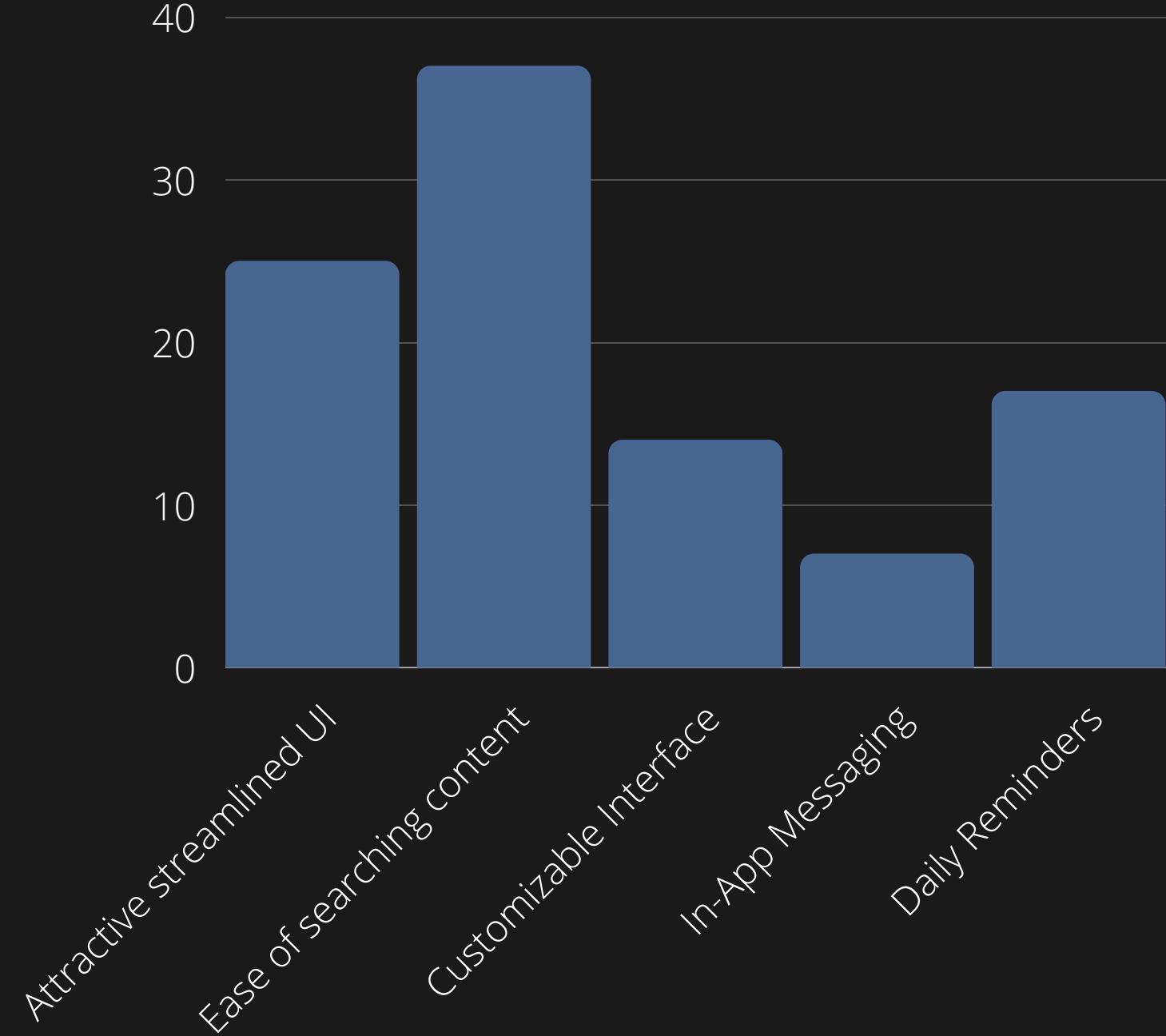
- 1. Facilities Booking
- 2. Library Booking
- 3. Path Advisor

e-identity
Learning Experience
Student Service
Easy Living



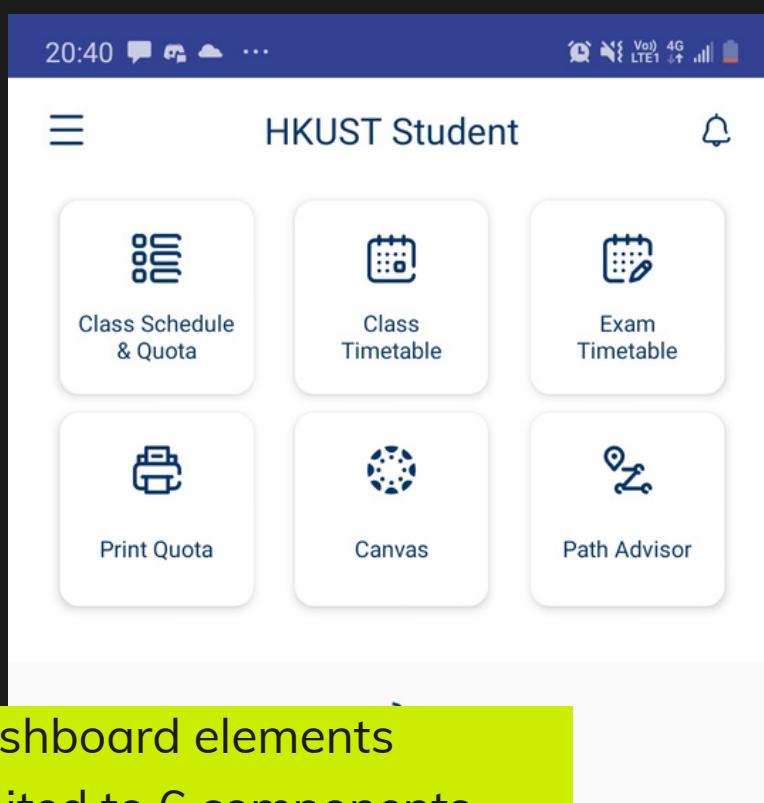
Student Service, easy Living
are Under-used

Which features would enable you to use the app more frequently?

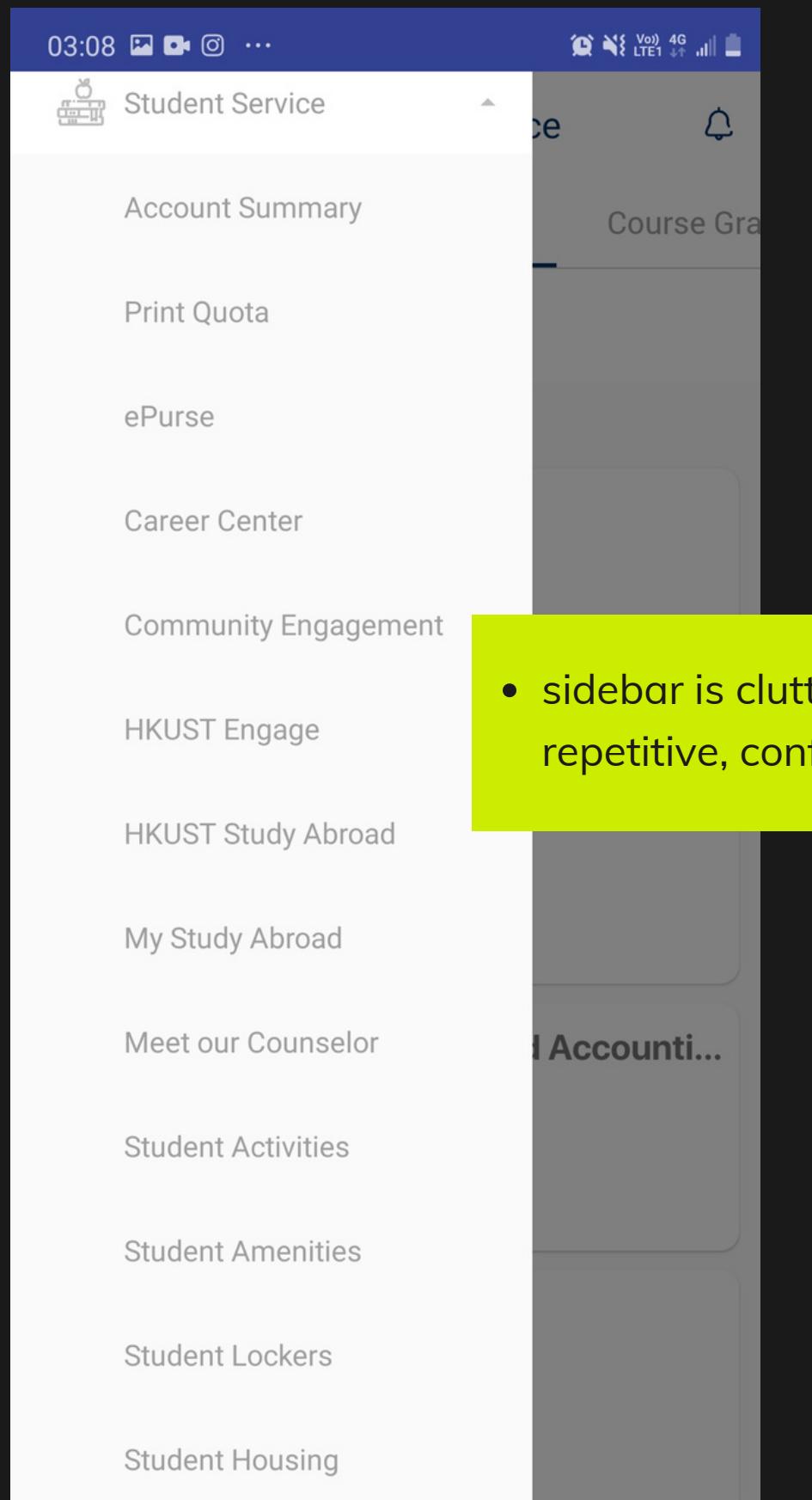
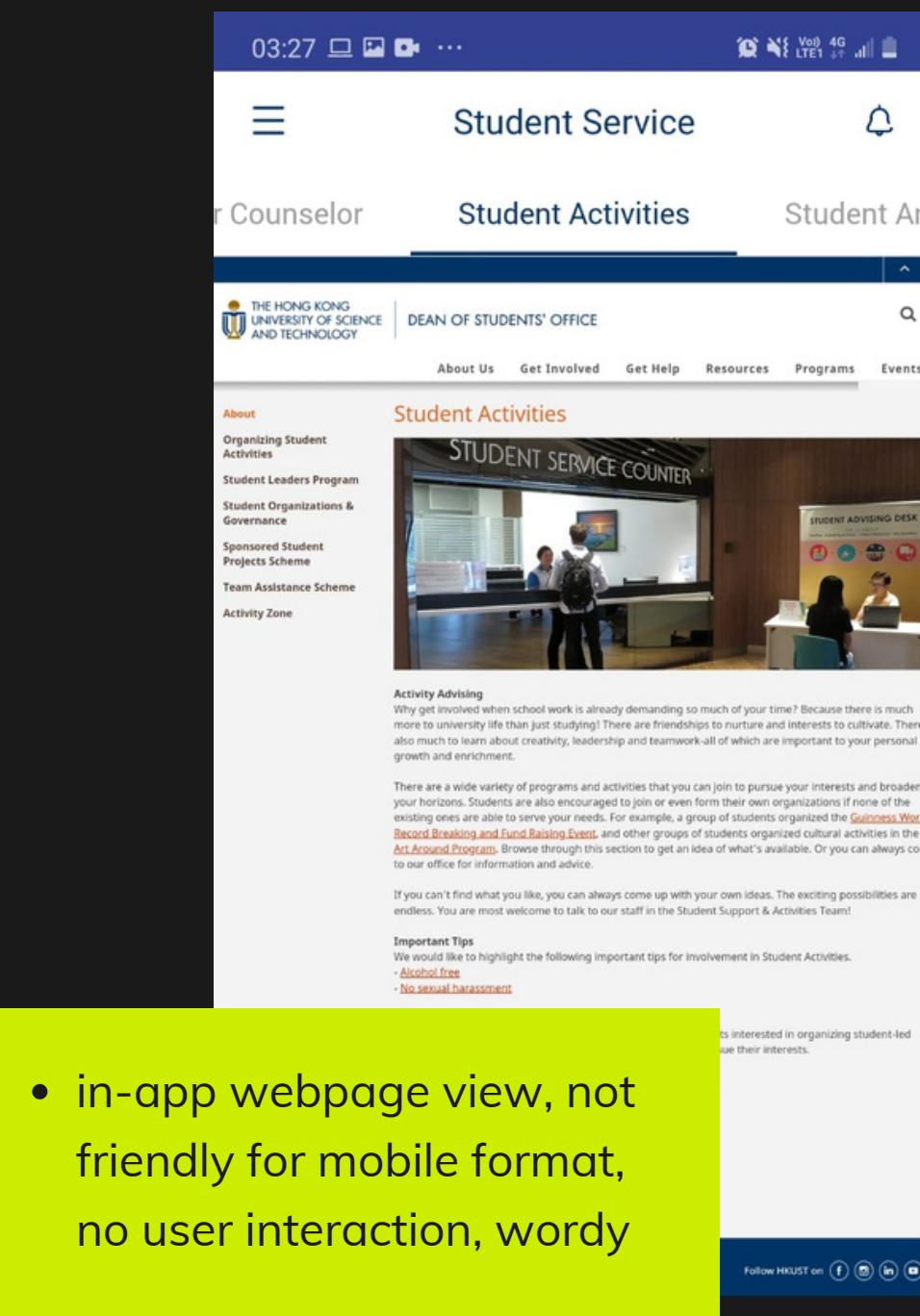


Ease of use - search content,
intuitive AI is important,
customization is nice to have

Identifying the Problem



Trying the service ourselves





Benchmark Other Applications

Access is restricted, interview/talk with students from other universities



As long as we can keep in mind firmly the continent of hope, the winds and waves will certainly be conquered by us.
- Christopher Columbus

e-Announcements
2021-05-06

- ARTD Faculty of ARTS Research Impact Workshop Series: How (Not) to Write a GRF Impact Stat...
- ARTD [CCL] Lecture Series in AI Ethics & Ethical AI: Slaves to the Algorithms? Algoracry and ...
- BADE Seminar - Tokenomics: When Tokens Beat Equity
- HMW [CCL] 2021.05.14 (Friday), 4-5:30pm "成為 SLASHIE 的一把鑰匙" The Key to Becoming...
- SA 2021/22 Application for Government Grant/Loan TSFS/NLSFT(UGC Full-time Local Stud...

HKBUmobile

News & Events

- E-ANNOUNCEMENTS
- CO-CURRICULAR ACTIVITY
- HKBU EVENTS
- HKBU NEWS
- ACADEMIC CALENDAR

Study

- CLASS TIMETABLE
- EXAM TIMETABLE
- GRADE RECORD
- U-LIFE FULFILMENT

Finance

- E-STATEMENT

[*BSC COMPUTER SCI CST]



advantage

- easily to modulated
- some special and specific function
- Without double authorization

HKBUmobile

Quick Links

- GRADE RECORD
- EXAM TIMETABLE
- CLASS TIMETABLE
- CO-CURRICULAR ACTIVITY
- HEALTH DECLARATION

COVID-19

- COVID-19 BULLETIN BOARD

Community

- BUHUB

News & Events

- E-ANNOUNCEMENTS

[*BSC COMPUTER SCI CST]

HKBUmobile

Finance

- E-STATEMENT
- LOAN/EXCHANGE DISBURSEMENT
- SCHOLARSHIP/BURSARY
- STUDENTSHIP

Campus

- HEALTH DECLARATION
- CAMPUS MAP
- FACILITIES

ITO Support

Contact HKBU

Settings

[*BSC COMPUTER SCI CST]

disadvantage

- loading time is too long (technical problem)
- user interface was not clear enough

2. Lingnan

advantage

- some special and specific function
- user interface is clear



The screenshots show the following features:

- Map View:** A 3D map of the university campus with buildings labeled in English and Chinese. It includes a search bar at the top for "Building, Facilities or Room".
- Students Tab:** A grid of icons for various student services:
 - Registry Services (diploma icon)
 - Student Affairs (books icon)
 - Library Services (book icon)
 - eLearning (graduation cap icon)
 - PC Availability (monitor icon)
 - Staff Directory (person icon)
 - Find a Printer (printer icon)
 - KMB (bus icon)
 - Catering (plate icon)
 - Online Order (chopsticks icon)
- Catering Tab:** A list of dining options:
 - Canteen and Coffee Corner (next: Thu May 6, 2021 7:45 AM – 9:45 PM)
 - Cafe (next: Thu May 6, 2021 8:00 AM – 5:30 PM)
 - Lingnan House (Chinese Restaurant) (about: 11:00 AM – 11:00 PM)

SWOT Analysis - HKUST Student

Strength

- HKUST Official branding
- Wide Variety Features
(Academics, Student Activities)
- Basic customization (dashboard feature)
- Fully integrated timetable/schedule , canvas
- E-identity



Weakness

- Long Waiting Time
(Page loading, duo factor login)
- Lack of exposure/marketing, HKUST social media underutilized
- Lack of features for user retention and activeness
- Downloads & uses only occur during the semester
- Cluttered, non user friendly/interactive UI (toolbars, web-views)

The screenshot shows the mobile application's navigation bar at the top with icons for account, notifications, and search. Below the navigation is a sidebar menu with options like Account Summary, Print Quota, ePurse, Career Center, Community Engagement, HKUST Engage, HKUST Study Abroad, My Study Abroad, Meet our Counselor, Student Activities, Student Amenities, Student Lockers, and Student Housing. The main content area displays the "Student Activities" section, which includes a sub-menu for "About" with links to various student programs and a photograph of a service counter. There are also sections for "Activity Advising", "Important Tips", and "Student Support & Activities Team".



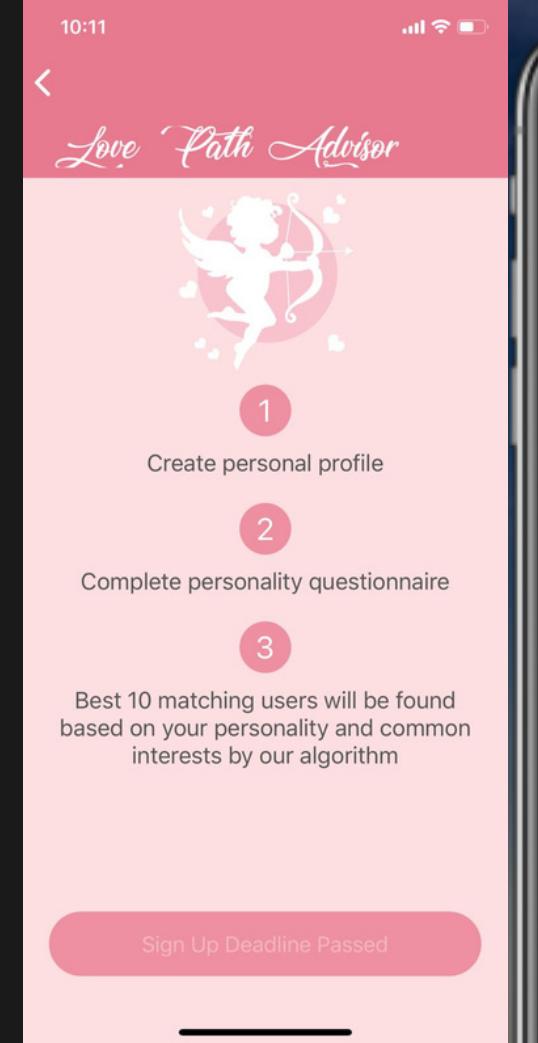
SWOT Analysis - HKUST Student

Opportunities

- Design plan for more entry points and promotion for users to find the app
- Optimize app functions and UI
- Use application to promote and enrich student social life and community

Threats

- Competing apps cause confusion of which one to download e.g.(USThing)
- Less users may use the app when in-person teaching fully resumes





Objectives

1. Improve **app visibility** and have more users find and download the app



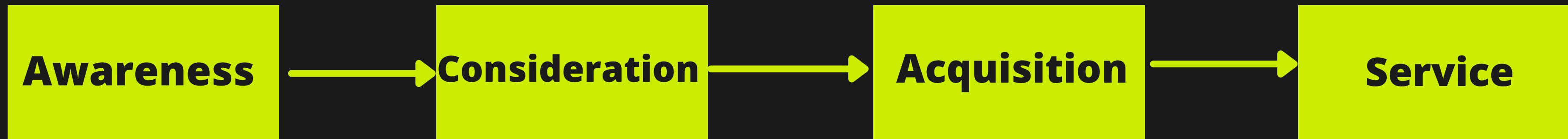
2. Improve **retention and activeness** of users on the app



3. Increase **app personalization** experience after attracting users



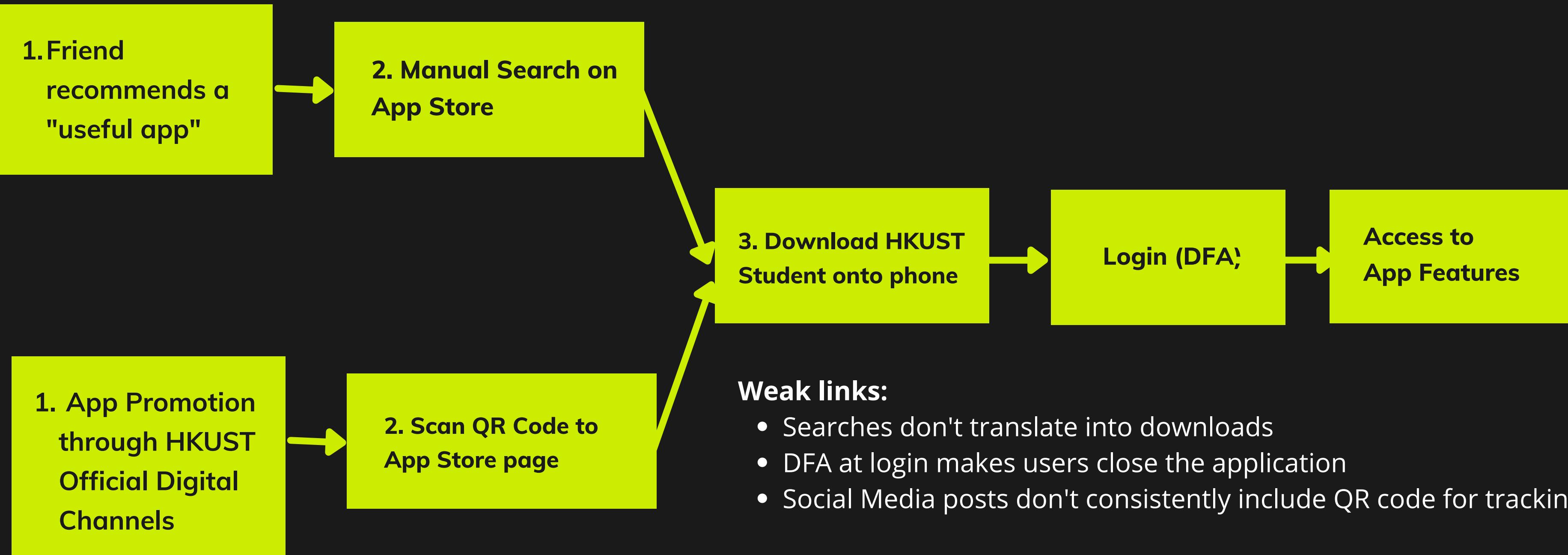
A customer journey mapping for HKUST Student: Discovering the app



- Word of mouth
- School email
- School website
- Room booking
- Check the timetable
- Purchase souvenir
- Check the grades

Customer Journey

A customer journey mapping for HKUST Student: Discovering the app



The background image shows a wide-angle aerial shot of a modern university campus. The campus features several large, white, curved buildings with glass facades. In the foreground, there is a circular plaza with a red sculpture in the center, surrounded by green trees and a paved area. The campus is situated on a hillside, with more buildings visible in the background. A body of water is visible to the right, and a range of mountains can be seen in the distance under a cloudy sky.

Possible Solutions



App Visibility + Download

1a) Gain Installs during HKUST "off-season" summer months

Target Channels:

- Users won't check HKUST Email, Increase frequency of promotional social media posts

Target Users:

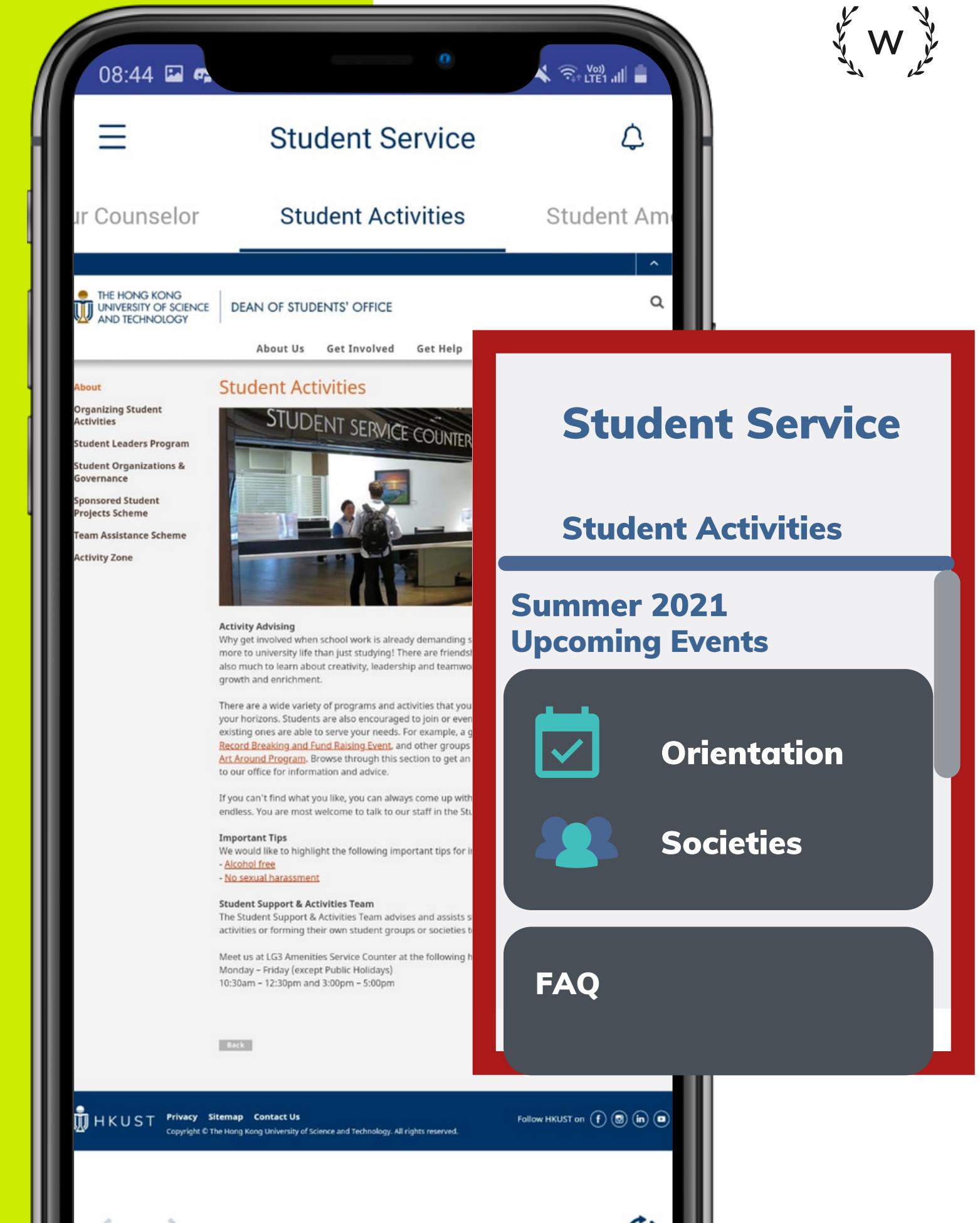
Incoming freshmen, promote features catered to audience:

1. Course Catalog
2. Student Activities

Target Content:

Replace web-view with user friendly mobile view, specific information:

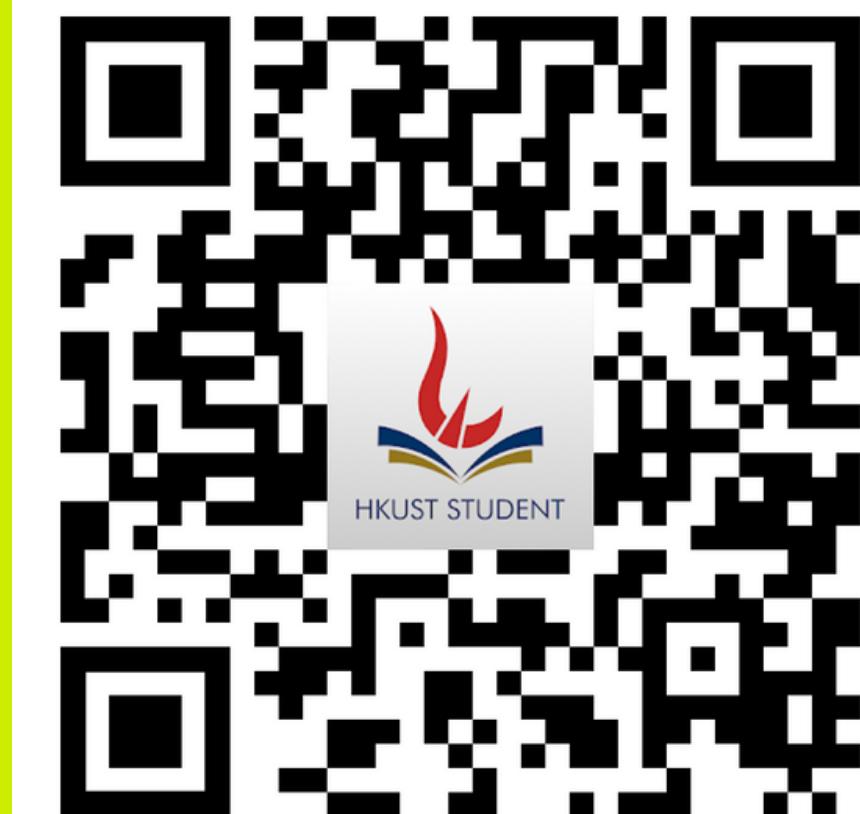
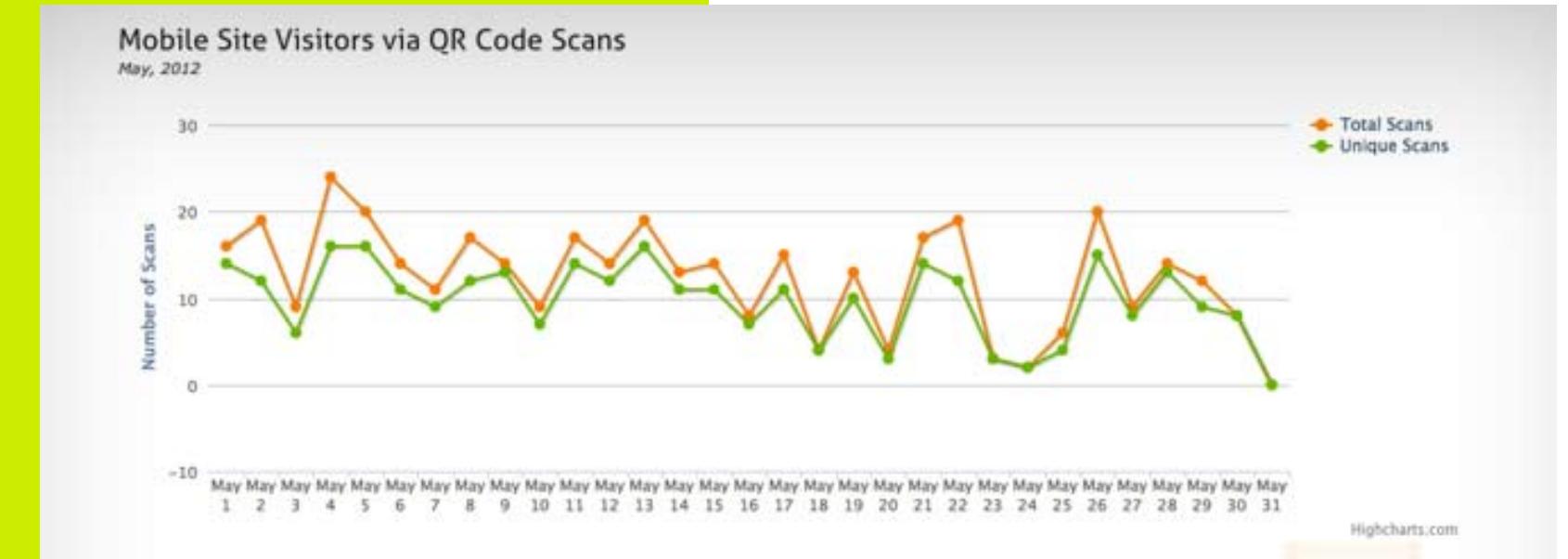
1. Orientation events
2. Societies - Virtual Recruitment



App Visibility + Download

1b) Optimize QR Code Management

- Removes obstacle of manual search
- There exists a QR Code for download, but through the website only: <https://studentapp.ust.hk/>
- Proliferate QR codes in different channels, post at consistent intervals to maximize exposure
- Data Analysis: Obtain more data on which channels attract most downloads, and when they are scanned



App Retention



2a) Reduce In-app Wait Times

- Major factor resulting in churn
- Place content on loading screens rather than leaving blank (e.g. 'quick tips', 'reminders')

"That Old Empty Feeling"

- Provide a landing page , or allow certain sections of the app to be browsed without login, to 'tease' users

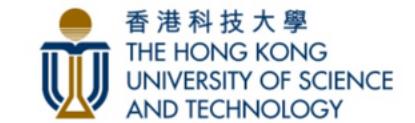
(e.g. upcoming events)

"A Foot in the Door"

- Removes barrier from 'waiting', perceived less time spent on app and incentivize users to check more frequently



Blank Loading Screen

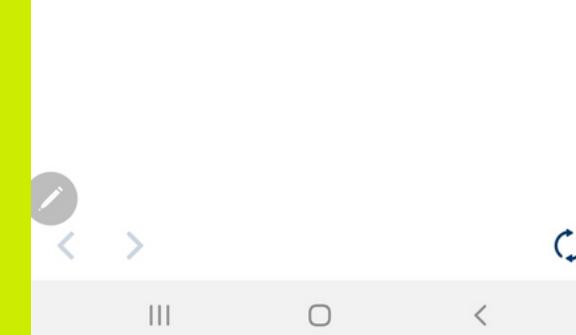


Username
Password

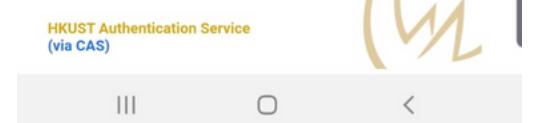
Sign in

[Forgot Password](#)

[Get Help](#)



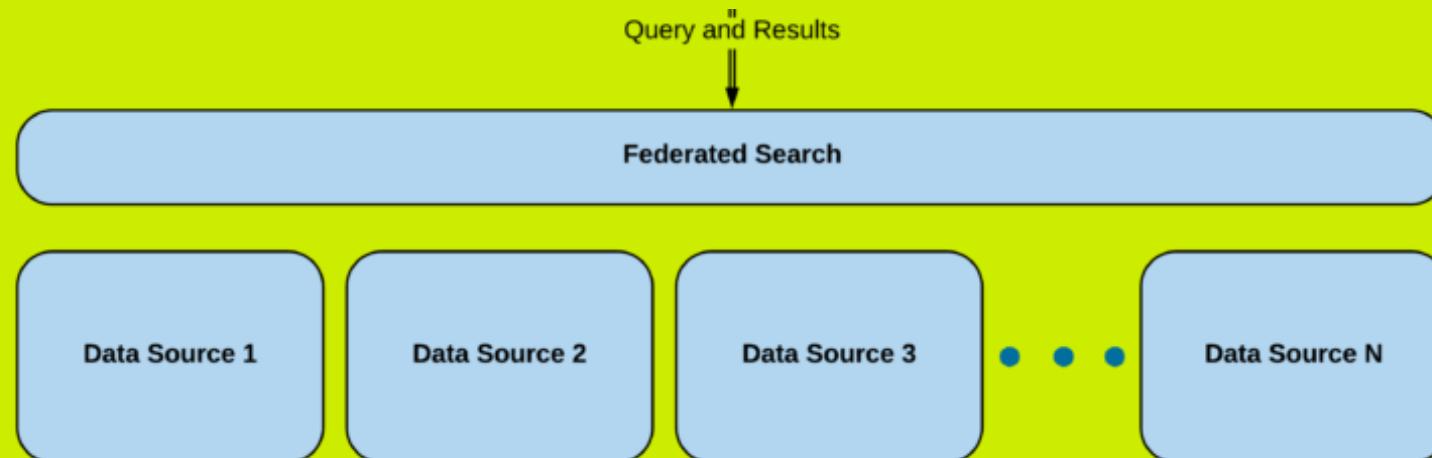
User's first screen is to log in, cause of churn after one-time



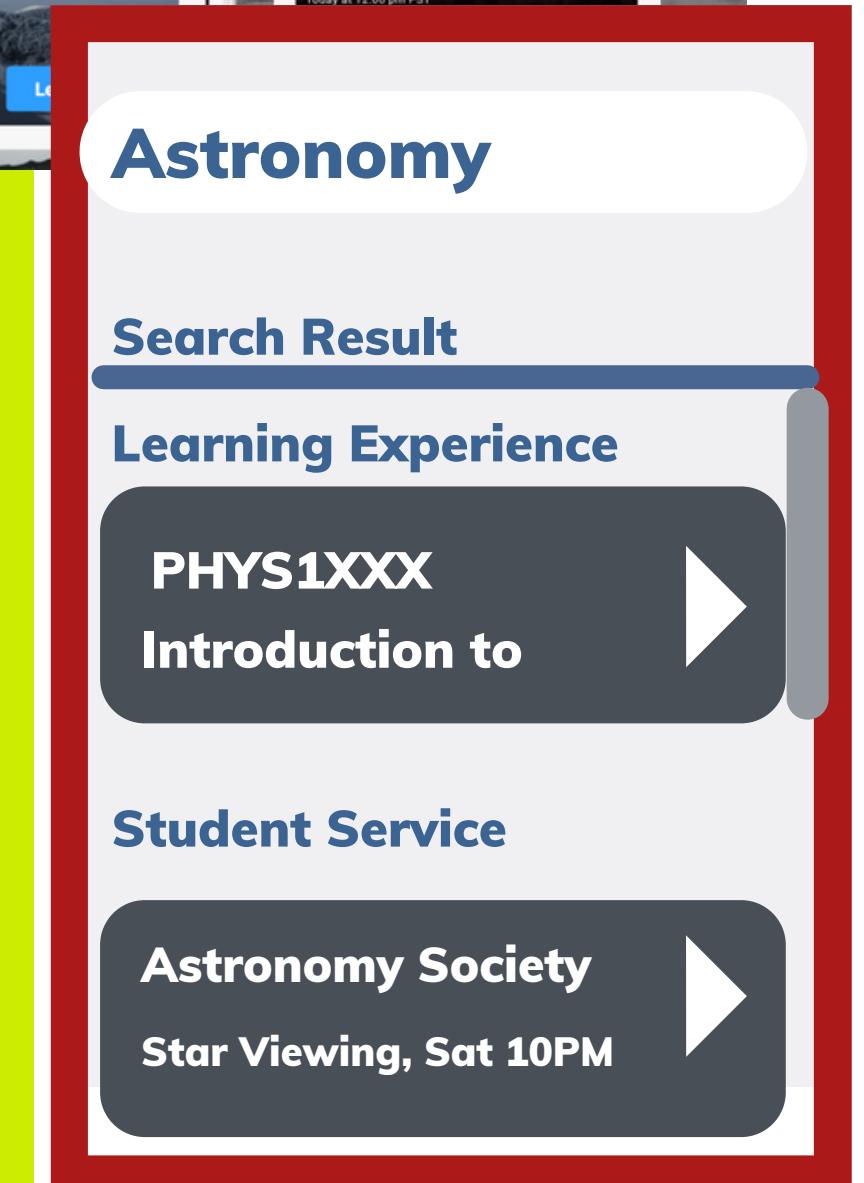
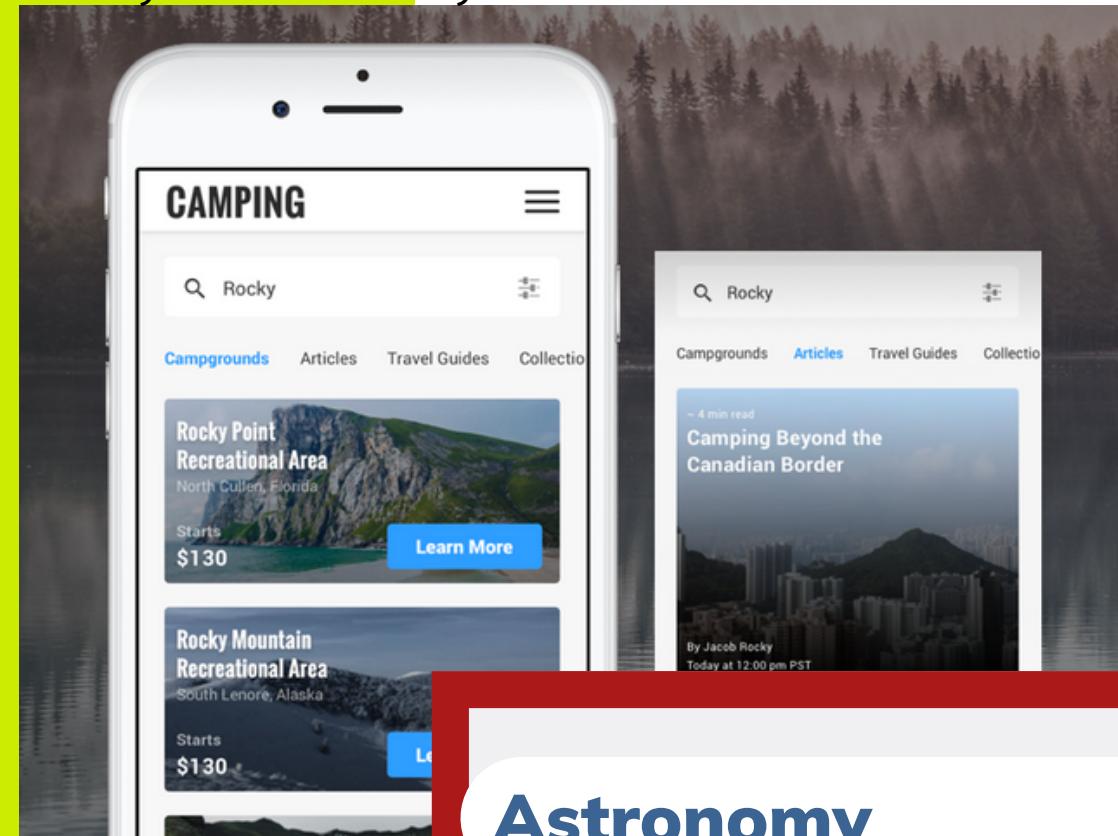
App Retention

2b) Federated Search for Content

- Insert search function into homepage
- Two types of search:
 1. Per module (e.g. returns results only within 'Student Service')
 2. Application Wide, groups result by module
- Removes barrier of time delay between opening app and locating information, incentivize users to check more frequently



Maxym Nesmashny



Astronomy

Search Result

Learning Experience

PHYS1XXX
Introduction to

Student Service

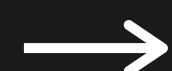
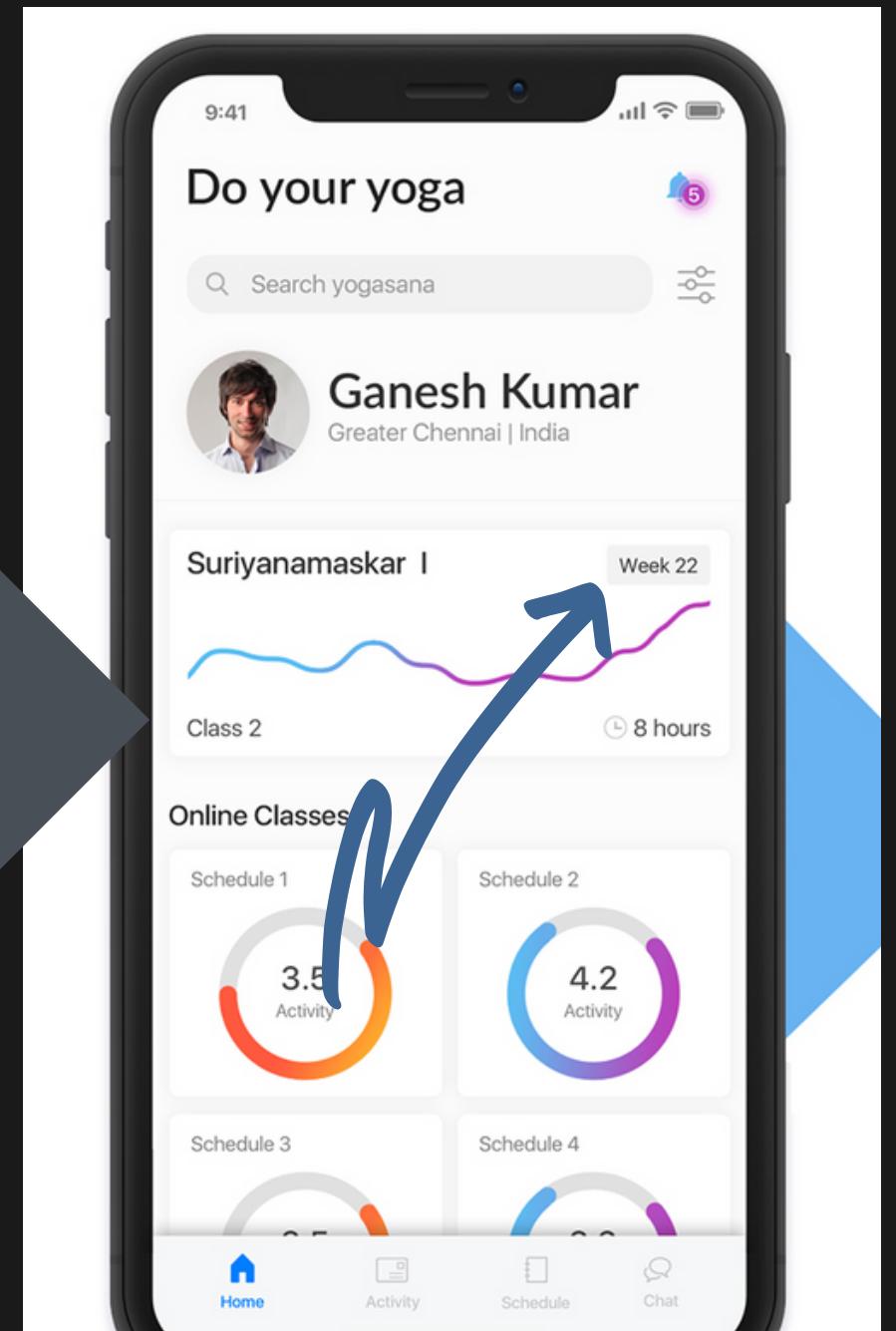
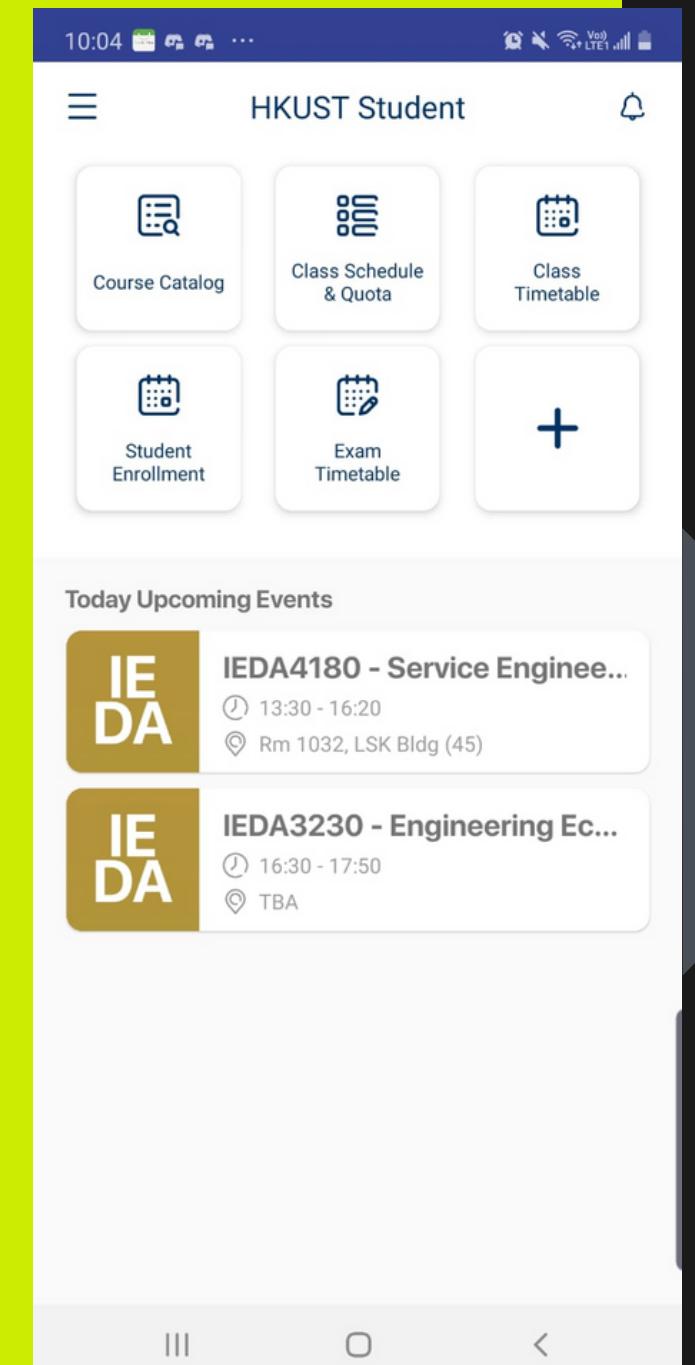
Astronomy Society
Star Viewing, Sat 10PM

Personalization

3) Optimize Dashboard

- Currently only allows up to 6 options
- Have to click an extra button to find information
- Quicker to directly show information
- Drag/drop/resize visuals to reflect precedence/priority of user
(E.g. lecture schedule on top, updates about seminar on the bottom)
- Get Information relevant to specific user quicker

Ganesh Kumar



Implementation Challenges

- Costs for Development

Upfront Time and costs are required to develop new or improve features e.g. search function, users may churn before then

- Costs for Maintenance

As app complexity and users increase, more costs are needed to maintain the running of the application

- Data Privacy

As personal privacy becomes an increasingly sensitive issue, HKUST student developers need to prove they are not mis-using student information





Conclusion

- Rapidly growing industry provides opportunity for HKUST student app's development
- Needs finetuning and improvement to suit HKUST students' needs

- Boosting app exposure/visibility through marketing
 - + optimizing UI for retention should be considered

Thanks!

References

[businesswire.com/news/home/2020125005345/en/The-Education-Apps-Market-to-grow-by-46.88-bn-in-2020-Industry-Analysis-Market-Trends-Market-Growth-Opportunities-and-Forecast-2024-Technavio](https://www.businesswire.com/news/home/2020125005345/en/The-Education-Apps-Market-to-grow-by-46.88-bn-in-2020-Industry-Analysis-Market-Trends-Market-Growth-Opportunities-and-Forecast-2024-Technavio)

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