# Systems Requirements Specification (SRS) Document

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*Team Members*
Layth Al Nabulsi
Waynelle Ize-Iyamu
Nena Ojukwu
Ahmed VisualPlugin

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# Meeting Minutes

**Date:** 2023-05-30
**Time:** 8:00 pm - 10:00 pm
**Team Members in Attendance:**

- Waynelle Ize-Iyamu
- Ahmed VisualPlugin
- Nena Ojukwu
- Layth Al Nabulsi

**Roles:**

- Waynelle Ize-Iyamu - Facilitator
- Ahmed VisualPlugin - Note Taker
- Nena Ojukwu - Participant
- Layth Al Nabulsi - Participant

**Agenda:**

- Discuss the assignment and how we want to format it
- Split up assignments into parts and ensure they are fairly distributed
- Begin working on the SRS

**Assignment of Responsibilities:**

- All team members shall continue to add details to the assignment

**Outcomes:**

- Assigned roles and responsibilities
- Created a template

**Next Meeting Date:** Thursday, 2023-06-01
**Next Meeting Purpose:** Continue working on the assignment together and check in on what everyone has completed.

**Date:** 2023-06-01
**Time:** 7:00 pm - 10:00 pm
**Team Members in Attendance:**

- Waynelle Ize-Iyamu
- Ahmed VisualPlugin
- Nena Ojukwu
- Layth Al Nabulsi

**Roles:**

- Waynelle Ize-Iyamu - Participant
- Ahmed VisualPlugin - Participant
- Nena Ojukwu - Note Taker
- Layth Al Nabulsi - Facilitator

**Agenda:**

- Discuss what we have done and ensure that we are not contradicting each other
- Check the formatting of everything created
- Continue working on the SRS

**Assignment of Responsibilities:**

- All team members shall continue to add details to the assignment

**Outcomes:**

- Everyone made good progress, and the formatting is consistent

**Next Meeting Date:** Thursday, 2023-06-03
**Next Meeting Purpose:** Make last minute changes, and submit assignment

**Date:** 2023-06-03
**Time:** 9:00 pm - 10:30 pm
**Team Members in Attendance:**

- Waynelle Ize-Iyamu
- Ahmed VisualPlugin

**Roles:**

- Waynelle Ize-Iyamu - Note Taker
- Ahmed VisualPlugin - Facilitator

**Agenda:**

- Discuss any confusion we had on our individual parts, as a team and get help
- Compare our completed assignment to the rubric and ensure it is correct
- Submit

**Assignment of Responsibilities:**

- N/A

**Outcomes:**

- Made changes and submitted.

**Next Meeting Date:** N/A
**Next Meeting Purpose:** N/A

# Field Notes

**Students must be able to access as many of the available services for the three centers as possible through the one integrated portal.**

1. How do you want the layout of the portal to look, in terms of color, atmosphere, etc.?

- **2023-04-23:** Colors reflecting UCI color scheme, clean and simple atmosphere. Utilize a search bar to help users find what they are looking for faster, speed is important in AHP.

2. What qualifications must a student have to get access to the available services?
    - **2023-04-23:** Any student with UCInetID will be able to access the portal.
3. In what languages would you like the portal to be in to meet the needs of the students and staff at UCI in an accessible manner?
    - **2023-04-23:** Should be accessible in languages that are most common among the UCI population.
4. If a student has a problem that falls under multiple centers, can they make an appointment at all centers?
    - **2023-04-23:** No they will start with one, and if needed they will be forwarded to the next center for more help.
5. Where is AHP accessible from? how?
    - **2023-04-23:** Students and staff members can access AHP everywhere on all devices that have a browser. It should be accessible with people with disabilities as well.
6. How can students find out which source to use?
    - **2023-04-23:** Students can pick if they want to.
7. How do you collect feedback from students and doctors about their experience with the website, and use it to improve the service?
    - **2023-04-23:** After the students visit they should be able to give feedback through the portal based on their visit.
8. How many students can access the portal at the same time?
    - **2023-04-23:** 5,000 students should be able to access the portal at the same time.
9. How do we restrict access to the system to only UCI students?
    - **2023-04-23:** If students have a UCI email and are currently enrolled in the school system, they can book the appointment.

10. Does the location of the student matter when they are trying to access the system, in terms of them needing a VPN?
    - **2023-04-23:** No, they won't need to use a VPN or be on campus to access, but need to be enrolled in or employed by UCI.
11. Where can patients access the doctor's notes post-visit?
    - **2023-04-23:** They will be able to visit the appointment history and can access the doctor's note as well as prescriptions, etc.
12. How do students request a prescription refill?
    - **2023-04-23:** Students will need to upload their receipts to the portal to get their prescription refilled.
13. Is there anything special we should consider for screen readers?
    - **2023-05-08:** Test the screen reader on different devices and make sure it works well on all devices. Ensure that it pronounces words correctly and does not skip content.
14. Where in the portal should patients upload their prescription refill receipts?
    - **2023-05-08:** When they make an appointment they will be given an option to either schedule an appointment or upload a prescription refill.
15. Will the portal have a feature for students to rate the quality of care received during appointments?
    - **2023-05-08:** The portal will give the student the ability to leave a comment after their visit and rate their visit on a scale of 1 through 5.

**Staff must be able to manage students' cases and care plans, and communicate with other staff members about them.**

16. Will personal identifying data be among the cases and care plan? If so, what security plan is currently in place, and how would you like to improve on it?
    - **2023-04-23:** The system should give the user to be anonymous or not, due to state laws.
17. How should we organize staffers' time between in-person and virtual?

- **2023-04-23:** Make sure the timing is consistent with in-person and virtual. Ensure no in-person appointments are made while the doctor has a virtual appointment.

18. Can students edit their case and care plan as well?
    - **2023-04-23:** Yes students can edit the questioner that they answered up to 4 hours before their appointment.
19. How should the system allow staff to add and update information to a student's case and care plan?
    - **2023-04-23:** When the students see a caretaker, the system should request the caretakers to update their case on how the appointment went.
20. Should care providers have a list of upcoming student appointments when they have AHP open?
    - **2023-05-08: Stakeholder said they will get back to us on this**

**Students must be able to schedule in-person and virtual appointments through the portal.**

21. What has been the experience of making appointments in the past and how would you like it to change?
    - **2023-05-08:** In the past the experience has been inefficient, it doesn't support concurrent appointments. The new system should be able to support concurrent appointments and have better note taking. It should keep better track of information given in previous sessions.
22. How far in the future can we allow appointments to be made?
    - **2023-04-23:** 1 month in advance.
23. Are there any disciplinary actions for affiliates who don't show up to their appointment?
    - **2023-05-08:** Each student will have a rating system depending on whether the student shows up to their appointment and affects their future bookings.
24. Should there be a limit for how late students could be to their appointment?
    - **2023-05-08:** 10 minute limit from when the appointment has started.

25. How does the waitlist work?
    - **2023-04-23:** Patients make an appointment for the next empty slot, but add themselves to the waitlist at a slot that is more convenient. If the time slot becomes available they will be notified by email, where they can accept this new appointment, or keep their old appointment. But admin staff has priority on how to design this. Students can make 10 appointments per month (including appointments and waitlist).
26. Can students choose which healthcare provider they want?
    - **2023-04-23:** Yes they can, but only for therapy appointments - or through the messaging feature as well.
27. Can a service provider at the center make an appointment for the students? For example after a therapy session, can the doctor make an appointment for the student or UCI member?
    - **2023-04-23:** No, the doctor can not directly make an appointment, however they can make a note on their prefilled form to tell the administration staff to make an appointment.
28. What features should be included in the Anteater Health Portal to enable students to schedule appointments?
    - **2023-05-08:** First there will be a dropdown to choose the center and then will be able to see the available slots open to book an appointment.
29. What is a hypothetical walkthrough a student may undergo if they are scheduling an appointment?
    - **2023-04-23:** To make an appointment, there will be a “make an appointment” button that links patients to a form where they fill out their name, email, birthdate, personal information, and what center they want their appointment at. The next page will show a calendar that shows availability and if those dates and times do not work for them, there will be an option to input a time that works for them.
30. Will appointees have to confirm their birthday when they sign in like the current UCI systems?
    - **2023-04-23:** Once the “make an appointment” button is pressed, patients should fill out their birthdate on the form that follows to confirm.

**Students and staff must be able to conduct virtual Zoom appointments through the portal.**

31. What is the performance requirement for video conferencing using the portal?
    - **2023-04-23:** If you can access Zoom on your device then you should be able to use the video conferencing in the portal.
32. How many virtual calls do you estimate you will have in a singlar day and at a single time?
    - **2023-04-23:** 20 appointments at a time; that reflects the staff available. Plan to scale down in case of a slow day to 4 at a time, and scale up to 20 for a busy day.
33. How often should we remind students (through email) of upcoming appointments?
    - **2023-04-23:** Twice, they will be sent a confirmation when they make the appointment through Google calendar sent to their email address, but after that send them 2 email reminders.
34. How should we manage invoices (if there need be) at the end of a session?
    - **2023-04-23:** Show an itemized bill that has the total amount in the start and subtract how much insurance covers and show how much the patient still owes. Display this on a zot account.
35. How will the system handle scheduling, rescheduling, and canceling Zoom appointments through the portal?
    - **2023-04-23:** If a student canceled or rescheduled their appointment it should be updated through the system and should send a confirmation email to the student.
36. How does the system handle recurring appointments?
    - **2023-04-23:** The admin staff will create recurring appointments for students by inputting each individual appointment into the schedule.

**Students must be able to chat with care providers about issues that may not require an appointment, and can instead just be resolved through chat.**

37. What issues do not require an appointment?

- **2023-04-23:** The staff can publish blogs for common issues so they can avoid booking an appointment, but if their issue is an emergency then they will require an appointment.

38. If a student doesn't know what service fits them best, can they make shorter appointments at the centers to get a feel for which fits them best?
    - **2023-04-23:** They can use chat bot so they see what service fits them the best by asking them questions.
39. Is the chat available the whole time from the front page, while making an appointment, and afterwards?
    - **2023-04-23:** Chat is available the whole time even when a student is not signed in, but if they want to make an appointment and talk to an administrator they have to sign in.
40. Will students be able to request a specific healthcare provider for follow-up appointments?
    - **2023-04-23:** Yes they should be able to request certain care providers.
41. Will the chat history be saved for future reference when using a chat bot?
    - **2023-05-08:** Yes the history of chat bot will be saved for future reference.
42. Will the chat system include any additional features, such as the ability to share documents or images?
    - **2023-05-08:** Yes the chat will be compatible to share media, such as images and videos.
43. How will the portal be able to determine which center or service the student needs?
    - **2023-04-23:** The student can use the chat feature and answer questions, then the portal will be able to determine what service the student needs.

**Staff members must be able to refer students to other providers and other centers when needed.**

44. Are there any laws or university rules that need to be abided by when students are referred to other providers and centers?
    - **2023-04-23:** No.

45. How will staff-to-staff referrals work?
    - **2023-04-23:** When staff members refer students to other staff members, they create a referral through the portal and the system will notify members through email.
46. How will the Anteater Health Portal ensure that referrals are made in a timely and efficient manner?
    - **2023-04-23:** The caretaker will mark each referral and note whether it's an urgent matter or not so they see a caretaker as soon as possible.

**If a student doesn't know which center or service meets their particular need, the portal must provide a way to guide them to it.**

47. How do you want the portal to "guide" students to the appropriate service?
    - **2023-04-23:** Implement a search bar so students can search for the services they are looking for.
48. Can students choose which healthcare provider they want?
    - **2023-04-23:** For therapy appointments, yes. Otherside, no.
49. Will there be a section to receive automated responses to frequently asked questions?
    - **2023-04-23:** Yes, there should be a section where FAQs have pre-set answers to help students
50. Are there any illustrative or creative ways that you would like the portal to guide students?
    - **2023-04-23:** There could be a video demonstration video on the homepage that reviews the centers and how to navigate the page.
51. How should the system automatically suggest different results based on previous appointments?
    - **2023-05-08:** If they already made an appointment in the past then it should fill out the appointment forms based on the last appointment form. But, if they are making their first appointment you can pre fill the appointment form with information that comes with the account that they signed in with.

**The portal must interoperate with the current back-end case management systems in place at all three centers.**

52. Is AHP going to be a standalone website?
    - **2023-04-23:** AHP is a standalone website but also integrates the existing websites of all 3 centers.
53. How often will there be updates and changes to the current system?
    - **2023-04-23:** Every 3 months.
54. What does interoperability mean to you, and in what ways would you like the new portal and current system to be interoperable?
    - **2023-05-08:** The idea is to better develop the context for student users of the new system.
55. Should we incorporate some of our new codebase into existing UCI websites? If so, to what extent?
    - **2023-05-08:** The old database should be working with the new system.
56. What back up measures would you like in place in case the portal or current system goes out of service?
    - **2023-04-23:** Common email that the system is down and the student can call and make an appointment, but maybe allow from the back end that staff can add data to the program.
57. How will staff be able to access and update the system, if it goes down?
    - **2023-04-23:** They might be able to keep a spreadsheet of data on a work.
58. What is the scale and budget of the project?
    - **2023-04-23:** $1 million.
59. When a staff member is viewing a student's case, can they make comments?
    - **2023-04-23:** Yes, they can.
60. Can a service provider at the center make an appointment for the students? For example after a therapy session, can the doctor make an appointment for the student or UCI member?

- **2023-04-23:** No, the doctor can not directly make an appointment, however they can make a note on their prefilled form to tell the center staff to make an appointment.

61. When should we have the system finished by?
    - **2023-04-23:** Once AHP receives the specifications document, we as the software engineers decide the deadline and relay it back to them.
62. Do we integrate payments into the system?
    - **2023-04-23:** Yes, a specific payment will go to its designated center.
63. How will the system authenticate user identity if the user forgot their password?
    - **2023-04-23:** They will have to go through their email and change to a new password from there.
64. How should the system handle cases where multiple staff members are involved in a student's care plan?
    - **2023-05-08: Stakeholder said they will get back to us on this**
65. How should the feedback form be designed? Should we ask about the appointment-making process or of the quality of care?
    - **2023-05-08:** Both; there should be a survey given on how the appointment went and how easy it was to make an appointment.
66. How should we ensure quality?
    - **2023-05-08:** Get feedback from results and make sure everything is running efficiently time wise.
67. Will there be Zoom restrictions on who can access a call?
    - **2023-05-08:** Only people with the password can join. If the doctor thinks they need a second opinion or assistance they have the capability to add people to the call, but the student can decline.
68. Do admins need to use the on-campus VPN?
    - **2023-05-08:** If they are on campus, no. But if they are trying to access files after 5pm (work hours) then they have to use VPN.
69. How should AHP handle security breaches?

- **2023-05-08:** Give access to OIT so they can shut down access remotely.

70. Can students view their attendance rating?
    - **2023-05-08:** Yes, so they can reflect on their actions.
71. Are the feedback forms mandatory?
    - **2023-05-08:** It's only mandatory if the student or care professional does not show up. If a student is absent it will automatically give them a 0, but the care professional can go back and change the rating if they were perhaps informed beforehand. In all other cases it is not mandatory.
72. Can students see a care professional's or center staff member's rating?
    - **2023-05-08:** No, but administrative staff can see it and care professionals can see their own.
73. How does the admin contact Zoom?
    - **2023-05-08:** Look up contact information for zoom and call.
74. How many cases should the backend store?
    - **2023-05-08:** Store as many cases that fit in 5 terabytes of data, and then offload the oldest cases when that maximum is reached.
75. If a student can't find information about appointments on Chat or the FAQ how should they get information?
    - **2023-05-08:** They can call the centers help line, to speak to a real person.
76. Should images on AHP have alt text for accessibility?
    - **2023-05-08:** Yes.
77. How should we implement changing the language of the subtitles?
    - **2023-05-15:** Use Google translate and integrate it into the system.
78. How should we implement changing the language of the website?
    - **2023-05-15:** Use Google translate and integrate it into the system.
79. When someone searches up AHP using Google will it come up, or does she need the exact web address? If so, what is the web address to access AHP?

- **2023-05-22:** AHP should show up when searching in google, using SEO. AHP.uci.com will be the web address to access AHP.

80. I know we discussed that the AHP system will have a FAQ section. Where would you like that section placed? Main header? Side menu? Next to the search bar?
    - **2023-05-22:** FAQ section is a bottom in the footer aligned to the left.
81. We discussed that the chat bot can help students find out what “service fits them the best“ (38), but can it also tell them how to navigate the AHP website?
    - **2023-05-22:** No, chat bot will not tell them how to navigate the AHP website.
82. How long does it take for a student to make an appointment?
    - **2023-05-22:** For a student to make an appointment it will take approximately 5 minutes.
83. How are health center staff trained to use the system effectively and provide services through it?
    - **2023-05-22:** OIT will take care of training the staff.
84. Should AHP collect data to see if there are any measurable improvements in staff productivity or the overall efficiency of the Student Health Center? If so, what kind of data?
    - **2023-05-22:** If the scale is increasing and the crashes are decreasing this is a good overall efficiency of the AHP. Should improve or maintain as the scale of the system increases.
85. How will the system handle a reschedule request on the day of the appointment?
    - **2023-05-22:** They need to reschedule the appointment three hours before the appointment. If there are open slots on the day of their old appointment and they canceled three hours before the original appointment then they will be able to reschedule.
86. What are the protocols for establishing tracking and monitoring of the progress and outcomes of referrals?
    - **2023-05-22:** To establish tracking and monitoring utilize stack overflow.
87. How will the system handle peak times where many students might be trying to book appointments simultaneously?

- **2023-05-22:** Have a buffer machine to where it supports a large amount of people so the system works smoothly.

88. For each time slot appointment for the calendar will the user be able to choose their physician. Additionally will multiple physicians be able in one time slot and if so will users be able to choose.
    - **2023-05-22:** The student will not be able to choose their physician. This will be done by the staff.
89. Do students get an email when they enter the waitlist for an appointment?
    - **2023-05-22:** Yes they will get a confirmation email informing them that they are added to the waitlist.
90. Will the chat bot work deterministically or through machine learning?
    - **2023-05-22:** The chat bot will work deterministically.
91. How should we aim staffing efforts to allow adequate time for care providers to switch between chatting and meeting for appointments?
    - **2023-05-22:**
92. How should we limit interactions if students take care providers' time away after the set appointment time has ended?
    - **2023-05-22:**
93. How long should appointments last?
    - **2023-05-22:** The appointment should last around 1 hour depending on the severity of the appointment.
94. How will the system verify that the student is eligible for a refill?
    - **2023-05-22:** If the physician approved for a refill then they will be eligible.
95. How does the system notify the student when the refill is ready for pickup?
    - **2023-05-22:** The student will get an email as soon as their prescription refill is ready for pickup.
96. How are errors or technical issues in updating student information handled and reported?
    - **2023-05-22:**

97. How is student consent obtained for updating and sharing health information?
    - **2023-05-22:**

98. What are the data security measures in place to protect updated student information?
    - **2023-05-22:** Use encryption techniques.

99. When they receive a reminder about their appointment can they cancel it from there? or be provided a way to cancel their appointment?
    - **2023-05-22:** When they receive a reminder they will be given the option to reschedule their appointment or cancel their appointment.

100. How would you like AHP to motivate students to provide feedback on the feedback form? certain design elements?
    - **2023-05-22:**

101. How to handle inappropriate or abusive feedback?
    - **2023-05-22:** The staff will be handling this type of feedback. They will delete the feedback so it doesn't affect the physicians rating.

102. Will the same range of languages provided to translate the AHP webpage be available for subtitles on videos that are shown on the AHP website?
    - **2023-05-22:** Yes they will.

103. Do UCI center staff need a helpline for assistance with the AHP portal? What format would that be in?
    - **2023-05-22:** If the center staff need help they can contact OIT for assistance.

# Requirement Specification

## 1. Introduction

### 1.1. Purpose

In recent years, mental and physical health has become an issue of worldwide concern. Depression and anxiety are two of the most common illnesses worldwide, with depression affecting more than 300 million people in the US, and anxiety affecting more than 40 million[1]. These illnesses are especially prevalent among individuals between ages 18 and 25, the range into which most college students fall.

Due to these phenomena, the UCI Student Health Center, the UCI Counseling Center, and the UCI Center for Student Wellness & Health Promotion have become severely impacted, making it difficult both for students to get the care they need and for staff to provide that care. Students sometimes have to wait days, weeks, or even months for an appointment. The staff at all of these centers are overworked and the space for seeing patients is maxed out. Even if they could hire more staff, there is simply no room in the current facilities for them to see patients.

Moreover, there is currently no way to make most appointments online—students have to call, and a staff member has to manually make the appointment for them. The websites for these three centers are outdated, difficult to navigate, and contain much overlapping information.

### 1.2. Scope

We are proposing the creation of the Anteater Health Portal (AHP). AHP seeks to provide a way to better meet the needs of students' physical and mental health.

It will provide an integrated health portal through which UCI students can access physical, mental, and wellness health services, including making appointments (in-person and over Zoom), meeting with care providers, and gaining access to all of the services offered by the three centers.

UCI administration, in conjunction with the Student Health Center, the Counseling Center, and the Center for Student Wellness & Health Promotion has decided that they need to provide a way to better meet the needs of students' physical and mental health.

[1] https://www.who.int/news-room/fact-sheets/detail/mental-disorders

## 1.3. Definition, acronyms, and abbreviations

1.3.1. **University of California, Irvine (UCI):** the institution whose affiliates we will provide our service for.

1.3.2. **AHP (Anteater Health Portal):** the name of the appointment service we're developing.

1.3.3. **UCI Student Health Center (SHC):** one of three centers whose providers will use AHP; "a comprehensive outpatient clinic staffed with licensed primary care physicians, dentists, a physician's assistant, registered nurse practitioners and registered nurses"[2].

1.3.4. **UCI Counseling Center:** one of three centers whose providers will use AHP; "help[s] students achieve optimal mental health for academic success, personal growth, and increased capacity to cope with the stresses of being a university student"[3].

1.3.5. **UCI Center for Student Wellness & Health Promotion:** one of three centers whose providers will use AHP; "focuses on the unique and relevant health needs and concerns of UCI students by providing comprehensive programs and coordinated services"[4].

1.3.6. **Office of Information Technology (OIT):** "responsible for supporting the IT needs of UC Irvine faculty, students, and staff"[5].

1.3.7. **Shibboleth:** a "Single Sign-On solution … with complex identity management requirements"[6] which issues the university's first layer of authentication.

1.3.8. **Duo:** a third-party disservice which issues the university's obligatory multi-factor authentication.

1.3.9. **California Consumer Privacy Act (CCPA):** regulations which govern how AHP must handle their data online; "gives consumers more control over the personal information that businesses collect about them"[7].

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[2] https://www.meded.uci.edu/student-affairs/student-health.asp
[3] https://campusgroups.uci.edu/counselingcenter/home/
[4] https://students.uci.edu/wellness.html
[5] https://www.oit.uci.edu/
[6] https://www.shibboleth.net/products/
[7] https://www.oag.ca.gov/privacy/ccpa

1.3.10. **Health Insurance Portability and Accountability Act (HIPAA):** regulations which govern how AHP must handle their data; “a federal law that required the creation of national standards to protect sensitive patient health information from being disclosed without the patient's consent or knowledge”[8].

1.3.11. **Web Content Accessibility Guidelines (WCAG):** “explains how to make web content more accessible to people with disabilities”[9], covering “web sites, applications, and other digital content”.

1.3.12. **Frequently Asked Questions (FAQ):** a section on AHP to get answers to frequently asked questions.

### 1.4. References

https://www.oag.ca.gov/privacy/ccpa

https://www.who.int/news-room/fact-sheets/detail/mental-disorders

https://www.cdc.gov/phlp/publications/topic/hipaa.html

https://www.w3.org/WAI/WCAG2AA-Conformance

https://shibboleth.atlassian.net/wiki/spaces/CONCEPT/overview

https://www.man7.org/linux/man-pages/man5/crontab.5.html

https://www.w3schools.com/mysql/mysql_rdbms.asp

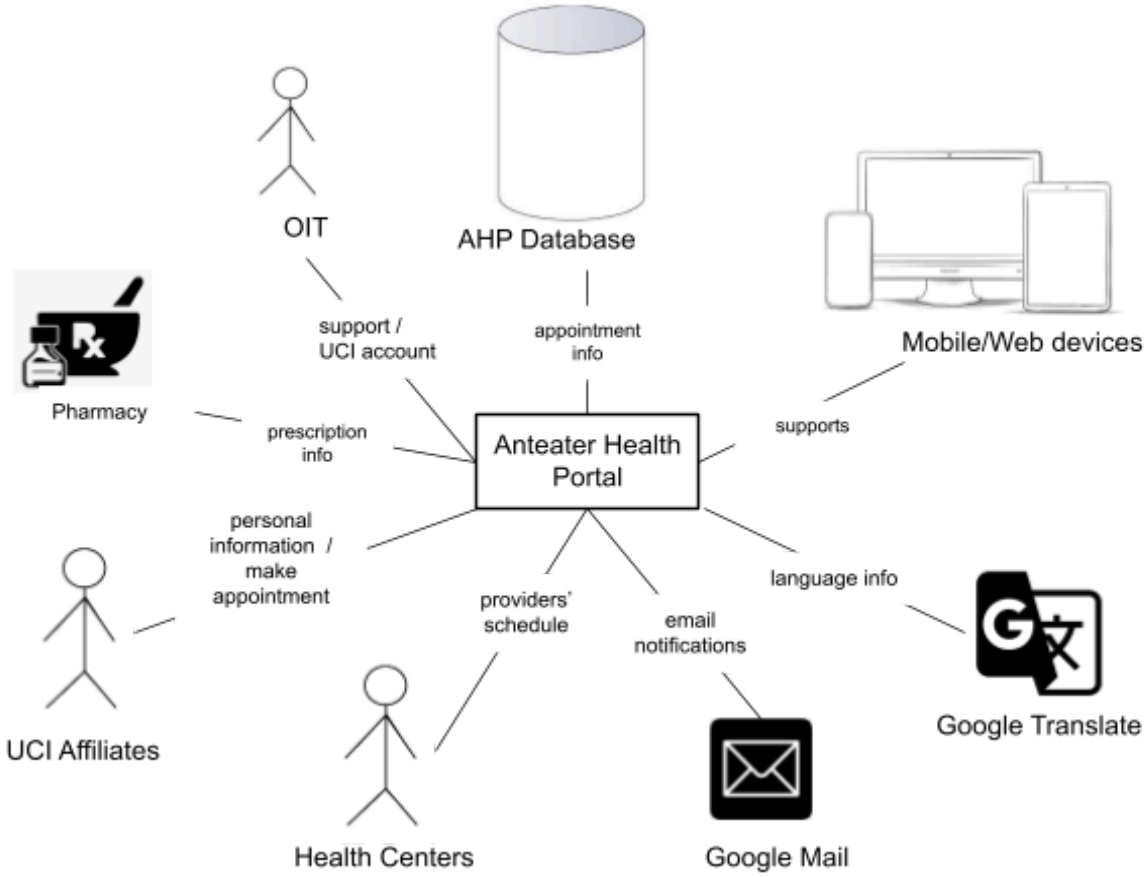
## 2. General Description

### 2.1. Product Perspective

The Anteater Health Portal (AHP) application serves as an interface for UCI Affiliates, (UCI students and staff), that can be accessed through both mobile and desktop devices. AHP interacts with UCI OIT, the entity responsible for managing UCI accounts so UCI Affiliates can sign in to the portal using their UCI netID. AHP has integration with the UCI Student Health Center, UCI Counseling Center, and UCI Center for Student Wellness & Health Promotion. It obtains the schedule information of medical professionals from these departments in order to populate the appointment scheduling calendar(i.e the place for UCI Affiliates to select date and time of their appointments).

[8] https://www.cdc.gov/phlp/publications/topic/hipaa.html
[9] https://www.w3.org/WAI/WCAG2AA-Conformance

Once an appointment is made, AHP securely stores the relevant data. To process prescription requests AHP is in communication with a Pharmacy system. To ensure effective communication, AHP interacts with Google Mail to send email notifications regarding appointments to UCI Affiliates. Additionally, AHP uses the Google Translate API, enabling UCI Affiliates to change the language of the webpage and video subtitles as per their preference. The maintenance and upkeep of the AHP website and database are the responsibility of UCI OIT.




## 2.2. Product Functions

The Anteater Health Portal (AHP) enables UCI Affiliates to schedule appointments, both in-person and on Zoom, at the UCI Student Health Center, UCI Counseling Center, and UCI Center for Student Wellness & Health Promotion. Additionally, they have the flexibility to reschedule or cancel appointments using AHP.

AHP shall provide a chat bot feature and FAQ to guide students through the appointment process, so they know which center is right for them. AHP will store the chat history for future reference. The AHP chat bot shall be compatible to share media, such as images and videos, in order to further guide UCI Affiliates. AHP shall also

provide the phone number for a center help line, in case UCI Affiliates can’t find information about appointments on Chat or the FAQ and want to speak to a real person.

AHP displays the appointment scheduling calendar, allowing users to view available dates and times. If their preferred slot is unavailable, they are provided the option to join the waitlist.

If UCI Affiliates make an appointment AHP shall send them 2 email reminders of their upcoming appointment. AHP shall send a confirmation email to the users when they add themselves to a waitlist, ensuring acknowledgment of their request. An email notification shall also be sent if the date and time slot they selected for their appointment is available. At this time they can choose to accept this new appointment, or keep their old appointment. AHP will also send an email notification as soon as UCI Affiliates prescription refill is ready for pickup.

AHP shall provide forms for UCI Affiliates to give feedback on their experience with the website and their Health Provider. The Health Provider shall also receive a feedback form to rate a student's attendance. UCI Affiliates and Health Providers should be able to see the UCI Affiliates attendance rating, and Admins should be able to see the feedback given about Health Providers.

AHP shall allow users to change the language of the webpage, using the Google Translate API.

## 2.3. User Characteristics

### 2.3.1. **Students**

Students will be the primary user group of this system and will make up the largest group of system users. The majority of system functionality (~80%) shall be aimed at supporting their needs. Those needs will revolve around accessing and managing their healthcare information, scheduling appointments, accessing educational resources, and communicating with healthcare providers.

Students are expected to be diverse in terms of educational level, ranging from undergraduate to graduate students. They are likely to have varying levels of experience with healthcare systems, with some being more familiar than others. However, as students in a university setting, they are generally expected to have a basic level of technical expertise and be capable of using online systems and applications.

### 2.3.2. **Healthcare Providers**

Healthcare providers, such as nurses, and other medical staff, will be an important user group of the system. A significant portion of system functionality (~30% to 40%) shall be dedicated to supporting their needs. Their needs will include accessing patient information, documenting and updating medical records, scheduling appointments, and communicating with patients.

Healthcare providers are expected to have a high level of educational attainment, such as medical degrees, nursing degrees, or other relevant qualifications. However, their technical expertise may vary, with some being more proficient in using technology than others. It is important to consider their workflow and ensure the system is designed to support efficient and accurate healthcare delivery.

#### 2.3.3. **Pharmacists**

Pharmacists play a crucial role in medication administration. They will be one of the user groups of the system and a portion of system functionality (~20%) shall be dedicated to supporting their needs. Their technical expertise may vary, but they are generally expected to be proficient in using software systems for pharmacy operations.

Pharmacists are expected to have a high level of educational attainment, with degrees in pharmacy and relevant licensure. They will have experience in using pharmacy management software and may also have expertise in drug interactions, dosages, and other pharmaceutical knowledge.

#### 2.3.4. **Office of Information and Technology (OIT)**

The OIT team will be responsible for managing the technical infrastructure and support of the system. They will be involved in system maintenance, security, and technical troubleshooting. A portion of system functionality (~20%) shall be dedicated to supporting their needs.

The OIT team members are expected to have advanced technical expertise and knowledge in system administration, network security, database management, and software development. They will require access to system logs, configuration settings, and administrative tools to ensure the smooth operation of the system. It is important to design the system with robust security measures and provide the necessary technical documentation and support resources for the OIT team.

#### 2.3.5. **UCI Admins**

UCI administrators will have a role in overseeing the overall functioning of the system and managing user accounts and permissions. They will require system functionality (~20%) related to user management, access control, and generating reports.

UCI administrators may have varying levels of technical expertise, ranging from basic computer skills to more advanced system administration knowledge. It is important to provide user-friendly administrative interfaces and clear documentation to facilitate their tasks in managing the system effectively.

#### 2.3.6. **Staff Center Workers**

Staff center workers, including administrative staff and support personnel, will use the system for various administrative tasks and communication purposes. They will require system functionality (~20%) related to accessing and updating employee records, managing schedules, and communicating with other users.

Staff center workers may have a range of educational backgrounds and technical expertise. It is important to design the system with a user-friendly interface that accommodates users with varying levels of technical proficiency.

## 2.4. General Constraints

The Anteater Health Portal requires a stable internet connection to ensure real-time updates and access to healthcare information. Without internet connectivity, users may experience delays in retrieving or updating their data, and the system may not reflect the most recent information accurately.

The Anteater Health Portal should be compatible with popular web browsers, including but not limited to: Internet Explorer, Firefox, Safari, and Chromium-based browsers such as Google Chrome.

The Anteater Health Portal should be designed to minimize distractions and prioritize user productivity. The system should provide a clean and intuitive interface, avoiding unnecessary notifications or features that may hinder users' ability to focus on their primary tasks.

The system should accommodate accessibility requirements, ensuring that users with disabilities can access and use the Anteater Health Portal effectively. This may include providing alternative text for images, keyboard navigation support, and adherence to accessibility guidelines such as WCAG (Web Content Accessibility Guidelines).

The Anteater Health Portal should be scalable and able to handle increasing user demands without significant performance degradation. The system should be designed to handle a growing user base and potential spikes in usage, ensuring that it remains responsive and reliable.

The system should integrate seamlessly with other existing systems used within the university, such as student information systems or electronic medical record systems. This integration should facilitate the sharing of relevant data and streamline workflows for users.

The Anteater Health Portal should be regularly maintained and updated to address bugs, security vulnerabilities, and compatibility issues with new browser versions or operating systems. Regular system updates and maintenance should be performed without disrupting the availability and functionality of the system for users.

## 2.5. Assumptions

It is assumed that the users of the portal, such as patients, doctors, and administrators, have access to the necessary technology (e.g., computers, smartphones, internet connectivity) to access the portal and interact with its features.

Users are assumed to have a basic level of computer literacy and familiarity with using web-based applications. They should be able to navigate the portal, input data, and understand the provided information.

The system assumes that the data entered into the portal by users, such as personal information, medical history, and test results, are accurate and reliable. It relies on the assumption that users will provide correct and up-to-date information.

It is assumed that the Anteater Health Portal has robust security measures in place to protect sensitive user information from unauthorized access, data breaches, or cyber-attacks. The assumption is that the system has implemented appropriate security protocols and encryption methods to ensure data confidentiality and integrity.

The portal assumes compatibility with various web browsers and operating systems commonly used by its target user base. It is assumed that the portal functions smoothly across different platforms, providing a consistent user experience.

The system assumes compliance with relevant privacy regulations, such as HIPAA (Health Insurance Portability and Accountability Act) in the United States, to ensure the protection of patient data and privacy.

The Anteater Health Portal assumes integration capabilities with external systems, such as electronic health records (EHR) systems used by healthcare providers, laboratories, and pharmacies. It assumes the ability to exchange data securely and efficiently with these systems.

It is assumed that the Anteater Health Portal undergoes regular updates and maintenance to address any bugs, security vulnerabilities, and improve its features and

usability. This assumption ensures that the portal remains functional, secure, and up to date.

It is assumed that OIT is the group AHP interacts with to enable Logging in using the UCInet ID, because they are the people who activate net IDs and are contacted when there are issues logging in.

It is assumed that the health centers that are integrated to form AHP, give AHP information about the health providers schedule so as to populate the appointment calendar with available appointment date and times.

### 2.6. Apportioning of Requirements

We have yet to confirm if care providers shall have a list of upcoming student appointments when they have AHP open. This is yet to be determined by project management as of 2023-05-08.

It is not yet known whether APH shall handle cases where multiple staff members are involved in a student's care plan. This hasn't been determined by project management as of 2023-05-08.

We haven't discussed how consent shall be handled with  confidential student information, nor any additional data security measures in place to protect it. This is to be determined by project management as of 2023-05-22.

As of 2023-05-22, project management has yet to determine how AHP shall limit interactions if students take care providers' time away after the set appointment time has ended.

## 3. Specific Requirements

### 3.1. Essential Requirements

#### 3.1.1. Functional Requirements

**ID:** Func. Req 1

**Log In:** AHP is a service built for students to not only keep track of appointments and medicine pickups, but also to store confidential records. AHP shall securely allow students to access UCI's health services, by logging in. The student logs in through UCI's multi-factor authentication system, which leverages Duo's disservice. Follows is the basic flow:

a) The user requests to log into our system.

b) The system prompts the user to log in with their UCInetID and password.
c) The user enters their UCInetID and password and is prompted to use Duo.
d) Their UCI credentials are found within the system and access is given.
e) If this is the first time using AHP, the user reluctantly agrees to the policy and confirms the email address to send appointment reminders to.

**Source:** Ellication Question 30, Use Case Diagram - Make An Appointment, and Goal Model - Improve User Experience When Booking Appointment

**Rationale:** To provide secure access to AHP

**Dependencies:** Must be a UCI Affiliate to login

**Stability and Priority:** High stability; high priority.

**ID:** Func. Req 2

**Schedule Appointments:** There is currently no way to make most appointments online—students have to call, and a staff member has to manually make the appointment for them. For this reason, authenticated students shall be able to schedule in-person and virtual appointments through the portal. Follows is the basic flow:

a) The student navigates to the “book appointment” page.
b) An option is given to select an office or undergo a questionnaire. The student selects the required health center and the type of service.
c) The student views potential appointment slots, assuming any are available.
d) The student selects a preferred time slot.
e) The system confirms the appointment and sends a confirmation to the student.

**Source:** Ellication Question 14, Use Case Scenario 2, Use Case Scenario 3 , AHP case study “Students must be able to schedule in-person and virtual appointments through the portal.”

**Rationale:** To improve the experience of UCI Affiliates trying to make an appointment, and reduce the workload of current Health providers at the center who have to manually make appointment

**Dependencies:** Users must be logged in to schedule an appointment.

**Stability and Priority:** High stability; high priority.

**ID:** Func. Req 3

**Cancel Appointments:** Students may miss appointments. This puts unneeded stress on staff who left that slot open just for no one to come, so AHP shall allow UCI Affiliates to cancel their appointment. Because we aim to get as many people to care providers on time as possible, we also need to make sure affiliates cooperate as well. Follows is a basic flow:

a) The student navigates to the AHP and logs in to their account.
b) The student selects the “appointments” section.
c) The system displays a list of the student’s upcoming appointments.
d) The student selects the specific appointment they wish to cancel.
e) The system presents the details of the appointment and provides a “Cancel” option.
f) The student confirms the cancellation by selecting the “Cancel” option.
g) The system updates the appointment status as canceled and notifies the student of the successful cancellation.
h) The slot for the canceled appointment becomes available for other students to schedule.

**Source:** Ellication Question 99, 33, Goal Model 1 - SubGoal Prevent People Missing Appointments and Allow Students to Cancel their Appointments

**Rationale:** Reduce the waiting time for people on the waitlist, and prevent the health care provider from having their time be inefficiently spent.

**Dependencies:** Students must have gmail and have scheduled an appointment.

**Stability and Priority:** High stability; high priority.

**ID:** Func. Req 4

**Send Appointment Reminders:** AHP shall send appointment reminders via the email the student provides in the intake form.

a) The student shall make an appointment.
b) The website presents the details of the appointment.
c) The student will receive an email reminder 2 times up until the appointment.

**Source:** Ellication Question 35, 99 Goal Model 1 - SubGoal Prevent People Missing Appointments

**Rationale:** Reduce the amount of people who miss their appointments, so health care providers' time is spent efficiently and people get the care they need.

**Dependencies:** Students must have gmail and have scheduled an appointment.

**Stability and Priority:** High stability; high priority.

**ID:** Func. Req 5

**Meet With Provider Per Appointment:** Students shall be able to book amply-timed appointments and meet with care providers about their issues. After students arrange to meet with a provider, there is a process which must be undertaken once the time comes. Of course, the student must be logged in and already have an appointment with AHP. The basic flow is as follows:

a) The student navigates to the email they received immediately once they booked the appointment.
b) If the appointment is on Zoom, the student navigates to a Zoom link that is prescribed for the meeting. If the appointment is in-person, they will check in at the front desk.
c) The student waits for the provider to meet in the same room or vice-versa.

**Source:** Ellication Question 12, 14, 95 , Use Case Scenario - Meet with a provider per appointment

**Rationale:** To improve the user experience by allowing students to attend appointment

**Dependencies:** Students must navigate to email and zoom.

**Stability and Priority:** High stability; high priority.

**ID:** Func. Req 6

**Guide Through Questionnaire:** Logged-in students shall be able to determine which services fit them the best by answering a set of advance-selected questions. Follows is a basic flow:

a) The user navigates to “book appointment”.
b) An option is given to select an office or undergo a questionnaire.
c) The “questionnaire” option is selected. If the user knows what office they want to visit. They skip the questionnaire and are guided straight to the appointment page.
d) The user undergoes the questionnaire.
e) They are sent to an appointment page for the office best suited for them.

**Source:** Ellication Question 43, User Scenario - Guide through questionnaire, Goal Model 4 - Subgoal: Reduce Questions, AHP Case Study: *"If a student doesn't know which center/service meets their particular need, the portal must provide a way to guide them to it."*

**Rationale:** Students may not know what service fits them best; the portal should be able to determine which center or service they may need. There are a few ways we can do this.

**Dependencies:** Students must be logged in.

**Stability and Priority:** High stability; medium priority.

**ID:** Func. Req 7

**Guide Through Chatbot:** Logged-in students shall be able use the built-in chatbot and ask questions, then the portal will be able to determine what service the student needs. Follows is the basic flow:

a) The user navigates to "get support".
b) A chat window pops up and the bot introduces itself.
c) The student types up messages and the bot responds back.

**Source:** Elicitation Question 38, 39, 43, 75, Goal Model 4 - Subgoal: Reduce Questions, AHP Case Study: *"If a student doesn't know which center/service meets their particular need, the portal must provide a way to guide them to it."*

**Rationale:** Students may not know what service fits them best; the portal should be able to determine which center or service they may need. There are a few ways we can do this.

**Dependencies:** Student must be logged in.

**Stability and Priority:** Medium stability; medium priority.

**ID:** Func. Req 8

**Guide through Chat Person:** If a student can't answer their query using the chatbot or the FAQ, they can refer to a real person. Logged-in students shall be able to leverage staff to alleviate common issues without booking an appointment. Follows is the basic flow:

a) The user navigates to “get support”.
b) The user is connected with a chat bot.
c) The user asks the bot to connect them with a care provider.
d) A care provider is notified that a student wants to chat and gets on.

**Source:** Ellication Question 75, Goal Model 4 - Subgoal: Reduce Questions and Provide Information via Real Person, AHP Case Study: *“If a student doesn’t know which center/service meets their particular need, the portal must provide a way to guide them to it.”*

**Rationale:** If a student doesn’t know which center or service meets their particular need, the portal must provide a way to guide them to it. To lessen the strain on staff in our design, we’re requiring students to first navigate the chatbot before they can be directed to a care provider.

**Dependencies:** Student must be logged in

**Stability and Priority:** Medium stability; medium priority.

**ID:** Func. Req 9

**Request Prescriptions:** Once an appointment is completed, licensed care providers may prescribe students medicine. AHP shall allow uploads of the receipt received by students after their health provider chooses a medicine for them. Registered students with a *new* prescription shall be able to pick their medicine up outside of a designated meeting time.

a) The student gets in touch with a care provider. This is most likely taking place within a meeting by appointment.
b) The provider recommends the student take a specified dosage of some medication every so often.
c) The care provider inputs the request to the pharmacy.
d) The student receives a receipt with a barcode, and uploads it to AHP.
e) The student stops by a pharmacy to pick up the first batch and scans the barcode for confirmation.

**Source:** Ellication Question 12, 14, Use Case Diagram - Request Prescription

**Rationale:** Administering prescriptions is a part of the appointment process for healthcare professionals and students, so allowing requests is important to make that possible, and provide care. It has been established that students can request refills, so they must also be able to make initial requests to be prescribed medicine.

**Dependencies:** Student must be logged in.

**Stability and Priority:** low stability; medium priority.

**ID:** Func. Req 10

**Request Prescription Refills:** Registered students with an *existing* prescription shall be able to request a refill without booking a new appointment. Follows is a basic flow:

a) The student logs into the AHP.
b) The student navigates to the "prescriptions" section.
c) The student views their current prescriptions.
d) The student selects the prescription they need to refill.
e) The student submits a refill request.

**Source:** Ellication Question 12, 14, 94, User scenario - Request prescription refill,

**Rationale:** Prescriptions may need more time to take their effect than what one batch holds. However, redoing the entire process each time is too cumbersome for something as trivial as picking up anew.

**Dependencies:** Students must be logged in and have already had a prescription.

**Stability and Priority:** Medium stability; medium priority.

### 3.1.2. Nonfunctional Requirements

**ID:** Non-Func. Req 1

**Maintain Transactability:** The system shall respond to 95% of user transactions within 2 seconds measured from the moment the request is received by the server, excluding network latency.

**Source:** Ellication Question 1

**Rationale:** It's important to get people help as soon as possible, so the system needs to have a fast response time (within 2 seconds of the request being received by the user)

**Dependencies:** None

**Stability and Priority:** *Medium stability; high priority.*

**ID:** Non-Func. Req 2

**Maintain Uptime:** The system shall have a minimum uptime of 99.9% over a rolling 30-day period, excluding planned maintenance windows, to ensure consistent availability for users. Additionally, AHP shall be accessible to users 24 hours a day, 7 days a week, excepting scheduled maintenance windows communicated at least 48 hours in advance and limited to non-peak usage periods.

**Source:** Elicitation Question 8; “5,000 students should be able to access the portal at the same time”.

**Rationale:** The uptime requirement is accounting for peak load. Since the notes specified that 5,000 students (i.e., 40% of the entire undergraduate body) should be able to use it at a time. We also extend those liberal assurances to time-of-day availability.

**Dependencies:** OIT

**Stability and Priority:** *High stability; medium priority.*

**ID:** Non-Func. Req 3

**Adhere to UX Principles:** The system's user interface shall adhere to recognized usability principles, including clear and consistent navigation, intuitive interaction patterns, alt text, appropriate color contrast for accessibility, and compliance with accessibility standards, such as WCAG 2.1 Level AA[10].

**Source:** Elicitation Question 5, 76, Goal Model 2 - Make AHP Services Easily Accessible and Efficient

**Rationale:** This will ensure that people with disabilities can also use AHP.

**Dependencies:** AHP, WCAG

**Stability and Priority:** *Medium stability; medium priority.*

**ID:** Non-Func. Req 4

**Maintain Browser Compatibility:** The system shall be compatible with the latest stable versions of the following web browsers: Internet Explorer 11, Mozilla Firefox, Google Chrome, and Apple Safari. It shall support responsive design principles to ensure

[10] https://www.w3.org/WAI/WCAG2AA-Conformance

optimal user experience across various devices that support a browser and various screen sizes.

**Source:** Elicitation Question 5

**Rationale:** This will ensure that a wide range of people who come from different backgrounds will be able to access AHP.

**Dependencies:** Needs the latest stable version of each browser so this requirement depends on the companies who manage the browsers, OIT

**Stability and Priority:** *High stability; medium priority.*

**ID:** Non-Func. Req 5

**Ensure Data Integrity:** The system shall employ the AES-256 encryption technique to protect student health data during transmission and storage. It shall implement access controls based on role-based permissions to prevent unauthorized modification or deletion of records. Additionally, the system shall conduct regular automated backups of the data to ensure data recoverability in case of accidental loss or corruption.

**Source:** Elicitation Question 69, 98

**Rationale:** By employing strong encryption techniques, access controls, and regular backups, the system can protect against unauthorized access, tampering, and data loss. This requirement safeguards the confidentiality and integrity of sensitive information, meeting regulatory compliance and instilling user trust.

**Dependencies:** OIT

**Stability and Priority:** *High stability; high priority.*

**ID:** Non-Func. Req 6

**Optimize Performance:** The system shall be designed and optimized to provide a responsive user experience. It shall aim to achieve page load times of under 2 seconds and ensure that data retrieval operations respond within 2 seconds on average. Database queries shall be optimized using appropriate indexing strategies, and the system shall employ caching mechanisms to reduce latency. It shall be capable of handling concurrent user requests without significant performance degradation.

**Source:** Elicitation Question 1, 31

**Rationale:** Optimizing performance is crucial for meeting user expectations and ensuring efficient system operation. By minimizing page load times, reducing data retrieval latency, and employing caching and optimization techniques, the system can deliver a responsive and smooth user experience.

**Dependencies:** AHP, Databases that are being queried

**Stability and Priority:** *High stability; high priority.*

**ID:** Non-Func. Req 7

**Ensure Scalability:** The system architecture shall be designed to scale horizontally to accommodate at least a 50% increase in user traffic and a doubling of data volume over a one-year period. It shall support load balancing techniques, such as round-robin or least-connections, to distribute the workload evenly across multiple servers and resources. The system shall also be able to accommodate the addition of at least three new features or functionalities per year without causing performance degradation or requiring extensive modifications to the existing infrastructure. Scalability shall be achieved by utilizing scalable infrastructure components, implementing modular system design principles, and leveraging cloud-based services for elastic scaling as needed.

**Source:** Elicitation Question 84

**Rationale:** Ensuring scalability is crucial for accommodating future growth, maintaining system performance, and handling increased user traffic and data volume. By designing a horizontally scalable architecture with load balancing capabilities, the system can effectively distribute the workload and avoid performance bottlenecks. The ability to add new features without disrupting the system's stability or performance further supports scalability and future-proofing.

**Dependencies:** None

**Stability and Priority:** *High stability; medium priority.*

**ID:** Non-Func. Req 8

**Maintain Compliance:** The system shall comply with relevant industry standards, regulations, and legal requirements. This includes adhering to specific regulations such as the General Data Protection Regulation (GDPR), Health Insurance Portability and Accountability Act (HIPAA), Web Content Accessibility Guidelines (WCAG) 2.1 Level AA, and Payment Card Industry Data Security Standard (PCI DSS).

**Source:** Elicitation Question 16, 44

**Rationale:** To ensure that AHP is not breaking any laws, or endangering its users.

**Dependencies:** Government Bodies

**Stability and Priority:** *Medium stability; high priority.*

## 3.2. External Interface Requirements:

### 3.2.1. **User Interfaces**

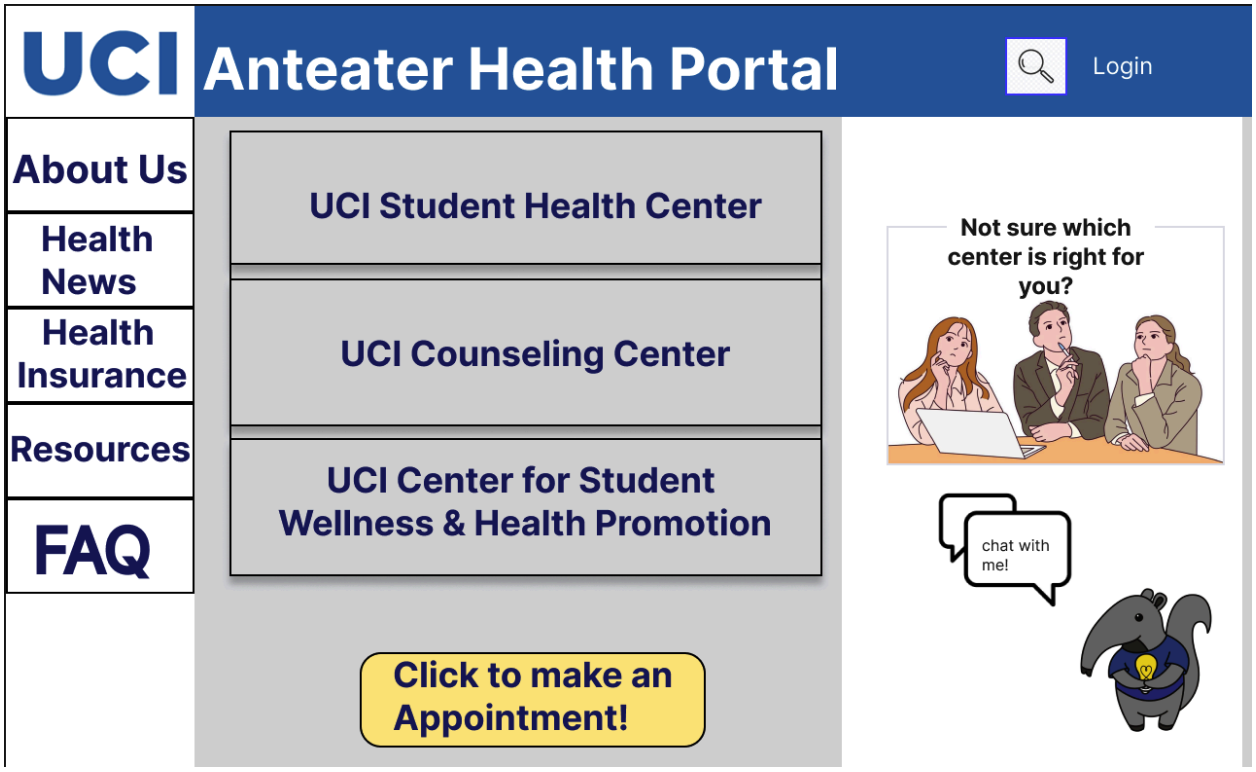



**Figure 1, shows the Anteater Health Portal Main Home Page.**

The main home page shows a login feature in the upper righthand corner, it allows UCI Affiliates to Login to the AHP portal using their UCI netID. The chat feature shall be available before they login, so I've included the UCI mascot as the access point to the chat box. If they click on the anteater, a chat box will open. On the side navigation bar we have tabs like "About Us", "Health News", "Health Insurance", "Resources" and "FAQ".

The FAQ was requested by our stakeholders and will provide information to people browsing the AHP website. The other tabs in the navigation bar are pages that

the three centers have in common, and cover topics that people browsing the website for the first time would be interested in. If you click on the centers in the center of the page, then you will be redirected to a page that solely explains what each center does. Finally, on the bottom of the screen, if you click on “Click to make an appointment”, you will be redirected to the login page if you are not already signed in, and the “make appointment” page if you are signed in.


**Figure 2, shows the ‘Select Date and Time’ page that is shown when UCI Affiliates choose to make an appointment.**

The third step to make an appointment is the 'Select Date and Time’ page. On this page UCI Affiliates can see a five day calendar that shows them the available time slots for an appointment. Time slots that are red mean that some have already made an appointment for that date and time, and clicking on ‘add to waitlist’ will redirect them to a page to where they can join the waitlist. A blue check appears on the calendar to indicate which appointment they have chosen, and if that is correct with the user, they can click on ‘Next Page” to continue making an appointment.

### 3.2.2. Hardware Interfaces

**PCs/Laptops:** Personal computing devices such as desktops and laptops will serve as the primary hardware interface for accessing the AHP system. These devices are

particularly useful for more detailed tasks, such as filling out comprehensive forms or accessing extensive health resources.

**Mobile Devices:** Smartphones and tablets will provide mobile access to the AHP system, offering convenience for on-the-go users. These devices are key for setting up appointments, receiving reminders, and engaging in virtual meetings.

**Network Equipment:** Network devices such as routers, switches, and firewalls will ensure secure and reliable connectivity for the AHP system. These devices facilitate user access to the system from various locations while also securing data transmission.

**Servers:** Will handle tasks like storing user data, managing backups, and ensuring the system's consistent availability. Depending on UCI's infrastructure, the servers may be either cloud-based or physical.

### 3.2.3. Software Interfaces

**Authentication Module:** UCI uses Shibboleth as the first layer of authentication. Students are further obstructed from logging in by Duo, a multi-factor authentication framework. Although Duo's API is beyond our scope of work, most of UCI's subservices communicate with Shibboleth's API.

Access control will be litigated in the backend, with the student being granted a login cookie on successful operation. According to the project's technical documentation[11], the basic interaction is as follows:

a) The Service Provider (SP) is responsible for protecting an online resource and consuming information from the Identity Provider (IdP).
b) The SP detects the user attempting to access restricted content within the resource.
c) The SP generates an authentication request, then sends the request, and the user, to the user's IdP.
d) The Identity Provider (IdP), Shibboleth in this case, authenticates the user. It then sends the authentication response, and the user, back to the SP.
e) The SP verifies the response from the IdP and sends the request through to the resource which returns the originally requested content.

**Appointment Database:** One of AHP's main objectives is to facilitate making and showing up to appointments. The appointment database seeks to organize them into a schematized format.

[11] https://shibboleth.atlassian.net/wiki/spaces/CONCEPT/overview

We may use a variant of SQL[12] and create tables “providers” with a list of names and office IDs, “students” with a list of names and user IDs, and “appointments” with one foreign key each from “students” and “providers”. This relational design helps make it easy for care providers and admins to view any member’s appointment history.

**Prescription Database:** Once an appointment is completed, licensed care providers may prescribe students medicine. The prescription database will be used to keep track of prescription pickups.

Like with the appointment database, we may use SQL (possibly on the same schema). We should create a table “prescriptions”, which includes: a medicine name, dosage, timestamp, indication of completeness, associated student ID, and barcoded number which gets printed on receipts. Records are added once a new prescription is created and are marked as complete once the pickup is done. This is to give students and providers a more complete picture of their medical record.

**Questionnaire Logic:** Students may not know what service fits them best; the portal should be able to determine which center or service they may need. In the “Guide Through Questionnaire” requirement, we declared that logged-in students shall be able to determine which services fit them the best by answering a set of questions which we will dictate in advance.

In a typical questionnaire, the answer to one prompt could make some future questions redundant. We hope to model our question path as a conversation tree, where the answers to each question may lead to a different question to follow. We do not have a specific framework in mind to use.

**Chatbot:** The portal should be able to determine which center or service the student needs. The student can use the chat feature and answer questions.

It provides a multiple-choice selection for students to select from, which can be parsed from the FAQ. Just as with the questionnaire logic, the chatbot will also use a conversation tree to vary its questions based on previous responses. Per field notes, dialogue history will be saved for future reference. We do not have a specific framework in mind to use.

**Push Notifier:** Because we aim to get as many people to care providers on time as possible, we also need to make sure affiliates cooperate as well. This can be achieved by sending periodic reminder emails and allowing students to cancel their appointments. These reminders help students not miss appointments and allow plans to schedule in advance.

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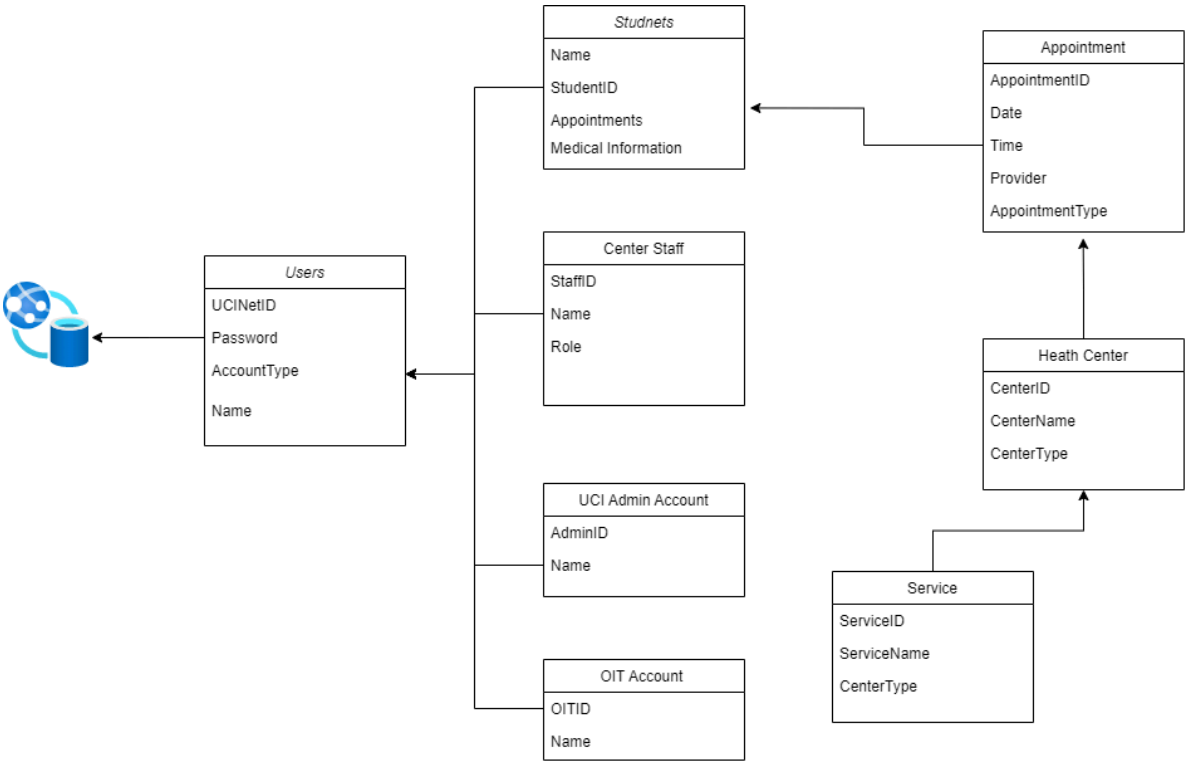
[12] https://www.w3schools.com/mysql/mysql_rdbms.asp

On a periodic basis, the notifier will sift through the appointment database and select upcoming meetings which will take place within a certain time. The notifier will then send reminders to their associated email addresses. We expect to design it to run as a cron job[13] in the form of a shell script.

## 3.3. Logical Data Model




3.3.1. **Users:** For each user the database will store the name, UCINetID, Password, AccountType, and Name. There are 4 different AccountTypes: Students, Center Staff, UCI Admin Account, and OIT Account.

3.3.2. **Appointment:** For each Student that books an appointment the database will store the AppointmentID, Date, Time, Provider, and AppointmentType.

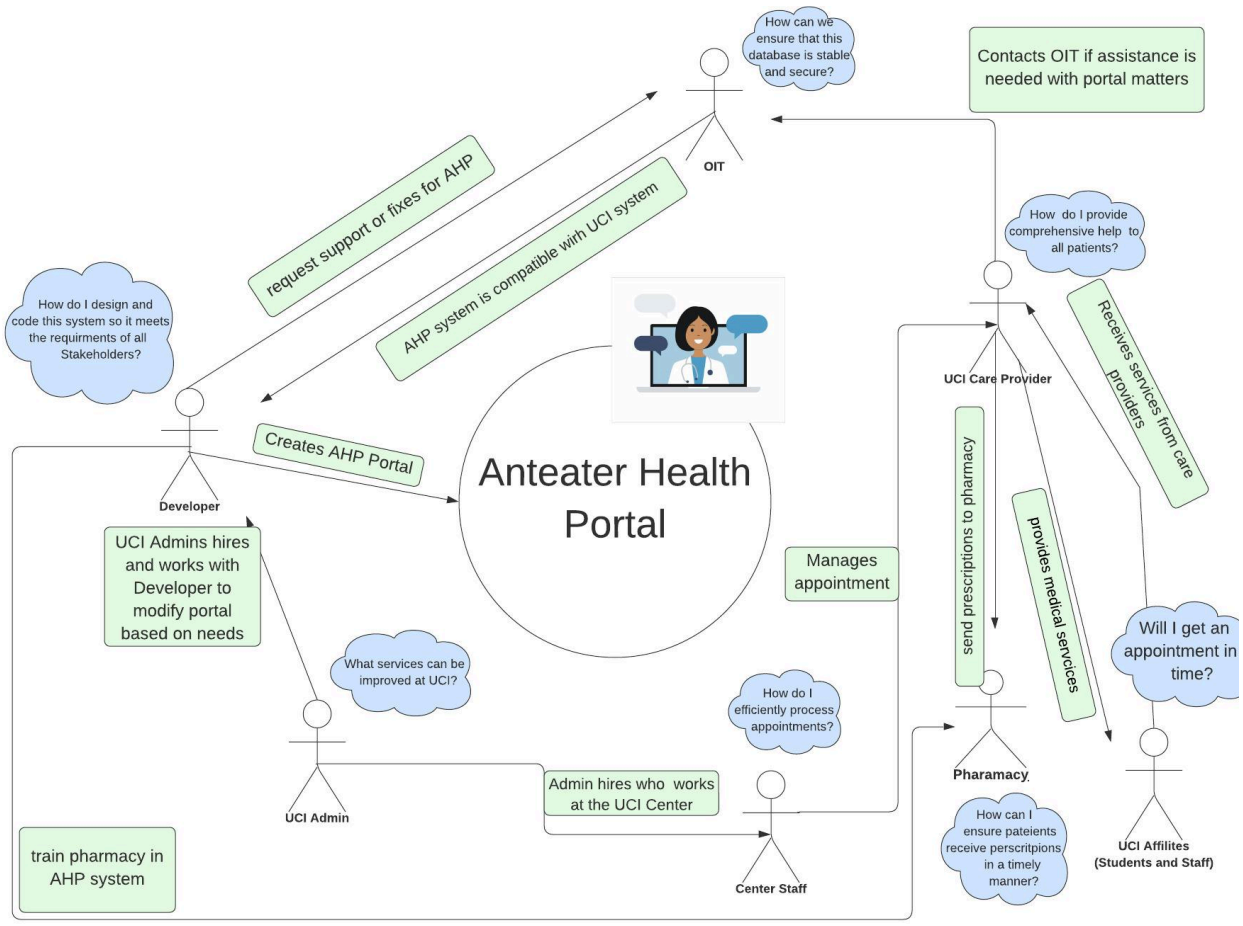
3.3.3. **Health Center:** For each center the database will store the CenterID, CenterName, and CenterType.

3.3.4. **Service:** For each service that is provided by the Health Centers the database will store ServiceID, ServiceName, and CenterType.

[13] https://www.man7.org/linux/man-pages/man5/crontab.5.html

# 4. Appendix

## Homework 2: Anteater Portal Elicitation Questions Stakeholder Model




<u>UCI Affiliates (UCI Students & Staff)</u>

- Their motivation in using AHP is to receive services from care providers. Students won't necessarily choose to use the tool, but it will be offered as the primary means to coordinate meetings.
- Students are most likely unfamiliar with the inner workings of our health center's various offices. Hence the proposal for AHP.
- Clients will meet with care providers who AHP should algorithmically select for them.
- If the system is detrimental to mitigating health concerns, students or staff have the authority to reach out to the OIT and voice their concerns.

- Once an appointment has been scheduled, we expect them to receive an email confirmation with the location and time of their meeting. If the client opted for a virtual meeting, a link to Zoom should also be provided.
- Our guidance and referral tools, as fundamental as they are, should be dedicated primarily for student or staff use. Therefore, they are of the highest priority.
- Clients are typically best available at these times: 1) when the website is accessed and 2) when the appointment takes place. Some might not be so responsive.

UCI Care Providers

- Their motivation is to connect with students who are scheduled to seek services from their respective health office.
- Using AHP's appointment database, care providers should expect to be notified of when they'll be seeing students, when they can take a break, or at what time to finish for the day.
- Unlike students, care providers are best equipped to understand the network of services within their disposal, as well as other health centers within UCI which they could refer appointees to.
- If the system is detrimental to mitigating their clients' health concerns, care providers have the authority to reach out to the OIT and voice their concerns or reach out to the admin team to do that on their behalf.
- Care providers are available throughout the day and will be working mornings and afternoons. There are typically 20 staff members available at a time.
- They are either in an in-campus office space or at a remote location taking virtual appointments.
- Along with meetees, they are of the highest priority. They are the ones who will be with students and staff to fulfill their goals.

The OIT

- Since the OIT are in charge of technical affairs for in-campus services, they have the authority to (or not to) link other websites to AHP.
- Therefore, OIT's stakeholder priority is less so than of affiliates, but is still substantial.
- They also have the authority to host AHP on UCI's servers.
- The OIT should know how to run and provision AHP in whichever language it was made in. However, they are not qualified to answer questions about UCI's health-center network.

- They expect AHP to comply with their authentication schemes, among other things, before it can be launched.
- The OIT have their own offices separate from UCI's health center network.
- We expect the OIT to be responsive over email.

Administrators of UCI Student Health Center

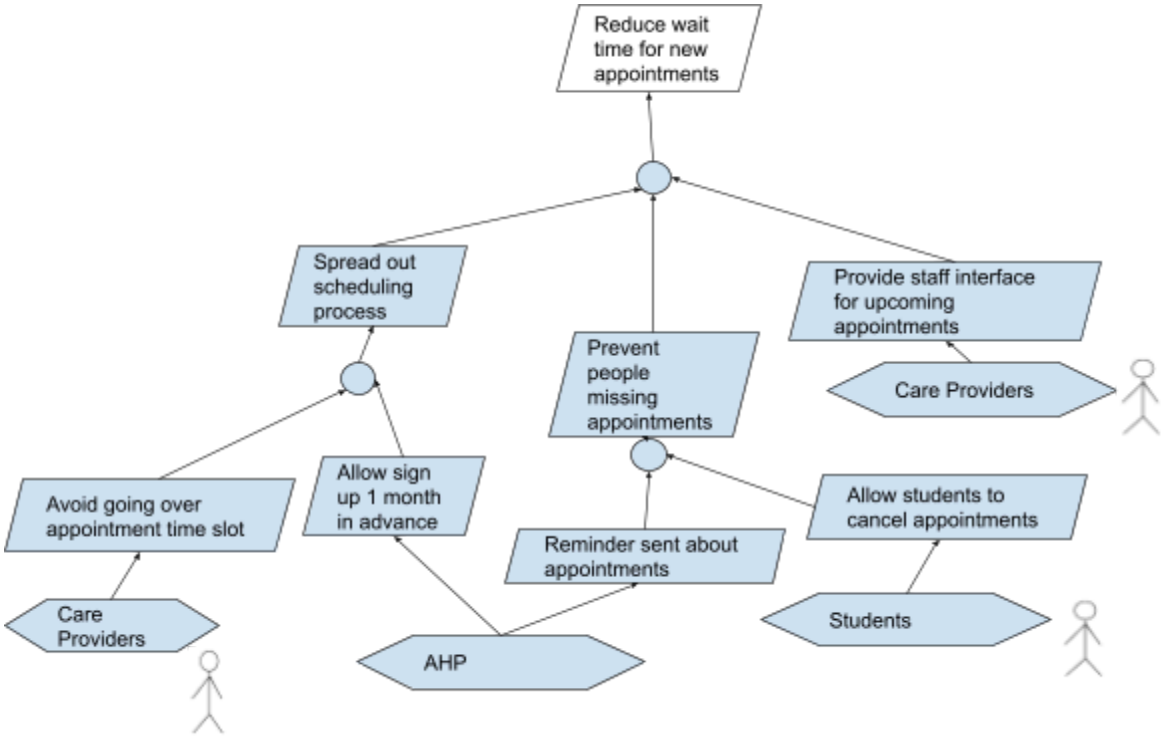
- The admin team is likely responsible for keeping track of appointments and provisioning upgrades.
- The administration team should expect to be able to correct how AHP works in the event of a service change. Examples might include changing closing time, including a new office, etc.
- If any technical or change-in-policy issues arise, they should have a line of contact with the OIT or with our development team.
- If the system is detrimental to mitigating students' health concerns, administrators have the authority to reach out to the OIT and voice their concerns.
- They are typically available via appointment and are probably most responsive to email.
- Admins are a mid-priority stakeholder group. Their role in using AHP is merely assistive.

Pharmacies

- Motivation is to ensure patients receive prescriptions in a timely manner.
- Care providers can send prescriptions to a pharmacy for students to pick up.
- Pharmacies should typically open during the school week and locate themselves near health offices.
- Pharmacy employees may or may not be trained to use AHP.
- Their inclusion into AHP's framework is not yet confirmed, since medicine can be picked up at any time, irrespective of when client-to-provider appointments are done.
- Employees are familiar with the network of UCI's health offices, but perhaps less so than care providers.
- Pharmacies are a low-priority stakeholder because their involvement with AHP's appointment system is circumstantial.

# Homework 3: Goal Models

## Model 1




### High Level Goal: Reducing Wait Times for Appointments

- **Definition:** Once appointments are made, we aim to get as many students and staff to reach care providers on-time as possible and vice-versa.
- **Source:** AHP Case Study; "*Sometimes students have to wait days, weeks, or even months for an appointment, the staff at all of these centers are overworked, and the space for seeing patients is maxed out".*
- **Type:** Soft
- **Priority:** High

### Subgoal: Spread Out Scheduling Process

- **Definition:** We aim to leave care providers with enough space in between appointments to plan ahead.

- **Source:** AHP Case Study; *“the staff at all of these centers are overworked, and the space for seeing patients is maxed out”.*
- **Type:** Soft
- **Priority:** High

### Subgoal: Allow Sign-Up One Month in Advance

- **Definition:** Data should persist long enough for affiliates to be able to book an appointment at most one month in advance.
- **Source:** Elicitation Session Question 22; *“1 month in advance”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Avoid Going Over Time Slot

- **Definition:** We aim to have no overlaps between appointments for any single care provider.
- **Source:** AHP Case Study; *“the staff at all of these centers are overworked, and the space for seeing patients is maxed out”.*
- **Type:** Behavioral (avoid)
- **Priority:** High

### Subgoal: Prevent People Missing Appointments

- **Definition:** Because we aim to get as many people to care providers on time as possible, we also need to make sure affiliates cooperate as well. This can be achieved by sending periodic reminder emails and allowing students to cancel their appointments.
- **Source:** Elicitation Session Question 33; *“they will be sent a confirmation … but after that send them 2 email reminders”.*
- **Type:** Behavioral (maintain)
- **Priority:** Medium

### Subgoal: Reminders Set About Appointments

- **Definition:** Students and other appointment-makers should be notified in advance prior to their meeting.
- **Source:** Elicitation Session Question 33; *“they will be sent a confirmation … but after that send them 2 email reminders”.*
- **Type:** Behavioral (achieve)
- **Priority:** High

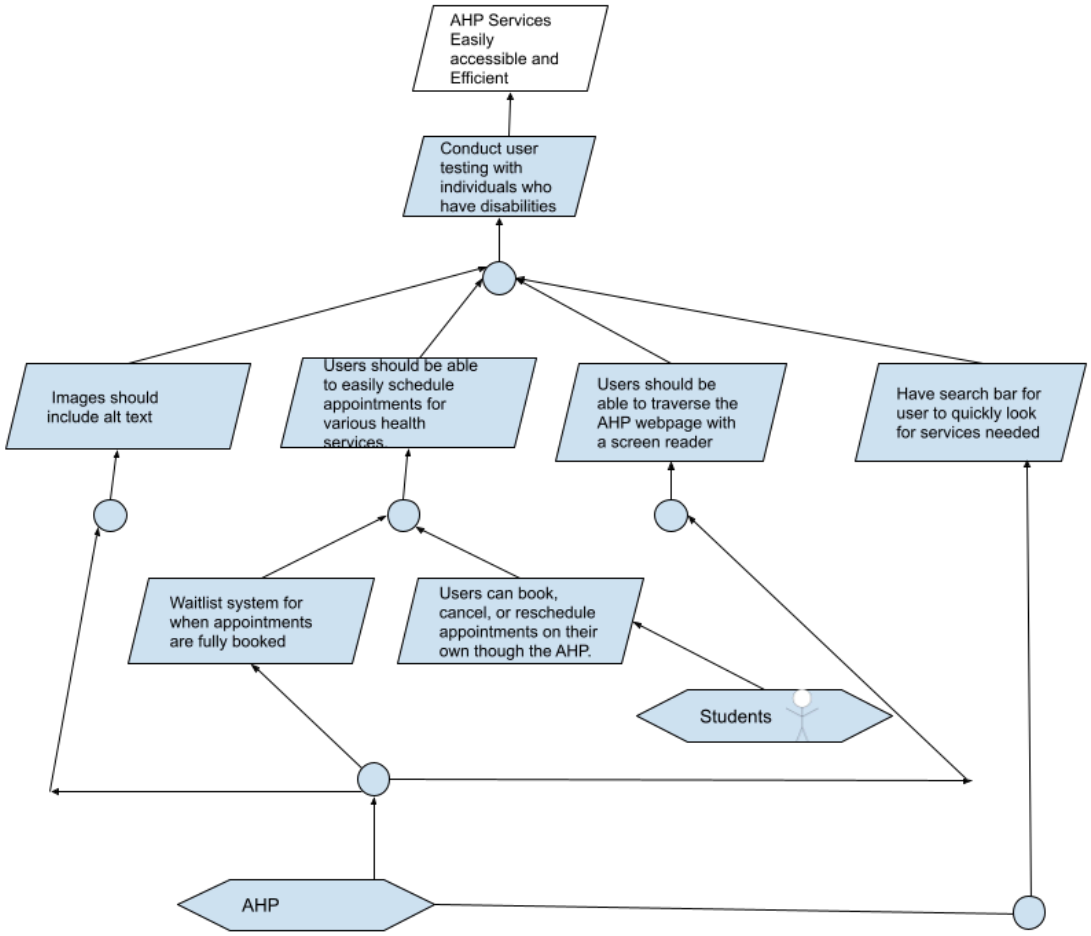
### Subgoal: Provide Staff Interface for Upcoming Appointments

- **Definition:** Care providers might want to know their day ahead of time to best prepare, mentally or physically, to deal with them come meeting time. AHP should display upcoming appointments at a glance when they have AHP open.
- **Source:** Elicitation Session Question 33; *“they will be sent a confirmation … but after that send them 2 email reminders”.*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Allow Students to Cancel their Appointments

- **Definition:** The ability for users to manage their appointments independently is a core feature of the AHP system. The system must enable users to easily cancel or reschedule them if necessary.
- **Source:** Elicitation Session Question 35; *“if a student canceled or rescheduled … it should be updated through the system”.*
- **Type:** Behavioral (achieve)
- **Priority:** High

# Model 2




## High-Level Goal: Make AHP Services Easily Accessible and Efficient

- **Definition:** Users should be able to explore and use the services without trouble or confusion due to the system's simple, intuitive design. The system should function smoothly and quickly, with minimal waiting times or delays. The system should also be accessible to all potential users, including those with disabilities.
- **Source:** Elicitation Sessions Question 3: *“should be accessible in languages that are most common among the UCI population”.*
- **Type:** Soft
- **Priority:** Medium

### Subgoal: Create a system that is easy to navigate

- **Definition:** Creating a system that is easy to navigate and understand for all students including ones with disabilities refers to designing a user-friendly interface and organizing information in a clear and logical manner so that students can easily access the resources they need and understand how to use the system effectively.
- **Source:** Elicitation Session Question 5: *"...should be accessible with people with disabilities as well."*
- **Type:** Soft
- **Priority:** High

### Subgoal: Images should include alt text

- **Definition:** Including alt text for images is a critical accessibility requirement that ensures that visually impaired users can access the information presented in images. As the AHP system aims to provide health services to a diverse range of students, including those with disabilities, ensuring accessibility is of utmost importance.
- **Source:** Elicitation Session Question 76: *"Should images on AHP have alt text for accessibility?"*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Users should be able to easily schedule appointments

- **Definition:** The ability for students to schedule appointments for various health services is a key functionality of the AHP system. It is essential that this feature is user-friendly and easy to use to ensure that students can access the care they need efficiently.
- **Source:** Elicitation Session Question 21: *"In the past the experience has been inefficient…"*
- **Type:** Soft
- **Priority:** High

### Subgoal: Users should be able to traverse the AHP webpage with a screen reader

- **Definition:** Providing equal access to information and services to all users, including those who are visually impaired, is a critical requirement for the AHP system. To ensure accessibility, users should be able to use a screen reader to navigate the AHP webpage, access its features, and receive information about its content.
- **Source:** Elicitation Session Question 13: *"Test the screen reader on different devices and make sure it works well on all devices…"*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Have search bar for users to quickly search for services

- **Definition:** The search bar is a necessary functional requirement that enables users to find specific health services or information quickly. As the AHP system is designed to provide comprehensive health services to UCI students, having a search bar would help users navigate through the system's vast amount of information more efficiently.
- **Source:** Elicitation Session Question 47: *"Implement a search bar so students can search for the services they are looking for"*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Waitlist system for when appointments are fully booked

- **Definition:** The waitlist system is a key feature that enhances the user experience by providing an option for students to join a queue for appointments when they are fully booked. This feature ensures that students do not miss out on important healthcare services due to an unavailability of appointments
- **Source:** Elicitation Session Question 25: *"How does the waitlist work?..."*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Users can book, cancel, or reschedule appointments

- **Definition:** The ability for users to manage their appointments independently is a core feature of the AHP system. The system must enable users to schedule appointments with healthcare providers and easily cancel or reschedule them if necessary.
- **Source:** Elicitation Session Question 35: *"... a student canceled or rescheduled their appointment"*
- **Type:** Behavioral (achieve)
- **Priority:** High

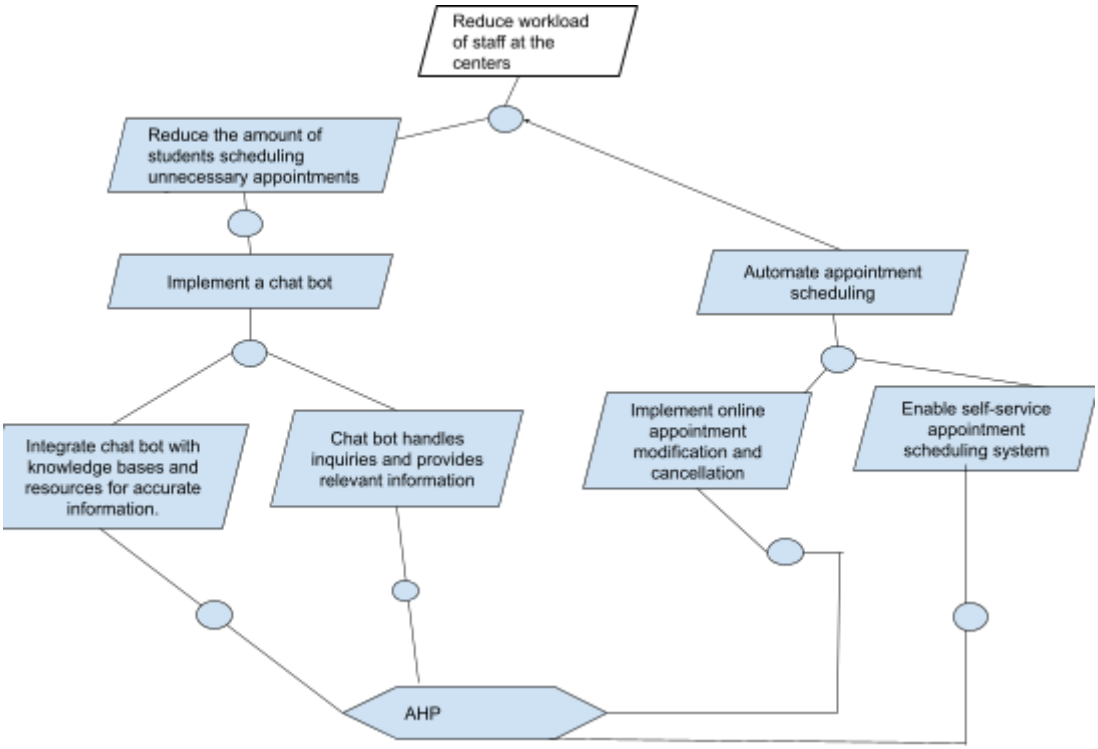
### Subgoal: Different language options for screen reader

- **Definition:** Providing different language options for screen reader output is an essential accessibility requirement for students who are foreign exchange students.
- **Source:** Elicitation Sessions Question 3: "*...should be accessible in languages that are most common among the UCI population"*.
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Conduct user testing with individuals who have disabilities

- **Definition:** Conducting user testing with individuals who have disabilities is a critical requirement to identify any accessibility barriers and gather feedback to improve the usability of the system.
- **Source:** Elicitation Session Question 19: *"Will we have to conduct testing with users such as students and caretakers?"*
- **Type:** Behavioral (achieve)
- **Priority:** High

# Model 3




## High-Level Goal: Reduce Staff Workload

- **Definition:** The aim of AHP is to save both affiliates and care providers time on the phone. The website seeks to inform care providers of upcoming appointments at a glance. We also aim to make accessing affiliates' records a few keystrokes away.
- **Source:** AHP Proposal; *"...the staff at all of these centers are overworked."*
- **Type:** Soft
- **Priority:** High

## Subgoal: Reduce the amount of students scheduling unnecessary appointments

- **Definition:** Decrease the instances of students making appointments that are not necessary for their healthcare needs.
- **Source:** AHP Functionality Outline #5, "*Students must be able to chat with care providers about issues that may not require an appointment."*

- **Type:** Soft
- **Priority:** High

### Subgoal: Implement a chat bot

- **Definition:** Allow students to ask questions and receive information related to health services offered by the three centers through a chatbot interface.
- **Source:** AHP Proposal: "*Students must be able to chat with care providers about issues that may not require an appointment, and can instead just be resolved through chat.*"
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Integrate chatbot with knowledge bases and resources for accurate information

- **Definition:** Connect the chatbot with existing knowledge bases and resources to ensure it can provide accurate and up-to-date information.
- **Source:** Elicitation question 43, "*The student can use the chat feature and answer questions, then the portal will be able to determine what service the student needs."*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Chatbot handles inquiries and provides relevant information

- **Definition:** Enable the chatbot to effectively respond to user inquiries and offer information that is pertinent to their needs.
- **Source:** Elicitation question 43, "*The student can use the chat feature and answer questions, then the portal will be able to determine what service the student needs."*
- **Type:** Behavioral (achieve)
- **Priority:**

### Subgoal: Implement online appointment modification and cancellation

- **Definition:** Enable students to modify or cancel their appointments online through the Anteater Health Portal.
- **Source:** Elicitation Session Question 35: *"... a student canceled or rescheduled their appointment."*
- **Type:** Behavioral (achieve)
- **Priority:** High

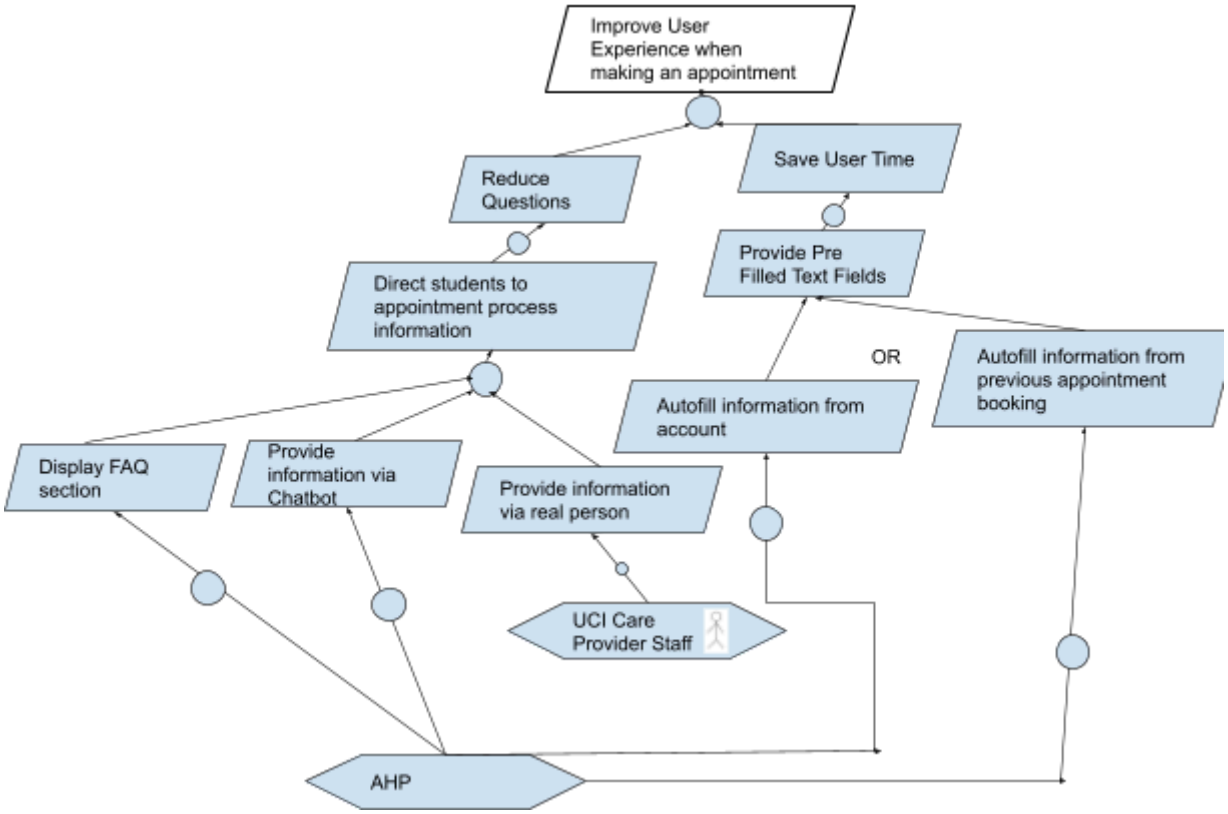
### Subgoal: Enable self-service appointment scheduling system

- **Definition:** Provide students with the ability to independently schedule their appointments without staff intervention.
- **Source:** AHP Functionality Outline #3 "*Students must be able to schedule in-person and virtual appointments through the portal."*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Automate appointment scheduling

- **Definition:** Implement a system that automates the scheduling of appointments for physical, mental, and wellness health services.
- **Source:** AHP Functionality Outline #3 "*Students must be able to schedule in-person and virtual appointments through the portal."*
- **Type:** Behavioral (achieve)
- **Priority:** High

# Model 4




## High Level Goal: Improve User Experience When Making an Appointment

- **Definition:** The new AHP system will improve the user experience when they are making an appointment.
- **Source:** AHP Proposal; *"the websites for these three centers are outdated, difficult to navigate…"*
- **Type:** Soft
- **Priority:** High

## Subgoal: Reduce Questions

- **Definition:** The number of questions students have about making an appointment should be reduced.
- **Source:** AHP Proposal: *"If a student doesn't know which center or service meets their particular need, the portal must provide a way to guide them to it."*

- **Type:** Soft
- **Priority:** High

### Subgoal: Save User Time

- **Definition:** AHP should use users' time more efficiently to save time.
- **Source:** Requirement Elicitation Question 66: "*...make sure everything is running efficiently time wise.*"; Question 21: "*...In the past the experience has been inefficient*"
- **Type:** Soft
- **Priority:** High

### Subgoal: Direct students to Appointment Process Information

- **Definition:** The system must direct students to where they can ask questions and get answers about the appointment process.
- **Source:** AHP Proposal: *"If a student doesn't know which center/service meets their particular need, the portal must provide a way to guide them to it."*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Display FAQ

- **Definition:** The system must display a frequently asked questions section on the AHP portal page that answers general questions students may have.
- **Source:** Requirement Elicitation Question 49: *"Yes, there should be a section where FAQs have pre-set answers to help students"*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Provide Information via Chat

- **Definition:** The system must use the chat bot feature to answer general questions students have about the appointment booking process.

- **Source:** AHP Proposal: *“Students must be able to chat with care providers about issues that may not require an appointment, and can instead just be resolved through chat.”*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Provide Information via Real Person

- **Definition:** Care providers’ staff must answer questions that cannot be answered by chat or the FAQ (frequently asked questions) section about the appointment booking process.
- **Source:** Requirement Elicitation Question 75: *“They can call the centers help line, to speak to a real person”*
- **Type:** Behavioral (achieve)
- **Priority:** High

### Subgoal: Provide Pre-filled Text Field

- **Definition:** When users are inputting information into text fields, AHP should pre fill the text fields that they have access to information on.
- **Source:** Requirement Elicitation Question 21: “*...It should keep better track of information given in previous sessions.”*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Autofill Information From Account

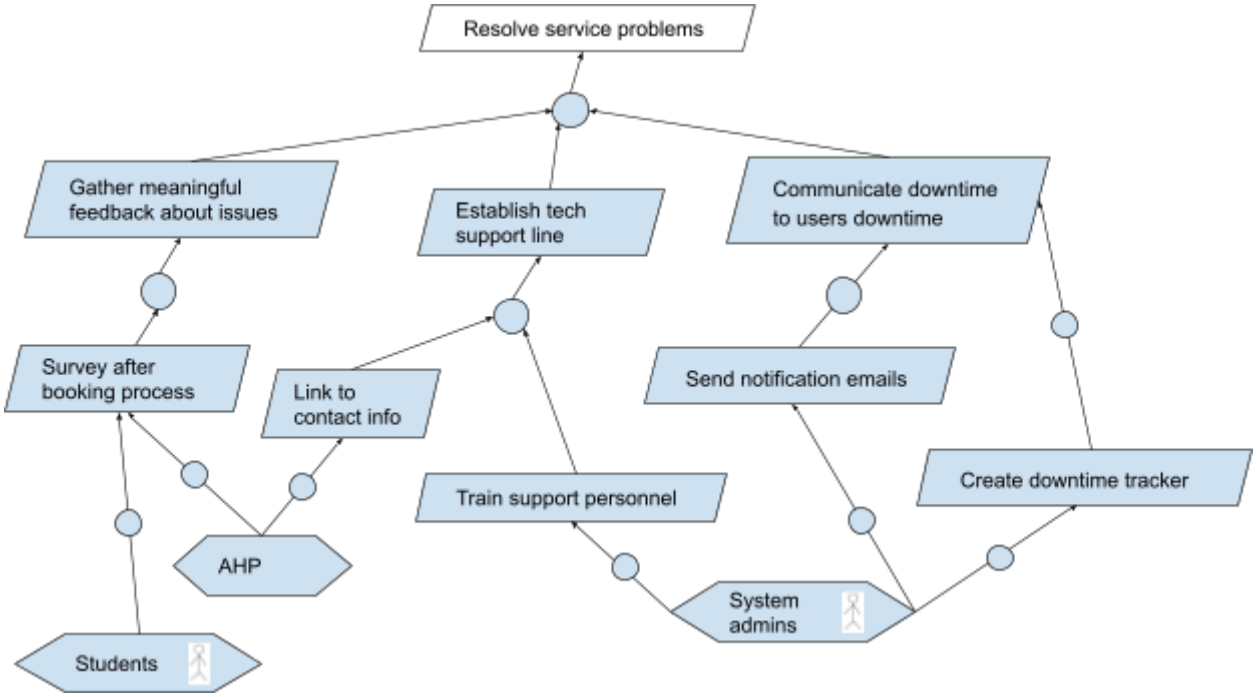
- **Definition:** When users are booking an appointment they have to sign in using their UCI net ID, so the information that is associated with their account should be used to automatically fill text fields in the appointment form.
- **Source:** Requirement Elicitation Question 21: *“...It should keep better track of information given in previous sessions”*; Question 51: *“But, if they are making their first appointment you can pre fill the appointment form with information that comes with the account that they signed in with.”*
- **Type:** Behavioral (achieve)

- **Priority:** Medium

### Subgoal: Autofill Information Previous Appointment Booking

- **Definition:** When users are booking another appointment when they sign in the information they input from their previous appointment, should be used to automatically fill text fields in the appointment form.
- **Source:** Requirement Elicitation Question 21 *"...it should keep better track of information given in previous sessions."*; Question 51 *"If they already made an appointment in the past then it should fill out the appointment forms based on the last appointment form"*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

## Model 5




## High-Level Goal: Resolve Service Problems

- **Definition:** We should make it easy for students to do what they would normally do in the event AHP is rendered inaccessible or if .

- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Behavioral (maintain)
- **Priority:** Medium

### Subgoal: Gather meaningful feedback about issues

- **Definition:** We would like to allow students and staff to give their feedback or ask for help. Knowing that casual users of AHP won’t go out of their way to write a review unprovoked, we seek to encourage sending feedback through the inclusion of surveys. Future upgrades to AHP may reflect trends in feedback which is collected.
- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Soft
- **Priority:** Medium

### Subgoal: Survey after booking process

- **Definition:** We need to design the survey which appointment-makers would take once they finish using the website.
- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Establish tech-support line

- **Definition:** Since care providers and health office admins use the system far more frequently, they are more inclined to send feedback or ask for assistance whenever they face a problem. We anticipate this to be done over email.
- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Behavioral (achieve)

- **Priority:** Medium

### Subgoal: Train support personnel

- **Definition:** Reviewing feedback is a laborious task and requires an understanding of the system. We need to hire people to learn how AHP works and to solve problems that may come up, else escalate to a system admin. Our support team may consist of OIT employees.
- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Link to contact info

- **Definition:** To get in touch with support, users of AHP need to be easily able to find an email address to send their feedback to.
- **Source:** Requirement Elicitation Question 7; *“after the students visit they should be able to give feedback through the portal based on their visit”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Communicate downtime to users downtime

- **Definition:** In case the portal goes out of service, students are still coming into the office and will still need help. Back-up measures need to be in place for this reason.
- **Source:** Requirement Elicitation Question 56; *“email that the system is down and the student can call and make an appointment…”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Send notification emails

- **Definition:** An email will be sent to all affiliates stating that the system is down and that people can call to make an appointment.

- **Source:** Requirement Elicitation Question 56; *“email that the system is down and the student can call and make an appointment…”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

### Subgoal: Create downtime tracker

- **Definition:** Although AHP is designed to hold a large volume of users, AHP could invest in more resilient internet services (e.g., UptimeRobot) to periodically check if the service is functional.
- **Source:** Requirement Elicitation Question 8; *“5,000 students should be able to access the portal at the same time”.*
- **Type:** Behavioral (achieve)
- **Priority:** Medium

## Homework 4: User Scenarios

# Scenario 1: Improve User Experience when Making an Appointment

**Author: Waynelle Ize-Iyamu**

**Sources:**

- AHP Goal Model: **“**Improve User Experience When Making an Appointment”
- Field Notes Questions 49, 75, 38, 21, 51

Jaylyn is a first-generation freshman student at UCI, it is her spring quarter and she still has not made any friends. She is struggling with social anxiety and is feeling sad about her college life. She receives a general school wide email about the Counseling Center and decides to give it a try. She searches AHP on google and it comes up. The email only briefly mentions that the Counseling Center exists on campus as a complimentary service but gave no exact details. She is already mentally overwhelmed, so she hopes that the AHP website is easy to use so she can make an appointment. She is happy to find out that it is.

Since Jaylyn is a first-generation student she has no one to ask about this process so she has a lot of questions. When she signs on to AHP the FAQ section on the main menu stands out to her and she clicks on that. There were a lot of questions that the FAQ section answered for her. However, she has a few more questions that are general but not on the FAQ section. Her social anxiety makes it hard to talk to people, so she gets worried that she may need to call, but luckily she spots a chat box feature. The chat box is able to answer the remaining portion of her questions. Since this is her first time making an appointment with the Counseling Center she was very worried that it would be confusing but her experience so far has been very self explanatory and pleasant.

The chat box explained where on the website to make an appointment. Jaylyn is waiting for the bus that is coming in 7 minutes so she's in a time crunch, but she knows that if she doesn't make the appointment now, she never will. She selects an appointment for Tuesday two weeks from now at 10:00am - 11:00am. The personal information and screening forms pop up, and it looks like a lot of work. Jaylyn thinks this is inconvenient and will make him not want to make an appointment again. At that moment, she scrolls down and realizes that many text fields are pre filled with her information. She has the option to update the information, but it is all correct so she just fills out the few empty boxes. She briefly wonders where they may have gotten this information, but she remembers she had to sign in with her netID so they could access the information on her account. When she is done with that, she submits her appointment request, just in time for the bus. As she's sitting in the bus thinking about her day, she reminisces about how easy and nice it was making an appointment.

**Assumption:**

1. We are assuming that when she searches up AHP on Google it comes up.
2. We are assuming that the FAQ section is in the main header.
3. The chat feature explains how to navigate the AHP website.
4. It will take less than 7 minutes to make an appointment from the moment you click on the 'make appointment' button.

**Further Questions/Gaps:**

1. When she searches up AHP using Google will it come up, or does she need the exact web address? If so, what is the web address to access AHP?
2. I know we discussed that the AHP system will have a FAQ section. Where would you like that section placed? Main header? Side menu? Next to the search bar?
3. We discussed that the chat box can help students find out what "service fits them the best" (38), but can it also tell them how to navigate the AHP website?
4. How long does it take for a student to make an appointment? 10 mins?

# Scenario 2: Make AHP Services Easily Accessible and Efficient

### Author: Layth Al Nabulsi

### Sources:

- "AHP Services Easily Accessible and Efficient" Goal Model
- Field Notes - Questions 3, 5, 76, 21, 13, 25, 35, 19

Abdullah is a freshman at the University of California, Irvine, studying Computer Science. He has a physical disability, using a wheelchair to move around the campus. The transition to college life has been challenging, not only because of the course load but also due to navigating a large campus with his disability.

Upon learning about the AHP, Abduallah decides to explore it. He navigates to the AHP website and registers for a new account using his student email. He appreciates the accessibility feature of the website, which is designed to be user-friendly for students with various disabilities. He is able to navigate easily and the registration process is seamless.

Once logged in, he finds all the services from the three centers in one place. This is especially beneficial and helpful for Abduallah, who had previously found it difficult to physically visit the different centers scattered across the campus.

Abduallah decides to book counseling appointments to talk about his adjustment to college life. He navigates to the appointment section, selects the counseling center, and finds an available slot that works with his schedule. He also appreciates that the platform provides information about accessibility accommodations at the center, giving him confidence that his needs will be met.

Next, he navigates to the Student Wellness & Health Promotion section and finds numerous resources to help manage his course stress. He is particularly drawn to a virtual stress management workshop and signs up for it, appreciating the convenience of online options.

A few days later, Abdullah wakes up feeling unwell. With the AHP, he is able to book a virtual consultation with a doctor from the Student Health Center, preventing the need for a physical visit. The process is efficient, and he is relieved that he can access medical care without additional mobility challenges.

Throughout his use of the portal, Abdullah receives notifications reminding him of his appointments and the upcoming virtual workshop. These reminders ensure he doesn't miss his appointments and allows him to plan his schedule in advance.

Abdullah finds the AHP to be an inclusive and efficient way to manage his health and wellness needs. The portal's accessibility features, combined with its comprehensive integration of services, allow him to navigate his health needs independently and with ease, making his college experience more manageable and enjoyable.

**Assumptions:**

- The scenario assumes that there are available slots for Abdullah to book counseling and medical appointments
- It's assumed that Abdullah has access to a reliable internet connection to use the AHP services
- It is assumed that Abdullah is a registered student at the UCI and has an official university email
- It is assumed that the Counseling Center provides necessary accessibility accommodations

**Further Questions/Gaps:**

- How are health center staff trained to use the system effectively and provide services through it?

# Scenario 3: Reduce Staff Workload

**Author: Nena Ojukwu**

**Sources:**

- AHP Proposal; *“the staff at all of these centers are overworked”.*

Sophia Jackson, a senior administrator at the UCI Student Health Center, has been struggling to manage the increasing workload of her staff members. With the surge in student appointment requests and limited resources, the staff is stretched thin and finding it challenging to provide timely and efficient care. However, the implementation of the Anteater Health Portal (AHP) brings a much-needed solution to alleviate their workload and improve the overall efficiency of the center.

With the introduction of AHP, students now have access to a comprehensive online platform that integrates physical, mental, and wellness health services offered by the Student Health Center, the Counseling Center, and the Center for Student Wellness & Health Promotion. This centralized system proves to be a game-changer for staff members like Sophia, who no longer need to manually schedule appointments or manage overlapping information on separate websites.

Previously, students had to call the centers to book appointments, leading to a high volume of phone inquiries that consumed staff time. Now, with the AHP, students can easily self-schedule appointments through the online portal, eliminating the need for staff intervention. Sophia and her team can now focus their attention on more critical tasks, knowing that the appointment scheduling process is automated and efficient.

Another significant advantage of AHP is the incorporation of virtual care options. Instead of relying solely on in-person consultations, students can now opt for virtual meetings with care providers. This feature has proven to be immensely beneficial in reducing the strain on the physical resources of the Student Health Center. Staff members no longer need to find additional space or manage crowded waiting areas. By conducting virtual consultations, they can accommodate more students and provide timely care without compromising quality.

The AHP also streamlines the resource management process within the centers. Students can now book specific rooms or facilities for their appointments or wellness activities through the portal. This functionality ensures that the available resources are utilized optimally and reduces scheduling conflicts. Sophia is relieved to see her staff no longer overwhelmed by managing complex scheduling arrangements, and the centers can efficiently allocate resources to meet student needs.

Furthermore, AHP incorporates a robust notification system. Sophia and her team receive automated reminders and notifications regarding upcoming appointments and workshops, ensuring that both staff and students are well-prepared and can plan their schedules accordingly. This feature reduces the chances of missed appointments, no-shows, and last-minute changes, allowing the staff to work more efficiently and maximize their productivity.

Overall, the implementation of the Anteater Health Portal has significantly reduced staff workload at the UCI Student Health Center. By automating appointment scheduling, incorporating virtual care options, streamlining resource management, and providing a comprehensive notification system, AHP has enabled Sophia and her team to deliver improved care to students while optimizing their own time and resources. The staff can now focus on providing quality healthcare services rather than being overwhelmed by administrative tasks, ultimately enhancing the overall student experience at UCI.

**Assumptions:**

- The Anteater Health Portal (AHP) has been successfully implemented and is fully functional.
- The AHP is user-friendly and accessible to both staff members and students.
- Students have embraced and actively use the AHP to access health services and resources.
- The AHP has effectively integrated the services offered by the UCI Student Health Center, the Counseling Center, and the Center for Student Wellness & Health Promotion.
- The AHP includes features such as online appointment scheduling, virtual care options, resource management, and automated notifications.
- Staff members have been trained on how to use the AHP effectively.
- The AHP has reduced the need for manual appointment scheduling by enabling students to self-schedule their appointments.
- Virtual care options have been well-received by students and are being utilized effectively.
- The AHP's resource management system has improved the efficiency of room and facility bookings.
- The AHP's notification system is functioning as intended, providing timely reminders and updates to both staff and students.
- The workload reduction experienced by Sophia and her staff is a direct result of the AHP's implementation and its associated features.
- The AHP has positively impacted the overall efficiency and productivity of the UCI Student Health Center.
- The assumption is made that the implementation of the AHP has not introduced new technical or operational issues that would add to the staff workload.

- The staff and administrators at the UCI Student Health Center have embraced and supported the implementation of the AHP.

**Further Questions/Gaps:**

- Has the implementation of the AHP resulted in any measurable improvements in staff productivity or the overall efficiency of the Student Health Center? Are there any metrics or data available to support these improvements?

# Scenario 4: Process Pharmacy Pickups

### *Subtitle:* İnküşette and the Premeditated Pilldoric Pharmacy Pickup
### *By:* Ahmed VisualPlugin Abo-Shadi

One afternoon, İnküşette visited a care provider for a medical issue and had been prescribed a diet of 69 (nice) blue pills every twelve hours. When the prescription was first decreed, she was given a receipt and asked to stop by a pharmacy to pick up the first batch.

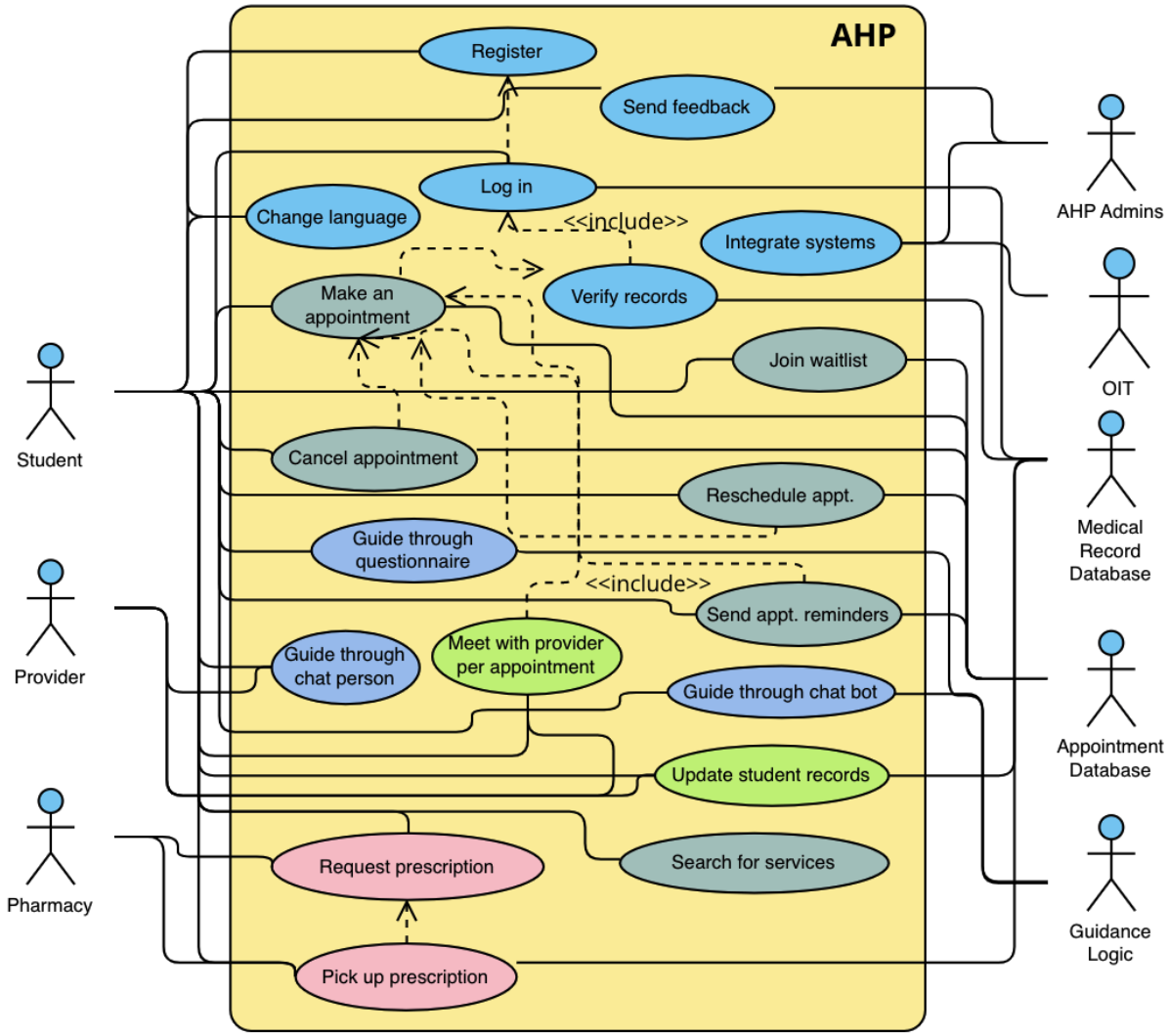
Someone at the pharmacy checked into AHP the next day and prepared İnküşette's pills in a freezer. A few days later, İnküşette visited a UCI-affiliated pharmacy and met with a clerk named Üò̩óqqford, to whom she showed the receipt. The clerk jokingly said 'they must be trying to keep you in the matrix', then got the pills ready for her. Üòóqqford clarified a few things about the medicine and for a small co-pay.

İnküşette adheres to the routine and needs a refill soon. So, she will access the AHP appointment page and upload a picture of the original receipt that came with the medicine. Once the receipt is processed, İnküşette stops by the pharmacy a couple of days after to pick it up again. She should receive a new receipt which can be photographed again once the medicine becomes empty again.

*According to our field notes, "students will need to upload their receipts to the portal to get their prescription refilled". Moreover, the appointment page should give the option to "upload a prescription refill". We haven't delved too much about the exact procedure for how and which receipts are used, nor have we evaluated its effectiveness against resource abuse. For this reason, we assume that each receipt comes with an indexable barcode that is eligible for one refill.*

*In our stakeholder model, we made the assumption that pharmacies would be open during the school week and locate themselves near health offices. Unlike care providers themselves, pharmacies wouldn't need students to book in advance. That is because the course of action (i.e., picking up medicine) is already planned at that stage.*

# Use Case Diagram




# Use Case Description

## Register

| Use Case Name | Register |
|---|---|

| | |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | User Scenario 2 *“he is able to navigate easily and the registration process is seamless”.* |
| **Description** | The student makes an account with AHP to book appointments. |
| **Goal(s)** | Students should have all their health-center stuff in one place. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), AHP registration system |
| **Secondary Actors** | N/A |
| **Precondition** | The actor must be affiliated with UCI. |
| **Success End Condition** | The actor has an account with AHP and will verify themselves next. |
| **Failure End Condition** | The actor is unable to access the system. |
| **Trigger** | The student wants to book an appointment for the first time. |
| **Basic (Success) Flow** | 1. The user requests to log into our system.<br>2. The system prompts the user to log in with their UCInetID and password.<br>3. The user enters their UCInetID and password and is prompted to use Duo.<br>4. Their UCI credentials are found within the system and access is given.<br>5. The user reluctantly agrees to the policy. |

| | |
|---|---|
| | 6. The user is asked to confirm the email address to send appointment reminders to. |
| **Alternative Flow** | 2a. The user selects “Remember Me” on Duo, and the system saves the user’s login information for the next 24 hours. The user is logged in automatically after this.<br><br>6a. The student can enter an email address to send reminders to outside of *uci.edu*. |
| **Exception Flow** | 3a. The user inputs the incorrect credentials and fails to log in. The use case fails. |
| **Relationship to other use cases** | The “log in” use case works similarly, but skips the setup stages. After logging in for the first time, the student should undergo the “verify records” use case. |
| **Supplementary Information** | ● Some basic user parameters are established (such as reading the policy and confirming a contact email address) upon first registration. |
| **Open Issues** | ● Are there other questions we should ask upon registration? |

## Log in

| **Use Case Name** | **Log in** |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | User Scenario 2 |
| **Description** | The student logs in through UCI’s Shibboleth authentication system and through Duo disservice. |

| | |
|---|---|
| **Goal(s)** | AHP should securely allow students to access UCI's health services. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), AHP registration system |
| **Secondary Actors** | N/A |
| **Precondition** | The actor must be affiliated with UCI to use Shibboleth. |
| **Success End Condition** | The affiliate is recognized in the UCI database and is able to input the correct credentials and approve Duo to log in. |
| **Failure End Condition** | The actor attempting to log in is not affiliated with UCI, they input incorrect credentials, or they can't get past Duo F**ko. |
| **Trigger** | The actor attempts to access the system. |
| **Basic (Success) Flow** | 1. The user requests to log into our system.<br>2. The system prompts the user to log in with their UCInetID and password.<br>3. The user enters their UCInetID and password and is prompted to use Duo.<br>4. Their UCI credentials are found within the system and access is given. |
| **Alternative Flow** | 2a. The user selects "Remember Me" on Duo, and the system saves the user's login information for the next 24 hours. The user is logged in automatically after this. |
| **Exception Flow** | 3a. The user inputs the incorrect credentials and fails to log in. The use case fails. |
| **Relationship to other use cases** | The "register" use case must be completed before this can be done. After logging in, the student should undergo the "verify records" use case. |

| | |
|---|---|
| **Supplementary Information** | • Some basic user parameters are established (such as reading the policy and confirming a contact email address) upon first registration. |
| **Open Issues** | • What features could we allow outside of the login bubble? |

## Verify records

| **Use Case Name** | **Log in** |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | Elicitation Session Question 29, 30 |
| **Description** | The student verifies their date of birth after logging in through UCI's Shibboleth authentication system. |
| **Goal(s)** | AHP should securely allow students to access UCI's health services. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), AHP registration system |
| **Secondary Actors** | Medical record database |
| **Precondition** | The student must be affiliated with UCI and have previously registered with AHP. |
| **Success End Condition** | The student is recognized in the database and can book appointments. |
| **Failure End Condition** | The actor attempting to log in doesn't get this access. |

| | |
|---|---|
| **Trigger** | The actor logged onto AHP. |
| **Basic (Success) Flow** | 1. The user is prompted to enter their date of birth on a date picker.<br>2. The user puts it in and is able to reach the AHP home page. |
| **Alternative Flow** | N/A |
| **Exception Flow** | 2a. The user inputs the incorrect date of birth and has to repeat the step.<br>2b. The user repeats this step many times and gets locked out. The use case fails. |
| **Relationship to other use cases** | This is preceded by the “login” or “register” use cases. |
| **Supplementary Information** | ● In the discussion questions, we were instructed to verify birthdate once an appointment is being made.<br>● Since other systems ask for the birthdate immediately after logging on, we assume AHP to work the same way. |
| **Open Issues** | ● In the discussion questions, we were instructed to verify birthdate once an appointment is being made.<br>● Since other systems ask for the birthdate immediately after logging on, we assume AHP to work the same way. |

## Cancel Appointment

| **Use Case Name** | **Cancel Appointment** |
|---|---|
| **Author** | Nena |
| **Priority** | High |

| | |
|---|---|
| **Source** | Elicitation Session Question 35; *"if a student canceled or rescheduled … it should be updated through the system".* |
| **Description** | The student cancels an appointment that they previously scheduled through AHP. |
| **Goal(s)** | Provide students with a convenient and efficient way to cancel their appointments, allowing them to free up the slot for other students in need of care. |
| **Primary Actors** | UCI Student |
| **Secondary Actors** | Appointment Database and Care Providers |
| **Precondition** | The student must have an existing appointment scheduled through AHP. |
| **Success End Condition** | The student successfully cancels the appointment and the system updates the appointment status accordingly, creating availability for other students. |
| **Failure End Condition** | The cancellation process fails, and the appointment remains scheduled. |
| **Trigger** | The student decides to cancel their appointment for various reasons, such as a change in plans or no longer needing the scheduled care. |
| **Basic (Success) Flow** | 1. The student navigates to the AHP and logs in to their account.<br>2. The student selects the "Appointments" section.<br>3. The system displays a list of the student's upcoming appointments.<br>4. The student selects the specific appointment they wish to cancel. |

| | |
|---|---|
| | 5. The system presents the details of the appointment and provides a “Cancel” option.<br>6. The student confirms the cancellation by selecting the “Cancel” option.<br>7. The system updates the appointment status as canceled and notifies the student of the successful cancellation.<br>8. The slot for the canceled appointment becomes available for other students to schedule. |
| **Alternative Flow** | N/A |
| **Exception Flow** | The system encounters an error while processing the cancellation, and the student is prompted to try again or contact the support. |
| **Relationship to other use cases** | 1. This use case is closely related to the "Schedule Appointment" use case, as canceling an appointment assumes that there was an existing appointment scheduled through the AHP.<br>2. It may also be related to the "Reschedule Appointment" use case if the student decides to reschedule the appointment instead of canceling it. |
| **Supplementary Information** | ● The system should also have a feature to notify the staff of any canceled appointments. |
| **Open Issues** | ● How close to the appointment can students cancel?<br>● How will the system handle a cancellation on the day of the appointment? |

## Reschedule appointment

| **Use Case Name** | **Reschedule Appointment** |
|---|---|
| **Author** | Nena |

| | |
|---|---|
| **Priority** | High |
| **Source** | Elicitation Session Question 35: *"... a student canceled or rescheduled their appointment"* |
| **Description** | The student reschedules an appointment that they previously scheduled through AHP. |
| **Goal(s)** | Allow students to easily modify their scheduled appointments to accommodate changes in their availability or needs. |
| **Primary Actors** | UCI Student |
| **Secondary Actors** | Appointment Database and Care Providers |
| **Precondition** | The student must have an existing appointment scheduled through AHP. |
| **Success End Condition** | The student has successfully rescheduled the appointment and the system updates the appointment status accordingly. |
| **Failure End Condition** | The student fails to reschedule the appointment due to a time conflict or unavailability of alternative slots. |
| **Trigger** | The student initiates the request to reschedule an existing appointment. |
| **Basic (Success) Flow** | 1. The student logs in to the Anteater Health Portal.<br>2. The student navigates to the "Appointments" section.<br>3. The student selects the option to reschedule an appointment.<br>4. The system presents a list of the student's existing appointments.<br>5. The student chooses the appointment they want to reschedule. |

| | |
|---|---|
| | 6. The system displays available time slots for rescheduling.<br>7. The student selects a new preferred time slot.<br>8. The system updates the appointment details and notifies the student of the successful rescheduling. |
| **Alternative Flow** | If there are no available time slots for rescheduling, the system can provide alternative options such as joining a waitlist or contacting the center directly for assistance. |
| **Exception Flow** | If there is a time conflict or unavailability of alternative slots during the rescheduling process, the system may display a message informing the student and prompting them to choose another suitable option. |
| **Relationship to other use cases** | 3. This use case is closely related to the "Schedule Appointment" use case, as rescheduling an appointment assumes that there was an existing appointment scheduled through the AHP.<br>4. It may also have a connection to the "Cancel Appointment" use case, as the student may choose to reschedule instead of canceling an appointment. |
| **Supplementary Information** | Rescheduling limitations (e.g., a maximum number of reschedules allowed) and any required notifications to staff members. |
| **Open Issues** | ● How close to the appointment can students reschedule?<br>● How will the system handle a reschedule request on the day of the appointment? |

## Make referrals

| **Use Case Name** | **Make referrals** |
|---|---|
| **Author** | Nena |
| **Priority** | High |

| | |
|---|---|
| **Source** | Elicitation Session Question 45: *“When staff members refer students to other staff members, they create a referral through the portal and the system will notify members through email.”* |
| **Description** | Healthcare provider initiates a referral for a patient to receive specialized care or services from another healthcare provider or department. |
| **Goal(s)** | 1. Ensure that students receive appropriate and specialized care for their specific healthcare needs.<br>2. Facilitate the seamless transfer of relevant medical information and documentation to the referred healthcare provider.<br>3. Track and monitor the progress and outcomes of the referrals. |
| **Primary Actors** | Healthcare Providers, Student Health Center Staff |
| **Secondary Actors** | UCI Student |
| **Precondition** | The staff member must have access to AHP and must identify a need for a referral based on the student’s health condition and medical documentation. |
| **Success End Condition** | The referral process is successfully initiated, and all relevant information is provided to the receiving healthcare provider. The student receives the specialized care needed. |
| **Failure End Condition** | The referral process fails to initiate, or the necessary information is not transferred successfully, resulting in a delay or absence of specialized care for the student. |
| **Trigger** | The student's healthcare needs cannot be fully addressed by the services available at the Student Health Center, requiring a referral to an external healthcare provider or specialist. |

| | |
|---|---|
| **Basic (Success) Flow** | 1. The student's need for specialized care is identified by the Student Health Center staff during the assessment process.<br>2. The staff consults the student to explain the necessity of a referral and answer any questions or concerns.<br>3. The staff initiates the referral process by gathering relevant medical information, including the student's medical history, test results, and any relevant documentation.<br>4. The staff identifies appropriate healthcare providers or specialists and communicates with them to facilitate the referral.<br>5. The necessary information and documentation are securely transmitted to the receiving healthcare provider.<br>6. The student is informed about the referral process, including the contact information of the receiving healthcare provider.<br>7. The student follows up with the receiving healthcare provider to schedule an appointment and continue their care. |
| **Alternative Flow** | If the necessary information and documentation are not immediately available, the staff requests the student's consent to obtain the required information from relevant sources. |
| **Exception Flow** | If the receiving healthcare provider rejects the referral, the staff informs the student and collaborates with them to identify alternative options for specialized care. |
| **Relationship to other use cases** | 1. The "Schedule Appointments" use case is related to the "Make Referrals" use case as scheduling may be required for both the initial appointment at the Student Health Center and subsequent appointments with the receiving healthcare provider.<br>2. The "View Medical Records" use case is related to the "Make Referrals" use case as relevant medical information and documentation are required for successful referrals. |
| **Supplementary Information** | The referral process should comply with relevant privacy and confidentiality regulations. |

| | |
|---|---|
| **Open Issues** | How will the specific method of information transfer and communication between the Student Health Center and outside health care providers be defined?<br><br>What are the protocols for establishing tracking and monitoring of the progress and outcomes of referrals? |

## Create Appointments

| **Use Case Name** | **Create Appointments** |
|---|---|
| **Author** | Layth |
| **Priority** | High |
| **Source** | Elicitation Questions 21, 35, 36 |
| **Primary Actors** | UCI Students |
| **Secondary Actors** | Appointment Database, Care Providers |
| **Description** | This use case describes the process through which a UCI student makes an appointment with a care provider through the Anteater Health Portal. |
| **Goal** | To successfully book an appointment with a care provider. |
| **Precondition** | ● The student is registered in the system.<br>● The student has logged into their account. |
| **Success** | An appointment is successfully booked, and a confirmation is sent to the student. |
| **Failure** | The appointment is not booked due to an error or other issue |
| **Trigger** | The student chooses to make an appointment |

| | |
|---|---|
| **Alternative Flow** | 3a. All appointment slots are booked, and the student is asked if they want to be put on a waitlist. |
| **Exception Flow** | 4a. The system encounters an error while processing the appointment, and the student is prompted to try again or contact the support. |
| **Relationship to other use cases** | ● This use case is related to "Canceling an Appointment" and "Reschedule an Appointment" use cases, as they all involve the management of appointments. |
| **Supplementary Information** | ● The system should consider time zones (if relevant) when presenting available slots. It should also have a feature to notify the staff of any new appointments made. |
| **Open Issues** | ● How far in advance can appointments be booked?<br>● How will the system handle peak times where many students might be trying to book appointments simultaneously? |

## Join waitlist for appointments

| **Use Case Name** | **Join waitlist for appointments** |
|---|---|
| **Author** | Waynelle |
| **Priority** | Medium |
| **Source** | Elicitation Question 25 |
| **Description** | This use case represents how UCI Affiliates (UCI students and staff) must act in order to join the waitlist for appointments. |
| **Goal(s)** | This will help accomplish the goal of improving the user experience when using AHP because it makes sure that students do not miss out on important healthcare services due to an unavailability of an appointment time. |

| | |
|---|---|
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff) |
| **Secondary Actors** | N/A |
| **Precondition** | The appointment slot they are attempting to get is full. |
| **Success End Condition** | They are able to join the waitlist for their selected time slot. |
| **Failure End Condition** | They are unable to join the waitlist for their selected time slot. |
| **Trigger** | The UCI affiliate clicks join waitlist. |
| **Basic (Success) Flow** | 1. The UCI Affiliate signs into AHP system<br>2. They select make an appointment<br>3. When they go to select a date and time for the appointment it is full, so they select 'Join Waitlist'.<br>4. If they successfully join the waitlist they get a notification email that they successfully joined the waitlist. |
| **Alternative Flow** | N/A |
| **Exception Flow** | 4a. If the waitlist is full, they are unable to join the waitlist and instead get a notification that they were not able to join the waitlist. |
| **Relationship to other use cases** | This use case has an include relationship with the use case "make appointment" |
| **Supplementary Information** | 1. If UCI Affiliates actually get the appointment they are removed from the waitlist.<br>2. UCI Affiliates can join multiple waitlists at a time. |

| | |
|---|---|
| **Open Issues** | ● What would make it so a student can't join the appointment waitlist? Is there a cap?<br>● Do students get an email when they enter the waitlist for an appointment? |

## Guide through questionnaire

| Use Case Name | Guide through questionnaire |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | Elicitation Question 43 *“the student can use the chat feature and answer questions”.* |
| **Description** | Students can see what service fits them the best by answering some carefully-selected questions. |
| **Goal(s)** | The portal should be able to determine which center or service the student needs. The student can use the chat feature and answer questions, then the portal will be able to determine what service the student needs. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), guidance logic |
| **Secondary Actors** | Medical record database |
| **Precondition** | The actor must be logged in and verified with AHP. |
| **Success End Condition** | The student knows which office they should book with. |

| | |
|---|---|
| **Failure End Condition** | They are unable to join the waitlist for their selected time slot. |
| **Trigger** | The student seeks to book an appointment. |
| **Basic (Success) Flow** | 1. The user navigates to “book appointment”.<br>2. An option is given to select an office or undergo a questionnaire.<br>3. The “questionnaire” option is selected.<br>4. The user undergoes the questionnaire.<br>5. They are sent to an appointment page for the office best suited for them. |
| **Alternative Flow** | 2a. The user knows what office they want to visit. They skip the questionnaire and are guided straight to the appointment page. |
| **Exception Flow** | N/A |
| **Relationship to other use cases** | On success, this leads to the “make appointment” use case. |
| **Supplementary Information** | ● The questionnaire is created in advance.<br>● Some questions may be skipped if a student’s medical records already provide an answer for it. |
| **Open Issues** | ● What questions should we ask?<br>● How long should it take to get a student to the right office?<br>● Who will be making the questionnaire? |

## Guide through chat bot

| **Use Case Name** | **Guide through chat bot** |
|---|---|

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|---|---|
| **Author** | VisualPlugin |
| **Priority** | Medium |
| **Source** | Elicitation Question 43, 75 *"If a student can't find information about appointments … they can … speak to a real person".* |
| **Description** | Students can use the chat feature and answer questions. |
| **Goal(s)** | The portal should be able to determine which center or service the student needs. The student can use the chat feature and answer questions, then the portal will be able to determine what service the student needs. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), guidance logic |
| **Secondary Actors** | Medical record database |
| **Precondition** | The actor must be logged in and verified with AHP. |
| **Success End Condition** | The student is communicating with the chat bot. |
| **Failure End Condition** | They are unable to get in touch with the bot. |
| **Trigger** | The student wants to get a quick answer to a question. |
| **Basic (Success) Flow** | 1. The user navigates to "get support".<br>2. A chat window pops up and the bot introduces itself.<br>3. The student types up messages and the bot responds back. |
| **Alternative Flow** | 1a. The user can navigate directly to the URL. That could be done with either a bookmark or if another person suggests they use the bot. |

| | |
|---|---|
| **Exception Flow** | 2a. The chat bot is down for maintenance or is being hacked. The use case fails. |
| **Relationship to other use cases** | This has the same motive as “guide through questionnaire”, but expands the automation’s scope beyond just making appointments. Both may use medical records to |
| **Supplementary Information** | ● The questionnaire is created in advance.<br>● Some questions may be skipped if a student’s medical records already provide an answer for it. |
| **Open Issues** | ● Will the chat bot work deterministically or through machine learning?<br>● Is there a way to repackage the chat bot’s functionality to work more organically with what users actually expect of its behavior? |

## Guide through chat person

| **Use Case Name** | **Guide through chat person** |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | Elicitation Question 37 *“staff can … avoid booking an appointment”*, 75 |
| **Description** | If a student can’t find information about appointments using a chat bot or the FAQ, they can refer to a real person. |
| **Goal(s)** | Staff should be able to alleviate common issues without needing to book an appointment. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), care provider |

| | |
|---|---|
| **Secondary Actors** | Guidance logic |
| **Precondition** | The actor must be logged in and verified with AHP. |
| **Success End Condition** | The student is communicating with a care provider. |
| **Failure End Condition** | The student is unable to get in touch with a person. |
| **Trigger** | The student wants to get a quick answer to a question that can't be answered by the chat bot. |
| **Basic (Success) Flow** | 1. The user navigates to "get support".<br>2. The user is connected with a chat bot.<br>3. The user asks the bot to connect them with a care provider.<br>4. A care provider is notified that a student wants to chat and gets on. |
| **Alternative Flow** | N/A |
| **Exception Flow** | 4a. No care provider is available to chat because all of them are helping other students, or the time of day is inclement. |
| **Relationship to other use cases** | This works similarly to the dependency use case "chat with a bot", but additional steps need to be taken to make a person take effort to get on chat. |
| **Supplementary Information** | ● Chatting with a person isn't made accessible by a single button because doing so costs a care provider's time.<br>● Care providers may use their time not being in appointments responding to chat messages. |

| | |
|---|---|
| **Open Issues** | ● How should we aim staffing efforts to allow adequate time for care providers to switch between chatting and meeting for appointments?<br>● How should we limit interactions if students take care providers' time away from appointments and the like? |

## Meet with a provider per appointment

| **Use Case Name** | **Meet with a provider per appointment** |
|---|---|
| **Author** | VisualPlugin |
| **Priority** | High |
| **Source** | Elicitation Question 31: *"If you can access Zoom on your device then you should be able to use the video conferencing in the portal".* |
| **Description** | Students should meet with care providers over Zoom or in the office. |
| **Goal(s)** | Students should be able to book amply-timed appointments and meet with care providers about their issues. |
| **Primary Actors** | UCI Affiliates (UCI students and UCI staff), provider, appointment database |
| **Secondary Actors** | Zoom |
| **Precondition** | The actor must already have an appointment with AHP. |
| **Success End Condition** | The student is communicating with a care provider. |
| **Failure End Condition** | Either the student or provider does not show up. |

| | |
|---|---|
| **Trigger** | The time for an appointment is approaching. |
| **Basic (Success) Flow** | 7. The student navigates to the email they received immediately once they booked the appointment.<br>8. The student navigates to a Zoom link that is prescribed for the meeting.<br>9. The student waits for the provider to meet in the same room or vice-versa. |
| **Alternative Flow** | 2a. If the meeting is in-person, they skip the Zoom registration step and head straight to the office and give the clerk their name. |
| **Exception Flow** | 3a. The student fails to show up for the appointed time. The use case fails.<br>3b. The provider fails to show up (perhaps is unwell) for the appointed time and AHP doesn't notify of this prior. The use case fails. |
| **Relationship to other use cases** | The "chat with a person" use case has a similar goal. However, longer appointments allow care providers more time to diagnose issues thoroughly. |
| **Supplementary Information** | ● Meetings are selected as either being in-person or over Zoom in advance. |
| **Open Issues** | ● How long should appointments last?<br>● How late could we allow students to be before an appointment is voided? |

## Request prescription refill

| **Use Case Name** | **Request prescription refill** |
|---|---|
| **Author** | Layth |

| | |
|---|---|
| **Priority** | High |
| **Source** | Elicitation Questions 12, 14, 21 |
| **Primary Actors** | UCI Student |
| **Secondary Actors** | Health Center Staff (Pharmacist) |
| **Description** | This use case describes the process a UCI student goes through to request a prescription refill through the Anteater Health Portal (AHP) |
| **Goal** | To enable the student to request a prescription refill easily and efficiently without visiting the health center |
| **Precondition** | The student has a prescription in the system that is eligible for a refill |
| **Success** | The student's prescription refill request is received and processed by the health center |
| **Failure** | The student's prescription refill request is not successfully processed or received |
| **Trigger** | The student logs into the AHP and selects the option to request a prescription refill |
| **Basic Flow** | 1. The student logs into the AHP.<br>2. The student navigates to the "Prescriptions" section.<br>3. The student views their current prescriptions.<br>4. The student selects the prescription they need to refill.<br>5. The student submits a refill request. |
| **Success Flow** | 1. The student's refill request is received by the health center.<br>2. The health center staff (pharmacist) processes the request.<br>3. The student receives a notification when the refill is ready for pickup. |

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|---|---|
| **Alternative Flow** | ● If the student's prescription is not eligible for a refill, the system informs the student and advises them to consult their healthcare provider. |
| **Exception Flow** | ● If the system encounters an error while processing the request, the student is informed and advised to try again later or contact the health center directly. |
| **Relationship to other use cases** | ● This use case can be associated with other use cases such as "Scheduling a Health Appointment", "Viewing Health Records", and "Receiving Health Notifications". |
| **Supplementary Information** | ● Any extra information required to process the prescription refill should be specified when submitting the request |
| **Open Issues** | ● How will the system handle prescriptions that require a doctor's approval for refill?<br>● How will the system verify that the student is eligible for a refill?<br>● How does the system notify the student when the refill is ready for pickup?<br>● What are the security measures in place to ensure privacy and confidentiality of prescription information? |

## Search for services

| **Use Case Name** | **Search for Services** |
|---|---|
| **Author** | Waynelle |
| **Priority** | Medium |
| **Source** | Goal Model 2 “Make AHP Services Easily Accessible and Efficient” and Elicitation Question: 1, 47 |

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|---|---|
| **Description** | This use case represents a UCI Affiliate using the search feature to find services and learn details about what they offer. |
| **Goal(s)** | It accomplishes the goal of making AHP more efficient because it gives fast precise information by highlighting sections of AHP page that have the answer they are looking for. |
| **Primary Actors** | UCI Affiliates (UCI Students and Staff), The public |
| **Secondary Actors** | UCI Center Staff |
| **Precondition** | The actor must be successfully able to find the search bar. |
| **Success End Condition** | The actor is able to successfully search a phrase and articles that contain the phrase and have the information, are displayed or no results are displayed. |
| **Failure End Condition** | The actor is not able to successfully search for a phrase, due to technical difficulties. |
| **Trigger** | The actor browsing the AHP website selects the search bar. |
| **Basic (Success) Flow** | 1. The actor browsing the AHP website selects the search bar.<br>2. They type in a phrase<br>3. They results of articles that contain the phrase are displayed in a list |
| **Alternative Flow** | N/A |
| **Exception Flow** | 3a. The phrase can not be found so ‘no results’ is displayed. |
| **Relationship to other use cases** | It has a generalized relationship with other use cases. |

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| **Supplementary Information** | The administration has the final voice on how the search bar operates. |
| **Open Issues** | ● It's unclear if no results is the phrase that would be displayed if they can not find the phrase they are searching for.<br>● It's unclear if the search function will keep old searches stored. |

## Updating students' information after appointment

| **Use Case Name** | **Updating students' information after appointment** |
|---|---|
| **Author** | Layth |
| **Priority** | High |
| **Source** | Elicitation Question 19 |
| **Description** | This use case describes how health center staff can update students' information in the system after an appointment. This could include notes from the appointment, changes in health status, medication prescribed, or recommendations for follow-up. |
| **Goal(s)** | To ensure the student's health record is updated with the most recent and accurate information following an appointment. |
| **Primary Actors** | Care Providers |
| **Secondary Actors** | UCI Students |
| **Precondition** | The health center staff member has had an appointment with the student and has relevant information to add or update. |
| **Success End Condition** | The student's information is successfully updated in the system and can be accessed by authorized users when needed. |

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| **Failure End Condition** | The student's information is not updated due to system error or other issues. |
| **Trigger** | The completion of a student's appointment triggers this use case. |
| **Basic (Success) Flow** | 1. The health center staff member logs into the AHP after an appointment.<br>2. They navigate to the student's profile.<br>3. They select the option to update the student's information.<br>4. They enter the new information or updates.<br>5. They save the changes.<br>6. The system confirms the successful update.<br>7. The student receives a notification that their information has been updated. |
| **Alternative Flow** | 1. The health center staff member logs into the AHP after an appointment.<br>2. They navigate to the student's profile.<br>3. They select the option to update the student's information.<br>4. They enter the new information or updates.<br>5. The system times out before they can save the changes.<br>6. The health center staff member logs back in and repeats the process, successfully saving the changes this time. |
| **Exception Flow** | 1. The health center staff member logs into the AHP after an appointment.<br>2. They navigate to the student's profile.<br>3. They select the option to update the student's information.<br>4. They enter the new information or updates.<br>5. They attempt to save the changes, but an error message appears. |

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| | 6. The staff member reports the issue to IT support. |
| **Relationship to other use cases** | ● This use case could be related to other use cases such as "Scheduling an Appointment," "Canceling an Appointment," or "Managing Student Health Records." |
| **Supplementary Information** | ● This use case assumes that the staff member has the necessary access rights to update student information and that there are safeguards in place to protect the privacy and integrity of student health information. |
| **Open Issues** | ● What are the access rights and permissions for different health center staff roles in updating student information?<br>● How are errors or technical issues in updating student information handled and reported?<br>● How is student consent obtained for updating and sharing health information?<br>● What are the data security measures in place to protect updated student information? |

## Send reminders

| **Use Case Name** | **Send reminders** |
|---|---|
| **Author** | Waynelle |
| **Priority** | High |
| **Source** | Goal Model 5 “Maintain availability” and Elicitation Questions: 33, 25 |
| **Description** | This use case allows UCI Care providers to send reminders to UCI Affiliates when they book an appointment. |
| **Goal(s)** | It accomplishes the goal of reducing the wait time for AHP appointments, because the more people who get the reminder and |

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| | subsequently don't miss their appointment means that less people have to make repeat appointments and fill up the appointment database. |
| **Primary Actors** | UCI Affiliates (Students and Staff), UCI Center staff |
| **Secondary Actors** | Appointment database |
| **Precondition** | The UCI Affiliate made an appointment. |
| **Success End Condition** | The UCI Center staff sends reminders and the UCI Affiliate gets the two emails in a timely manner reminding them of their upcoming appointment. |
| **Failure End Condition** | The UCI Center staff does not send a reminder and so the UCI Affiliate does not get two reminder emails. |
| **Trigger** | The UCI Center staff chooses to send the reminder. |
| **Basic (Success) Flow** | 1. The UCI Affiliate made an appointment.<br>2. The UCI Center is alerted that an appointment has been made<br>3. The UCI Center staff chooses to send the reminder.<br>4. The UCI Affiliate over the course of time receives email reminders about their appointment. |
| **Alternative Flow** | N/A |
| **Exception Flow** | 3a. The UCI Center staff is not able to send the reminder, due to technical difficulties or availability issues.<br>4a. The UCI Affiliate does not receive any email reminders |
| **Relationship to other use cases** | This use case has an include relationship with use case "Make appointments" |
| **Supplementary Information** | 1. Before the reminders are sent a Google calendar event is sent to the person who made the interview for the day of the appointment.<br>2. Email reminders are also sent when referrals take place. |

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|---|---|
| **Open Issues** | 1. How spaced out should the reminders be?<br>2. When they receive a reminder about their appointment can they cancel it from there? or be provided a way to cancel their appointment? |

## Feedback and rating

| Use Case Name | Feedback and rating |
|---|---|
| **Author** | Layth |
| **Priority** | Medium |
| **Source** | Elicitation Questions 7,3,21 |
| **Description** | This use case describes the process by which a student provides feedback and rates services received through the AHP. |
| **Goal(s)** | To capture student feedback and ratings in order to improve service quality and effectiveness. |
| **Primary Actors** | UCI Student |
| **Secondary Actors** | Database, Care Providers |
| **Precondition** | The student has used a service through the AHP. |
| **Success End Condition** | Feedback and rating are successfully submitted and recorded in the system. |
| **Failure End Condition** | Feedback and rating cannot be submitted due to system error or incomplete form submission. |
| **Trigger** | The student completes a service through the AHP. |

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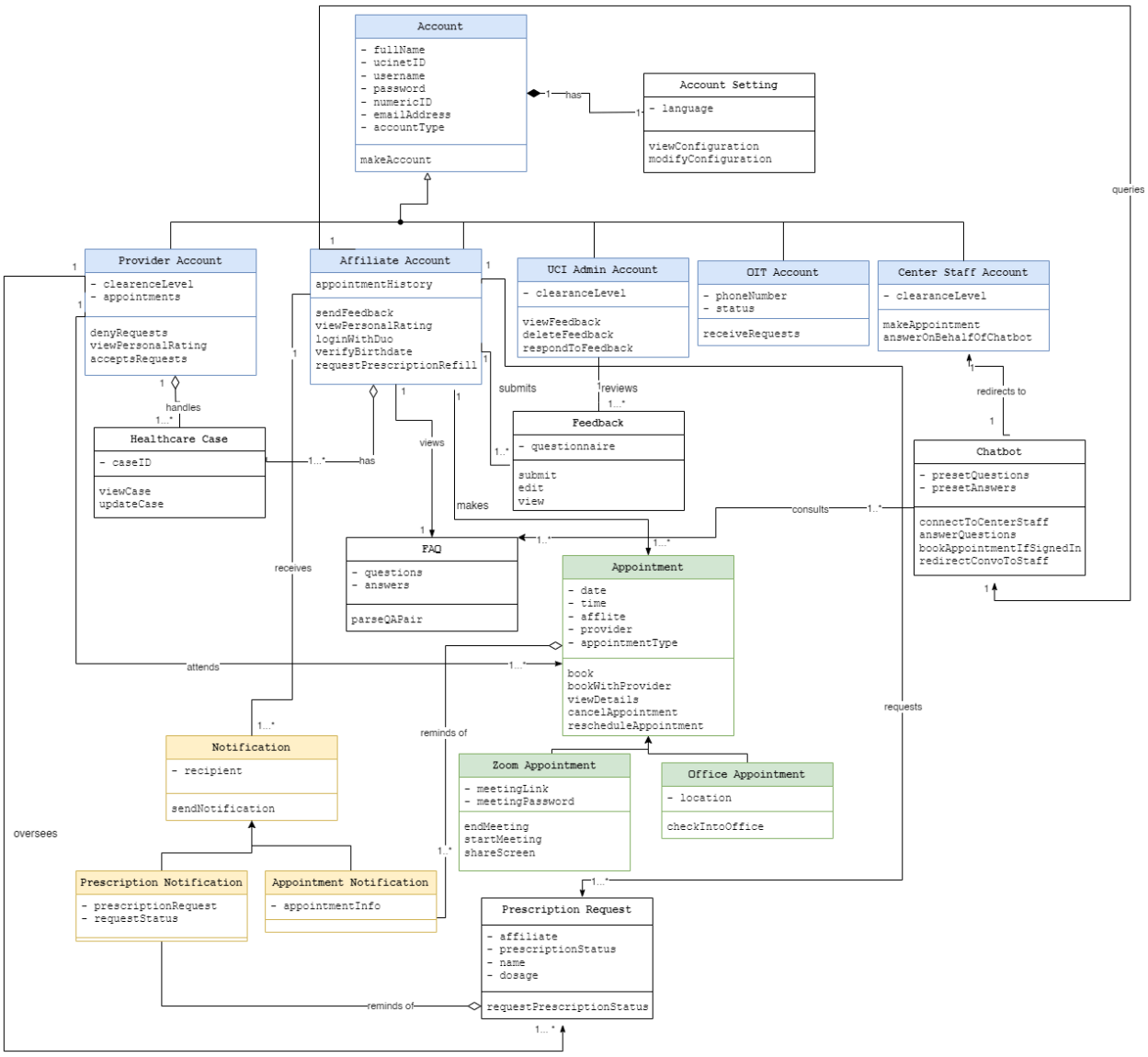
|---|---|
| **Basic (Success) Flow** | 1. The system sends an email to the student with a link to the feedback and rating form after a service is completed.<br>2. The student clicks on the link and is directed to the form.<br>3. The student fills out the form and submits it. |
| **Alternative Flow** | 1. The student navigates to their service history on the AHP.<br>2. The student selects a service and clicks on the option to provide feedback and rating.<br>3. The student fills out the form and submits it. |
| **Exception Flow** | 1. In case of system error, the student receives an error message and is asked to try again later.<br>2. If the form is incomplete, the system prompts the student to fill in all required fields before submission. |
| **Relationship to other use cases** | 1. This use case can be associated with all other use cases involving service provision through the AHP, as feedback can be given for any of these services.<br>2. This use case may feed into a use case for the system administrator or health center staff to review and analyze feedback. |
| **Supplementary Information** | ● Feedback and rating can include various aspects such as the quality of service, user experience, and effectiveness of the AHP.<br>● Feedback can be qualitative (comments) and quantitative (ratings). |
| **Open Issues** | ● How to ensure privacy and anonymity of feedback?<br>● How to motivate students to provide feedback?<br>● What specific elements need to be included in the feedback and rating form?<br>● How to handle inappropriate or abusive feedback? |

## Change language

| Use Case Name | Change language |
|---|---|
| **Author** | Waynelle |
| **Priority** | Medium |
| **Source** | Goal Model 2 “Make AHP Services Easily Accessible and Efficient” and Elicitation Question 3 |
| **Description** | This use case allows actors to change the language that the AHP website is displayed in. |
| **Goal(s)** | This accomplished the goal that AHP should be easily accessible, by allowing people who speak a diverse range of languages to access the website. |
| **Primary Actors** | UCI Affiliates (UCI Students and Staff) |
| **Secondary Actors** | N/A |
| **Precondition** | The AHP website was in a language that the actor did not speak or feel comfortable using. |
| **Success End Condition** | The actor is able to change the language the AHP website is displayed in using the change language feature and the translated text is correct. |
| **Failure End Condition** | The actor tries to change languages, but the text only partially translates the AHP website or incorrectly translates text. |
| **Trigger** | The actor chooses to change the language of the AHP website. |
| **Basic (Success) Flow** | 1. The UCI Affiliates access the AHP website<br>2. The system presents the text of the website in a language the affiliate does not feel comfortable using |

| | |
|---|---|
| | 3. The UCI Affiliates selects to change the language of the AHP website<br>4. The translated web page is displayed with correctly translated text and all the content on the webpage in translated. |
| **Alternative Flow** | N/A |
| **Exception Flow** | 4a. The translated web page is incorrectly translated and some of the content on the web page is not translated. |
| **Relationship to other use cases** | The use case has a general relationship with other use cases. |
| **Supplementary Information** | The translations come from integrating Google translate. |
| **Open Issues** | Will the same range of languages and standards apply to subtitles on videos? |

# Homework 5: Class Diagram




# Class Diagram Description:

## Feedback

After a student completes their visit at one of the care providers, they will be able to fill out a feedback survey through the AHP portal. Once the appointment is concluded, AHP will request students to send their feedback to a form. Feedback's operations consist of "submit", "edit", and "view". Its parameters include the "questionnaire" which is

the questions which may have been specifically selected by AHP to gain insight on how the appointment went.
Source:

- Field Notes - Question 7, 65, 71
- Goal Model: Gather meaningful feedback about issues

## Chatbot

The chatbot is a feature on the Anteater Health Portal that allows the user to ask it questions to help find the center that best fits their situation. They are able to book an appointment through the chat program only if they are signed in. It provides a multiple-choice selection for students to select from, which can be parsed from the FAQ. Operations include sending a response back to the student based on the received query, suggesting the best-fit health center based on the query received from the student, and booking appointments for students who are signed in. When the chatbot cannot answer a query, the question is redirected to Center Staff who can answer.

Source:

- Field Notes - Questions 38, 39, 42
- Use Case Diagram - Guide through ChatBot
- Goal Models - Reduce Workload of Staff at the Center

## FAQ

The FAQ has two attributes: “questions” and “answers”. These are needed to set up the FAQ to help UCI Affiliates navigate through the AHP page and appointment process. The operation “parseQAPair” can be done by either a visitor of the website or by the chatbot and is defined as the action of reading the question and learning its answer.

Source:

- Field Notes - Questions 49, 80
- Goal Models - Display FAQ, Reduce Questions
- User Scenario 1

## Appointment

When a student finds the center they want to book an “Appointment” with, they have to sign in to AHP though Duo. Attributes include “affiliate”: the student’s account, the “date”

and “time” of the meeting, and “provider”: the care provider’s account. Operations include “book” and “bookWithProvider”: booking without or with a preferred care provider, respectively. Appointments also carry operations to “viewDetails” and “cancelAppointment” or “rescheduleAppointment”.

Source:

- Field Notes - Questions 28, 30, 35, 36, 37, 51
- Use Case Diagram - Make An Appointment
- Goal Models - Improve User Experience When Booking Appointment

## Zoom Appointment

A UCI Affiliate can choose to conduct a meeting on the internet with a “Zoom Appointment”. In addition to sharing all operations and properties with the “Appointment” superclass, “Zoom Appointment” objects have a “meetingLink” property. To join a Zoom meeting, the student needs to enter its “meetingPassword”. It provides the service “startMeeting”, “endMeeting”, and “shareScreen” when one is conducting a zoom appointment.

Source:

- Field Notes - Questions 31, 67
- Case Study - Students and staff must be able to conduct virtual Zoom appointments through the portal.

## Office Appointment

A UCI Affiliate can make an “Office Appointment”, which inherits from “Appointment”, meaning it also inherits all the operations and attributes of “Appointment”. “Office Appointment” needs to know the “location” of the building the center is located in and the care provider's office since appointments can be made at many places, so that is an additional attribute. Once an affiliate makes it to the office for their appointment, they can perform the “checkIntoOffice” operation.

Source:

- Case Study - Students must be able to schedule in-person and virtual appointments through the portal.

## Account

The “Account” class is the parent class to the “Provider Account”, “OIT Account”, “UCI Admin Account”, “Affiliate Account”, and “Center Staff Account”. It holds all of the properties that can be shared by the subclasses like “username”, “password”, “full name”, “ucinetID”, and “numeric id”. All the inherited classes can use the operation “makeAccount”. Accounts have a one-to-one relationship with “Account Settings” objects.

Source:

- Field Notes - Question 51
- Use Case Diagram - Register

## Affiliate Account

The “Affiliate Account” inherits from the “Account” parent class. It has all the operations and attributes that are available to Account. Affiliates build up their “appointmentHistory” as they schedule and then fulfill their appointments. Operations include “sendFeedback”, “viewPersonalRating”, “loginWithDuo”, and “verifyBirthdate”.

Source:

- Field Notes - Question 51
- Use Case Diagram - Register

## Center Staff Account

The “Center Staff Account” inherits from the “Account” parent class and is intended for employees at the health centers, but do not work directly as care providers. The attribute “clearanceLevel” specifies what department they oversee and whether they can see students’ medical info. In addition to the properties and operations which are shared with all accounts, center staff can make appointments for UCI Affiliates, hence the “makeAppointment” operation.

Source:

- Field Notes - Question 60
- Use Case Diagram - Register
- Goal Model - Register

## UCI Admin Account

The “UCI Admin Account” inherits from the “Account” parent class. It has all the operations and attributes that are available to Account. The attribute “clearanceLevel” specifies what department they oversee and whether they can see medical info or just regular feedback. The operation “viewFeedback” allows them to see the rating that has been given to care providers by UCI Affiliates. If there is a comment which an admin needs to clarify or correct, they can send a message to the person who made the review via the “respondToFeedback” operation. They also have the ability to delete reviews that are false about a care provider, so they have the operation “deleteFeedback”.

Source:

- Field Notes - Question 23, 71, 72, 101
- Use Case Diagram - Register
- Goal Model - Gather meaningful feedback about issues

## OIT Account

The “OIT Account” class is a subclass that inherits from the base class “Account”. It has additional functionality specific to admins employed by the OIT to maintain AHP and resolve potential service problems. Properties include “phoneNumber” and “status”: whether the member is online. Operations include “receiveFeedback”: reviewing completed feedback forms from affiliates and providers.

Source:

- Field Notes - Question 69, 103
- Use Case Diagram - Feedback and rating
- Goal Models - Resolve Service Problems

## Provider Account

The “ProviderAccount” class is a subclass that inherits from the base class “Account”. It has additional functionality specific to healthcare providers. Properties include “appointments”: a provider’s scheduled appointments and “clearenceLevel”: access privileges within AHP. The class’s methods include accepting or declining appointment requests, as well as reviewing student-provided feedback.

Source:

- Field Notes - Question 72
- Use Case Diagram - Feedback and rating
- Goal Models - Resolve Service Problems

## Account Settings

The “AccountSettings” class represents a user's account settings in the AHP portal, which provides a way for them to customize their experience within the AHP system. So far, it has one property “language”, which stores the user's preferred language. Operations include “modifyConfig” and “viewConfig”, which respectively modify and retrieve account configuration as well as updating account information such as name, email address, etc. Because “Account Settings” objects are bound per account, the diagram shows a one-to-one relationship with the “Account” class. It cannot exist without a connected affiliate so this class has a composition relationship with “Account”.

Source:

- Field Notes - Questions 3, 9, 29
- Use Case Diagram - Register
- Goal Model: Make AHP Services Easily Accessible and Efficient

## Notification

The “Notification” class represents a notification in the AHP system. The only attribute this class contains is “email”. This superclass is responsible for the “sendNotification” operation to remind students of appointments, prescriptions, system updates, or important announcements.

Source:

- Field Notes - Questions 25, 45
- Use Case Diagram - Reschedule appointment, Join waitlist for appointments, Request prescription refill, Updating students' information after appointment, Send reminders
- Goal Models - Reduce wait time for new appointments, Resolve service problems

## Appointment Notification

The “Appointment Notification” class inherits from the “Notification” class. As well as the properties it inherits from “Notification”, it adds the property “appointmentInfo”, which describes the appointment the email is to remind of. The appointInfo is needed to fill out the details of the appointment when they send the notification to the UCIAfflicate.

Source:

- Field Notes - Questions 25, 45
- Use Case Diagram - Reschedule appointment, Join waitlist for appointments, Request prescription refill, Updating students' information after appointment, Send reminders
- Goal Models - Reduce wait time for new appointments, Resolve service problems

## Prescription Notification

The “Prescription Notification” class inherits from the “Notification” class. It adds the property “prescriptionRequest” and “requestStatus” to the properties it inherits from “Notification”. It needs to know what prescription request was made and the details surrounding that in order to populate the email notification. And it needs to know if the request was completed or is in progress or was just made. This will help determine if the notification is to show confirmation that the request was received or to alert them that the prescription has been filled.
Source:

- Field Notes - Questions 95
- Use Case Diagram - Request prescription refill

## Healthcare Case

The “HealthcareCase” class represents a healthcare case within the AHP system. It has a property called “caseID”, which uniquely identifies the case. The “viewCase” method allows users to access and review the details of a specific healthcare case, providing relevant information such as patient history, diagnosis, and treatment plans. The “updateCase” method enables authorized users, such as healthcare providers or administrators, to modify the information and status of the case as needed, ensuring accurate and up-to-date records. It can exist with or without a connected affiliate so this class has an aggregation relationship with “Affiliate Account”.

Source:

- Field Notes - Question 19
- Use Case Diagram - Updating students' information after appointment

## Prescription Request

When care providers fill out prescriptions for students, AHP uses the “Prescription Request” to keep track of medicine pickups. Attributes include “affiliate”: the student’s affiliated account, “prescriptionStatus”: whether the prescription is ready, “name”: the name of the prescribed medicine, and “dosage”: the dosage of that medication. Operations include care provider’s approval, request approval, care provider to create prescription, and manage prescription. Prescriptions are made per-affiliate, hence the aggregate relationship with “Affiliate Account”.

Source:

- Field Notes - Questions 12, 14, 95
- Use Case Diagram - Request Prescription