KARO TAKHLEEQ 2026

User Validation & Initial MVP Planning

> *Smart Course Registration Chrome Extension*

30+
Responses

70%
Take 45+ min

68%
Prefer 3 Days

77%
Would Use

Team Members

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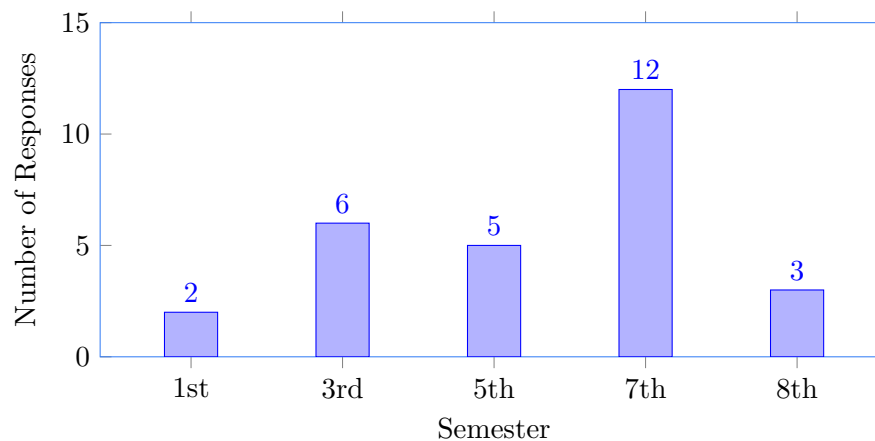Faculty of Information Technology | January 2026

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1. User Research & Validation

> **❓ What did you learn from talking to users?**

We conducted a survey with **30+ UCP students** across multiple semesters (1st to 8th). Key findings:
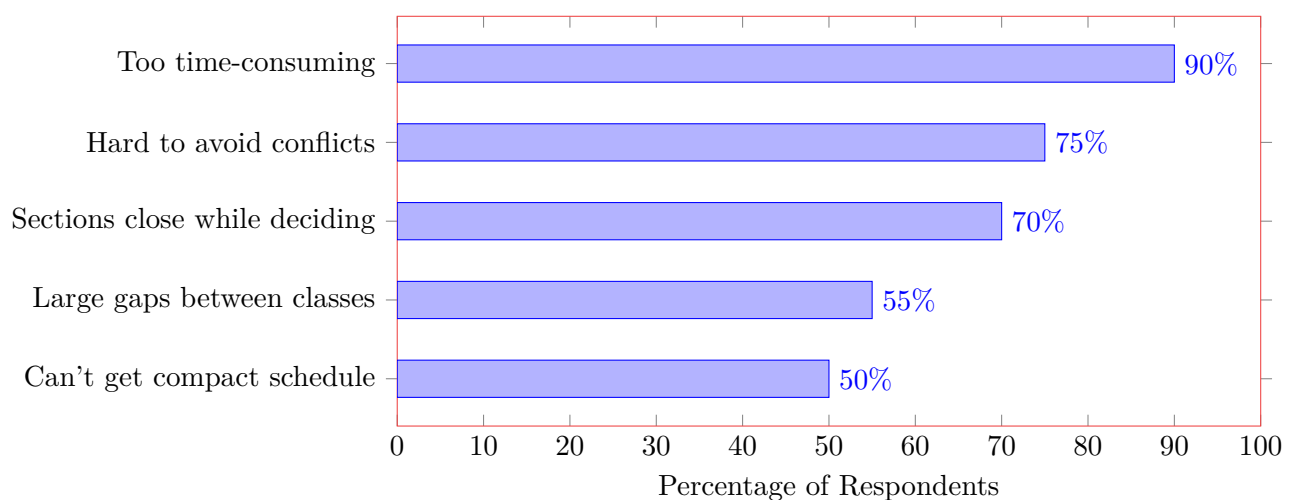
1.1 Survey Demographics

1.2 Key Finding 1: Registration Takes Too Long

> **💡 Key Insight**
>
> **70% of students spend more than 45 minutes** on course registration each semester. This validates our core problem hypothesis.

1.3 Key Finding 2: Major Frustrations

Additional frustrations mentioned by students:

- "Portal server down" / "Portal dies again and again"

- "Website crashes every 2 min"

- "Registration comes in exam days"

- "Sometimes sections are closed but portal shows available"

- "Feels like booking tickets for a stadium that sells out immediately"

1.4 Key Finding 3: Schedule Preferences
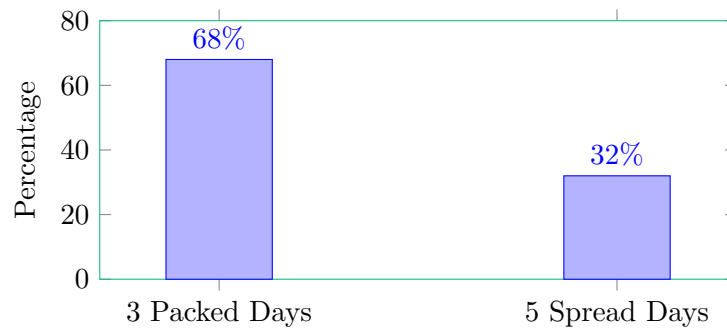
> ✅ **Validated Assumption**
>
> **68% prefer 3 packed days** with back-to-back classes and minimal gaps. This confirms our optimization target.

1.5 Key Finding 4: Extension Adoption
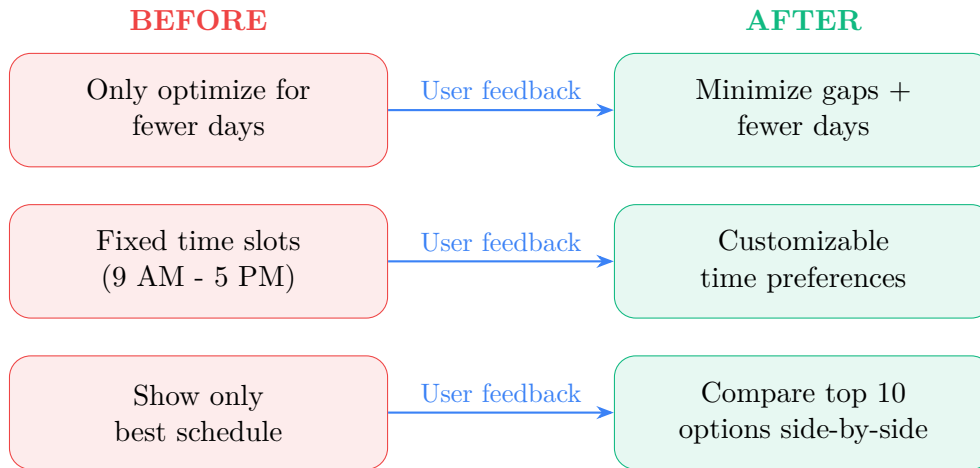
92% of respondents expressed interest in using a Chrome extension for automatic timetable optimization.

❓ How did user feedback change your solution design?

BEFORE		AFTER
Only optimize for fewer days	→ User feedback	Minimize gaps + fewer days
Fixed time slots (9 AM - 5 PM)	→ User feedback	Customizable time preferences
Show only best schedule	→ User feedback	Compare top 10 options side-by-side

Key Design Changes:

1. **Gap Minimization**: 55% mentioned large gaps as frustration → Added gap detection

2. **Time Filters**: Students prefer morning/afternoon slots → Added customizable time range

3. **Side-by-Side Comparison**: Most requested feature (45%) → Added visual comparison

4. **Day Selection**: Allow preferred days → Added toggleable day chips

❓ Which assumptions were validated or disproved?

Assumption	Status	Evidence
Registration takes too long	successgreen!20 Validated	70% spend 45+ minutes
Students want fewer campus days	successgreen!20 Validated	68% prefer 3-day schedule
All students face same issues	warningyellow!20Partially	Senior students (7th sem) more affected
Students will adopt extension	successgreen!20 Validated	92% interested
Time conflicts are main issue	successgreen!20 Validated	75% cited conflict avoidance

2. MVP Scope & Features

❓ **What core features will be included in the MVP?**

Core MVP Features

🔍 **Course Data Scraping from Portal**

⚙ **Timetable Optimization Algorithm**

📅 **Visual Timetable Display**

⇄ **Day & Time Preference Filters**

❓ **Which features are out of scope for this hackathon?**

✖ One-click auto-enrollment

✖ Waitlist notifications

✖ Multi-semester planning

✖ Mobile app version

❓ **How will your MVP demonstrate value to users?**

Value Demonstration:

- **Time Savings**: 45+ minutes → Under 5 minutes (90% reduction)
- **Optimal Schedules**: Guaranteed 3-day timetables when possible
- **Conflict-Free**: Zero scheduling conflicts
- **Visual Comparison**: See top 10 options ranked by score

3. Implementation & Technical Planning

❓ **Which technical tools, platforms, or languages will you use?**

Manifest V3 Chrome Extension → **JavaScript Vanilla JS** → **HTML/CSS Popup UI** → **DOM Scraping Content Script**

❓ How will you prioritize features for Day 2 development?

Day 2 AM	Day 2 PM	Evening
Day 2 AM Core Algorithm Conflict Detection	**Day 2 PM** UI Polish Timetable Grid	**Evening** Demo Prep Testing

9:00 AM   12:30 PM   3:00 PM

❓ What challenges do you anticipate, and how will you address them?

Challenge	Solution
Too many combinations crash	Limit to 50,000 combinations; auto-reduce sections
Portal DOM changes	Use flexible selectors; add data attributes
Courses don't fit filters	Show warning; allow exclusion
Time conflicts complex	Interval overlap algorithm

4. Day 1 Deliverables Summary

✔ **Refined Problem Statement**: 70% students waste 45+ min on registration

✔ **Clearly Defined MVP Scope**: 4 core features, visual timetable, filters

✔ **Evidence of User Research**: 30+ survey responses analyzed

✔ **Initial Working Components**: Extension structure, DOM scraper, popup UI

✔ **Repository Setup**: GitHub repo with README, organized structure