

Carrot U Automation & Improvements

Authored by Francie Johnson.

This project aims to create a Carrot U platform that will automate the Carrot University application process and efficiently track and increase program success metrics.

Overview

Problem

1. **Application process is too manual.** the application process can become more efficient by automating as much as possible.
2. **There is limited accountability for students.** attendance, coursework completion, and meetings with mentors are not currently tracked.
3. **Most students don't graduate.** we need to track individual students' progress and potential reasons for dropping out to provide them with the resources to be successful.
4. **We don't know how effective the program is.** we have not quantified what percentage of students graduate or what percentage of graduates are offered internships.

Goals

Short Term

1. **Automate anything that can be automated:** ex: student applications, interview scheduling, notifications of acceptance, mentor signups, and mentor-pairings.
2. **Develop methods for tracking students' progress:** ex: lecture attendance, coursework completion, and weekly mentor meetings.
3. **Define benchmarks of success for the program:** we want to start tracking what percentage of students graduate and where graduates end up.

Long Term

1. **Increase graduation rate to 75% in 3 years:** we plan to accomplish this by tracking and addressing the reasons students drop out.

Out of Scope

1. **Coursework changes:** we will not change the material taught in the class or stop using Treehouse videos.
2. **Post-grad opportunities:** the post-grad internship process will remain the same.

Context

Use Cases

1. **Students want to:**
 - a. **Graduate the program:** many students take this course with the goal of graduating and moving into an engineering role.
 - b. **See metrics of former students' success:** this provides motivation and encouragement while also managing expectations.
 - c. **Be prepared for a future role in this field:** this can be at Instacart or elsewhere.
2. **Program leaders and mentors want to:**
 - a. **Spend less time doing admin work:** the current process is very time-consuming.
 - b. **Automate mentor process:** mentor signups, student/mentor pairings, and student/mentor weekly meetings.
 - c. **Track attendance and coursework completion:** monitor how many students attend in person versus online, how many students view the lecture recordings, and which students complete their Treehouse coursework and additional assignments.

Proposal

This proposal is for a new web-based Carrot U platform. The platform will be able to sync with Okta, Treehouse, GitHub, Google Calendar, and Google Hangouts.

Student Application Process

Applicant Landing Page

We will create a landing page where Instacart employees can enter their names and email addresses to be added to a mailing list and receive updates on the next session of Carrot U. When we start accepting applications for a new session, people on the mailing list will receive an email with a link to the application. We can also send an email 24 hours before applications close to anyone who has not filled out their application yet.

Automated Interview Scheduling

Currently, every applicant is invited for an interview. This may need to change, depending on the program's growth. However, for now, we can ask all applicants to select their interview availability from a pre-selected list of dates as part of their initial application.

The interviewers would also enter their availability into the system. Then, applicants and interviewers would automatically be paired together based on availability and scheduled for an interview. Both parties would be notified by email at least 1 week in advance, and then 24 hours in advance. The interview would also be automatically added to both parties' Google Calendars.

Acceptance

The decision about which applicants are accepted will still be made manually through a collaboration with all of the interviewers. Accepted students will automatically be notified via email and invited to enter their Lecture availability on the Carrot-U platform. Rejected students will be automatically sent a separate email and provided with more information about auditing.

Mentors

Mentor Selection

Like students, mentors will be able to enter their names and email addresses to sign up for a mailing list about Carrot U. Before each Carrot U session, mentors will receive emails with application links. Mentor applications will have questions regarding their areas of expertise and topics they would be able to give a lecture on. The mentor selection process would be completed before student applications are sent out.

Student/Mentor Pairing

Accepted students and mentors would answer a questionnaire on the new platform about their location and availability for 1 on 1 meetings. Students and mentors would then be automatically paired together based on availability, with preference to those who are in the same location.

Mentors would receive emails with contact information for their student and suggested meeting times based on both parties' availability. It would be their responsibility to reach out to their assigned student and decide on a weekly meeting time.

Student/Mentor Meetings

The Carrot U platform will sync with Google Calendar and Hangouts. Once students and mentors mutually agree on a weekly meeting day & time, they will enter the time into the Carrot U platform, and it will automatically populate weekly in their Google Calendars for the duration of the program.

Students and mentors will also be given the option to change their weekly meeting day/time for any set number of weeks. Both parties will have to approve the change through the Carrot U platform for it to take effect. The Carrot U platform will track mentor session attendance through Google Hangouts. In-person meeting attendance will need to be marked manually.

Tracking Metrics

Lecture Attendance

Students and mentors will be invited via email to enter their lecture availability on the Carrot U platform. The date and time for lectures will be decided on automatically, based on when the most students are available.

The Carrot U platform will sync with Hangouts to track who attends the live lectures. The Carrot U platform will also track who views the lecture videos at a later date.

In-person lecture attendance will be taken before each lecture and manually entered into the Carrot U platform by a program administrator.

Coursework Completion

Each student will have a profile on the Carrot U platform that syncs with their GitHub and Treehouse accounts to automatically track progress for viewing Treehouse content and turning in assignments. There will be a leaderboard based on progress for Treehouse coursework and assignments.

Dropout Rate & Reasons

If a student decides to drop out of the program, they will need to fill out a dropout questionnaire. The questionnaire will have them select any applicable options from a list of potential reasons for dropping out (ex: not enough time, not interested anymore, etc). There will also be a place for them to write out a more freeform answer about their specific circumstances.

Then, the student will automatically be scheduled for an exit interview with one of the main program admins (ie Muffy, Dave, Jeremy) based on availability selected in the questionnaire. This will allow an opportunity for the student's issues to be addressed and support/guidance to be provided.

If the student still decides to drop out after the exit interview, their Carrot U profile will be archived, and they will automatically be removed from the Carrot U mailing list. Any student/mentor meetings and lectures will automatically be removed from their Google Calendar as well.

Post-Carrot U

Each session's graduation rate will be calculated by the Carrot U platform based on the number of accepted students vs the number of students who graduated the program. Once the internships are awarded, the program admins will manually indicate the profiles for the students who received

internships. (This process could eventually be automated, but currently only a few students per year are offered internships)

The email addresses of program graduates will also be kept in a database, and periodically, we can send them questionnaires about what they are doing after Carrot U. Success stories can be displayed both on the applicant landing page and on a dedicated section of the Carrot U platform.

User Experience

Login

Applicants, students, mentors, and admin will log into the Carrot U platform using Okta.

Applicants

When applicants login, they will be directed to their application. They will be able to save their application and come back later, and they will also be able to make changes to their application until the deadline.

Students

Upon logging in, students will see the course homepage, which displays any announcements, as well as a leaderboard of everyone's progress. They will also be able to access the following subpages:

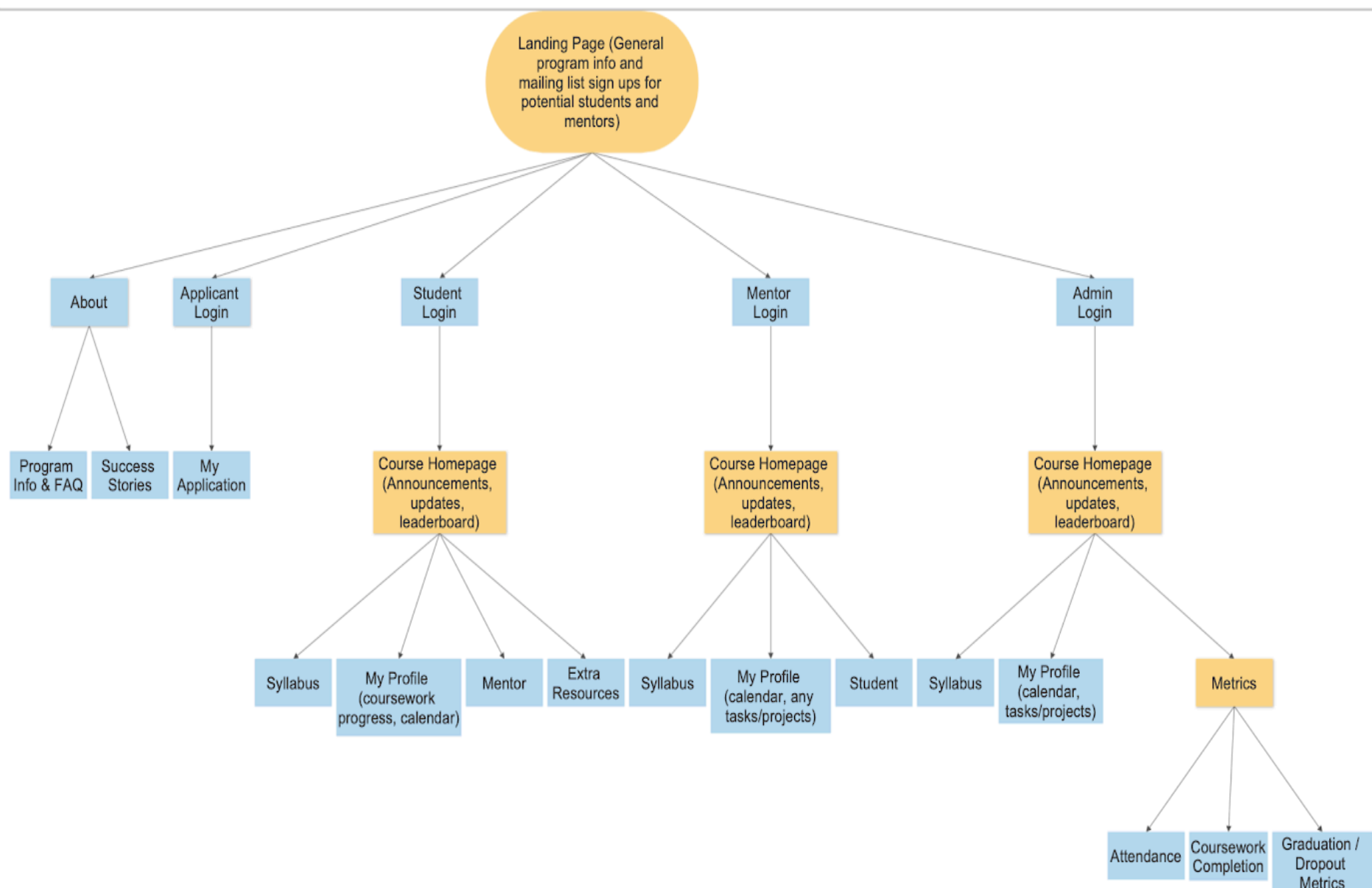
- Syllabus
- My Profile - their course progress and a calendar of upcoming lectures/mentor meetings.
- Mentor - Info about their mentor & ability to request to reschedule a meeting.
- Extra resources

Mentors

Mentors will have a similar user experience as students, but they have a Student section instead of a Mentor section. The Student section will show info about their assigned student and provide the option to request a student/mentor meeting reschedule.

Admin

Admin will have the option to edit any part of the platform, as well as view metrics on the program and students.



Future Work

1. **If graduation rate does not increase:** Program admin will evaluate the dropout reasons tracked through dropout questionnaires and exit interviews and make the necessary adjustments to the program.
2. **If program popularity increases:** Program admin can make adjustments to the application process, including requiring a resume/cover letter and having multiple stages of interviews. Depending on the success rate of the program, admin can also meet with HR about increasing the budget for the program to accept more students.

Tasks and Timeline

1. **Feb 1:** Development of Carrot U platform begins.
2. **Aug 1:** The Carrot U platform should be completed.
3. **Aug 15:** Potential students and mentors can start signing up for the mailing list.
4. **Sept 1:** Mentor applications will be sent out.

5. **Sept 15:** Mentor application deadline.
6. **Sept 30:** Mentors are selected, syllabus is finalized, and lecture speakers are assigned.
7. **Oct 1:** Student applications are sent out.
8. **Oct 15:** Student application deadline.
9. **Oct 30:** Student acceptance/rejection emails are sent out. Accepted students are asked to indicate lecture availability through the Carrot U platform.
10. **Nov 1:** The course begins.
11. **Feb 1:** Program admin evaluate course metrics in midterm report and adjust program as needed.
12. **May 1:** The course ends.
13. **May 15:** Internship interview process begins.
14. **June 1:** Internship selections are made
15. **June 15:** Program admins evaluate course metrics in final report.

