

advocatEd



**an educational
advocacy tool
for special
families**

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Background

Context

According to the National Center for Education Statistics, 6.7 million children in public schools receive special education services¹. Many of these children require both public and private resources, which means their parents had to learn how to navigate both the medical and school systems to find services and supports. These are often lengthy processes involving doctors, therapists, teachers, and school administrators.

The process by which parents secure school services can vary but generally it involves an evaluation, which qualifies the child for services. A meeting is then scheduled with school officials to determine which services will best suit the child's needs. Once an agreement is reached a service plan is written.

There are a few types of service plans but the most common are an Individualized Education Program (IEP) and a Section 504 plan^{1,2}. I will refer to service plans, including IEPs and 504s, throughout this report.

Problem Overview

Public schools are required by law to offer a specialized education and related services, however, the way schools meet this obligation varies widely. Private schools may not be required to provide any services, but many choose to do so anyway. The result is a lot of confusion over what is actually available and realistically attainable.

Currently there is **no easy way to find detailed information on what special needs services are offered at individual schools.**

Project Overview

Just as no two children are just alike, programs and classrooms serving children with special needs vary radically depending on the philosophy of the educators, the program budget, and the mix of children served. And because of this complexity, it sometimes takes a special kind of persistence for parents to uncover what is offered in their area.³

Objective

Provide an informational resource that details what services and supports are offered at local schools for children with special needs.

Target Audience

Parents (or guardians) of children with special needs who are gathering information in preparation for service plan meetings, or evaluating service options at various schools.

Target Solution

Design an online database site where parents can search and see what services and supports other children with similar needs receive. With this information they will be able to better prepare for service plan meetings and assess which schools would best meet their needs. In short it will **help parents better advocate for their child's educational needs**. Schools would also benefit from parents having a clearer picture of what services are offered, as they often deal with parents who have unrealistic expectations or are misinformed.

Solution Overview

Existing Solutions

While there is helpful information online about *how* to advocate the process, there is very little information about *what* exactly to advocate for. When I did a competitive analysis of existing solutions I found that parents currently have these options to find detailed school services information:

- Ask an individual they know is informed.
- Ask their school/school district (often requires an evaluation).
- Join an online group (may not have local information).
- Join an off-line group (can be time consuming).
- Hire a special education advocate (costs money).

New Solution: advocatEd

AdvocatEd is an app that informs users about what school services are available at individual schools by making service plan information searchable. Once parents have made a service plan for their own child, they can share the pertinent information from it, which then becomes searchable by other users. Unlike current options for finding this information, advocatEd allows users to get the details quickly, easily and anonymously.

Design Description

AdvocatEd is an iOS app prototype that allows parents (or guardians) to search and share details about what special needs services children receive at school. It's intended to be used in preparation for and during an IEP or 504 meeting.

Specifically, my app allows parents to anonymously post the information from their child's Individualized Education Program (IEP) or Section 504 plan. This information would be tagged with the school name, special need/disability category, date, plan type, and grade. It then goes into a database which is searchable by other users. Thus anyone could research the programs, services, supplemental aids, and goals available to students by school or by keyword, and filter the results accordingly.

The key functions in my prototype are:

- Search
- Post
- Save
- Notes

Other features that are included but not demonstrated in the prototype are help buttons, my account profile, reporting an inaccurate or offensive post, following a school, and 3rd-party resources about IEPs and 504s.

Functionalities

Search

This app is a database site full of service plans. Users can search these plans by entering a location, school name, and/or disability category or keyword. When the user starts typing they will see a clickable dropdown menu of suggested search terms. The results of a search are a list of schools, a list of service plans and a map of the returned school locations. Users can also filter the search results by the following categories: Location, disability category, date of service plan, grade, and plan type.

Post

Once a parent has a service plan they can share it via the post function. The post function is an online form with text boxes and buttons. I used buttons whenever possible to make it easier to complete, but most of the service plan document is text so text box inputs were necessary. I also added a Scan function so users could scan parts of their plan document instead of typing it all out. They could also use voice-to-text if their phone supports it. Since service plans vary greatly by area and type I kept the section headings general and optional. For example, 504 plans generally don't have a Goals section, so users could skip that section if it didn't apply to them. If a user did have information for every category, but felt it was too identifying they could modify the text or skip that section. I used category types, when possible, for the same reason. Posting a specific grade might be too identifying so I grouped them into elementary, middle and high school categories.

Functionalities

Save

When a user sees a service plan post or a school they want to save they can hit the star button and it will go into their Saved folder, accessed by the tab bar at the bottom of the screen. On the Saved page items users can see all items, or items by type. To delete something from the saved folder, users would simply un-star it.

Notes

Notes is another page accessed by a button on the bottom tab bar. It is a simple version of the Apple Notes app, but is where users can make notes specific to their research, as well as copy and paste links to service plans or schools. If parents needed to show evidence in a meeting for a service request, the linked information in a note could be shown with one-click.

Functions Not included

- Reviewing/rating quality of services: I felt this would antagonize school officials, and would make my initial prototype overly-complex.
- Child profiles: Eventually I'd like to add the ability to organize saved items and notes into separate child profiles, for those with 2+ children eligible for services.
- Goal tracking: This would be specific to IEPs. It would be useful to keep all IEP information in one place and set alerts for important dates, but it was beyond the scope of this project.

Techniques

Sketching Techniques

First I practiced drawing per the instructions in our class readings. Next I brainstormed all the ways people currently get information about service plans and sketched the existing solutions, as well as a new online solution. I then made storyboards for each scenario. I have an art desk at home so I used that along with standard drawing tools (ruler, pencil, eraser, pen, colored pencils). I found it quite difficult to make many different storyboards because I drew most of them based on existing solutions and those are similar to each other. If I were doing this again I would try to think more outside the box and come up with several alternative new solutions. I'd also like to try a sketching tool kit instead of hand-drawing everything.

Design Techniques

I used Adobe XD to make my low-fi and mid-fi prototypes. Due to my familiarity with other Adobe products I found it to be fairly easy to learn quickly, but there were some software limitations that surprised me. For example I don't think XD currently allows users to crop photos. The prototyping functions were also more limited than I expected. I wanted to be able to swipe left/right in the prototype, but it didn't appear to allow that, at least in a way that looked real. I found iOS guidelines and material icons online, so that saved time. However, most of the icons I designed myself. I also googled a lot to find some best practices for things like text box heights and button sizes.

Design Process

Personas

I surveyed 100+ potential users (parents of children with special needs and Special Ed Educators) using an online form. I questioned them about their current advocacy-related frustrations and the IEP/504 process as well as their tech skills and habits. With that data I wrote five personas and use case scenarios for each. During this process I learned that most of my users felt unprepared for their first service plan meeting, which eventually led me to change the design from a website to an app, so that it could be used during the meeting.

Storymapping

Using the use case scenarios for my five personas I mapped each user's journey through my solution and combined them into one overall flow. Originally I had planned only to allow users to search by location. After considering all the things my personas would want to search for I did a QOC analysis on the search function, using a methodology in our readings⁴. I concluded that users should be able to search by keyword and see both schools and service plans, as this would offer the most flexibility and speed. While it was more difficult from a design perspective it greatly added to the usability of the app.

Paper Prototype

After testing my paper prototype I found the layout and flow were good, but the icons were not self-explanatory. I changed all of them in the next iteration. I also had to change the labels I used for service plans because it was unclear what information was being posted.

Design Process

Low-fi Prototype

After testing my low-fi prototype I changed some icons again, particularly the icon for service plans and posts. I also realized I needed to look up iOS guidelines for fonts and icon sizes because mine were too large. In my paper prototype I had planned to use swiping to save and unsave items. But I realized when designing this on a screen that swiping didn't look good because the moving text area was so large. In the next iteration I put a save/unsave button at the bottom of service plan, along with icons for linking and reporting.

Mid-fi prototype

In this prototype I added a Goals section to service plan posts, due to user feedback. Now instead of swiping to save a user swipes to see "page 2" of a particular plan. In this way lengthy service plan information won't take up more room on the screen. If a plan doesn't have goals, then that page won't exist.

I also combined two pages: the table & list views of schools. The table view originally combined school information with acronyms for what types of service plans were posted for that school. I moved this information to the list view, because I don't think it's long enough to warrant its own page. I also dropped the acronyms and typed out the full disability category. I would like to test color coded acronyms for disability categories in the future.

I added the ability to copy links to plans and schools, for use in the notes section (or to email). This is not yet functional but I also added a "follow school" icon on school pages that would create a section on the user's home screen with updates from that particular school.

Reflections

Design Philosophy

As a designer I use a user-centered philosophy⁵ with a clean, minimalistic look. This means I kept a lot of white space and used small consistent-looking icons. There is not a lot of color because I didn't want to distract from the "meat" of the app (the service plan text). I also tried to make the user flow self-explanatory and reduce the number of clicks needed, unless an extra gesture was necessary to keep the UI clean.

Values

There were 3 important values that I kept in mind throughout this project: Transparency, Accuracy and Anonymity.

- **Transparency:** Currently service plan information is not public information, even with identifying information removed. I believe that transparency improves accountability, and that having this information would help parents make more informed decisions for their children.
- **Accuracy** is also important to me so I added a way for schools (or other users) to report an inaccurate post and have it removed.
- **Anonymity:** Due to discrimination against persons with disabilities, including against children, it was important to me that all this information be as anonymous as possible. In fact anonymity was an impetus for me doing this project, since current solutions so often require a parent to reveal their child's condition in order to get information. Thus I wanted the service plan posts to remove all names and specific grades before posting. This is also why I didn't show usernames or account bitmojis next to posts.

Impact of Design

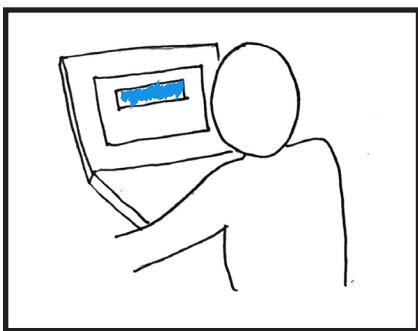
If this app ever became a reality I believe it would be a game-changer for the special needs community because of the transparency it would shed on school programs and services. Parents would no longer have to guess what other children are receiving, nor would they have to “out” themselves to ask an expert. It could greatly reduce the time and effort it takes to prepare for a service plan meeting, which would alleviate a lot of frustration.

This transparency, however, may also have negative effects. It would make school shopping easier, which is nice for parents. But that could exacerbate funding problems for schools, since special needs services are often costly and underfunded.

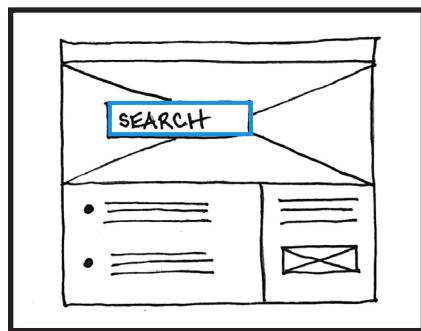
The target audience for my app is parents, but if this app existed I think it would also be a useful tool for researchers and public policy makers. Since it's database-driven it could have an API and data miners could glean all sorts of insights from the app's service plan data, especially if it existed long term.

Appendix

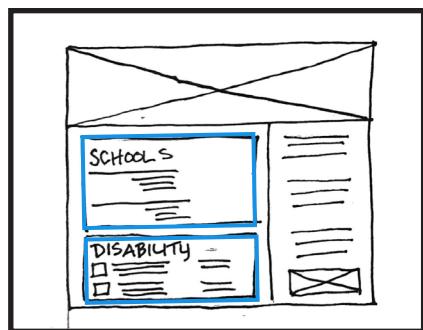
Sketches



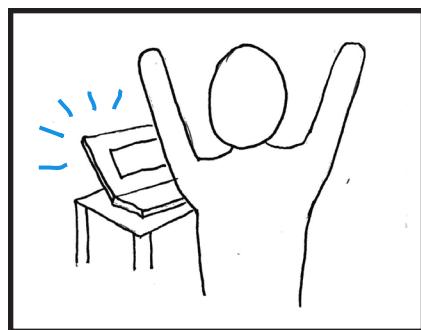
Parent goes online to research special needs services, in preparation for their child's upcoming IEP meeting.



Parent finds advocatEd and sees they can search for their child's diagnosis and school.



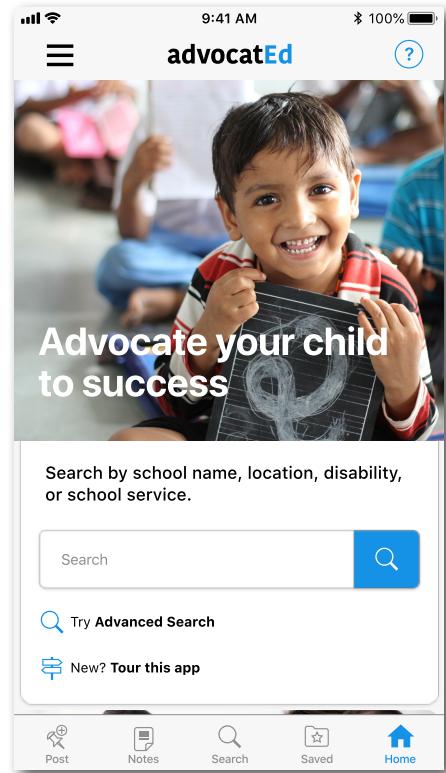
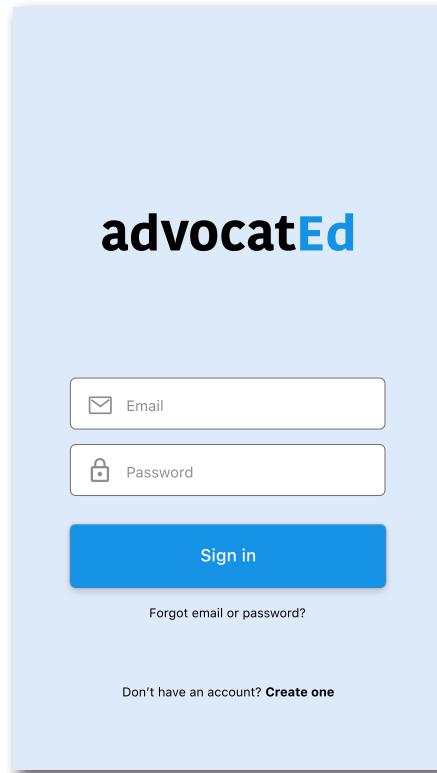
Parent navigates to their school's page and reads about the services and programs available there.



Parent is excited to have found such useful information at home in minutes.

Appendix

Welcome Screens



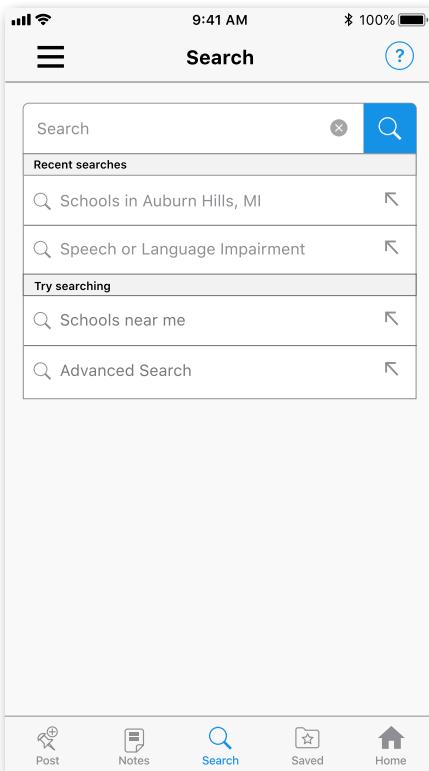
Splash Page.

Users log in or create a new account so they can save and post information.

Scrolling Home page with search feature and some relevant resource articles.

Appendix

Search & Search Results (1)



The search results for "Autism near me" are shown. The top navigation bar includes a back arrow, search bar, and cancel button. Below are tabs for All, Schools, Service Plans, Map, and Filter. The Schools tab is selected, displaying three entries: Havel Elementary (IEP 504), Huron Elementary (IEP 504), and Stevenson High School (IEP 504). The Service Plans tab is also visible, listing Autism, Autism, Specific Learning Disability, and Autism, Other Health Impaired. Navigation icons at the bottom include Post, Notes, Search (highlighted in blue), Saved, and Home.

A detailed view of the first service plan result for "Autism". The top navigation bar shows the search term "Autism near me". The Service Plans tab is selected. The result for "Autism" at Havel Elementary School (IEP Gr 1-5) is displayed, including a description of special education services, programs like OT and Adapted PE, and a star rating. A "More" button is at the bottom right. Navigation icons at the bottom include Post, Notes, Search (highlighted in blue), Saved, and Home.

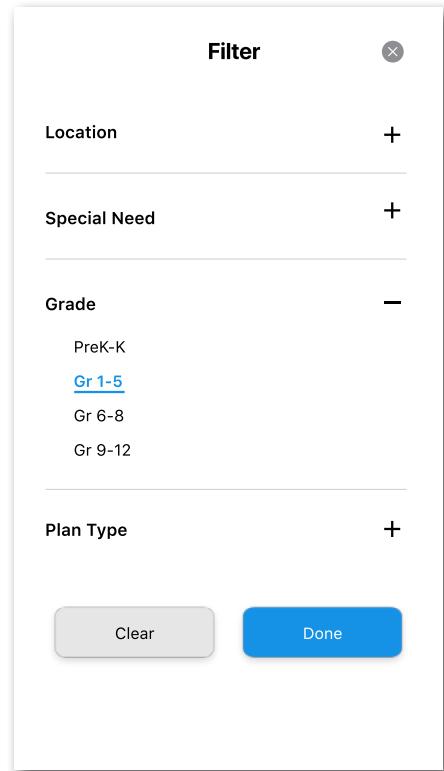
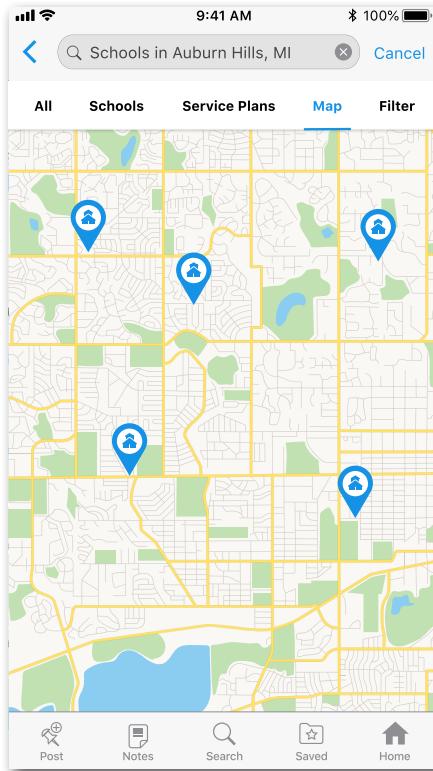
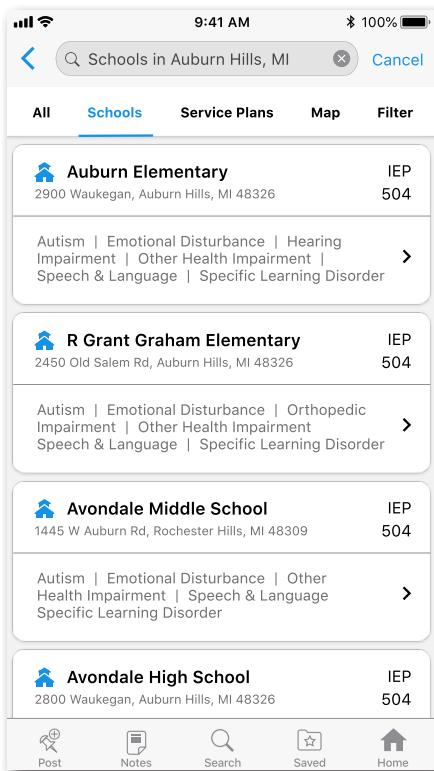
Search Page with suggestions and search history.

All search results with navigation to view other search result categories.

Users can scroll infinitely through the service plan results of their search.

Appendix

Search & Search Results (2)



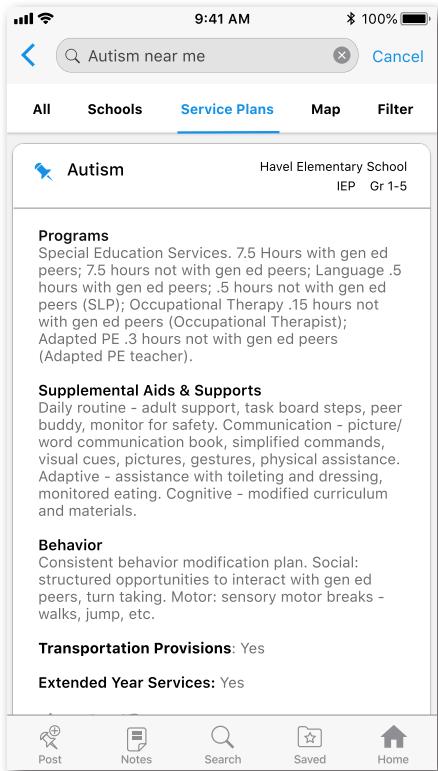
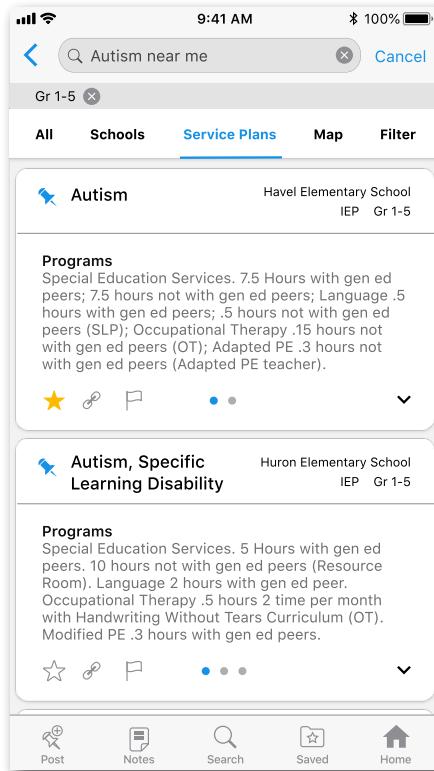
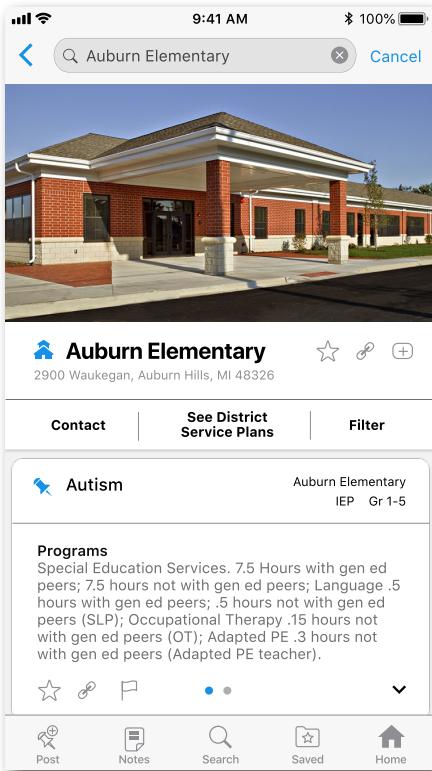
Example search results of schools.

Map view.
Click a school to see all service plans at that location.

Users can filter search results.

Appendix

Search & Search Results (3)



Example school page with service plans for that school.

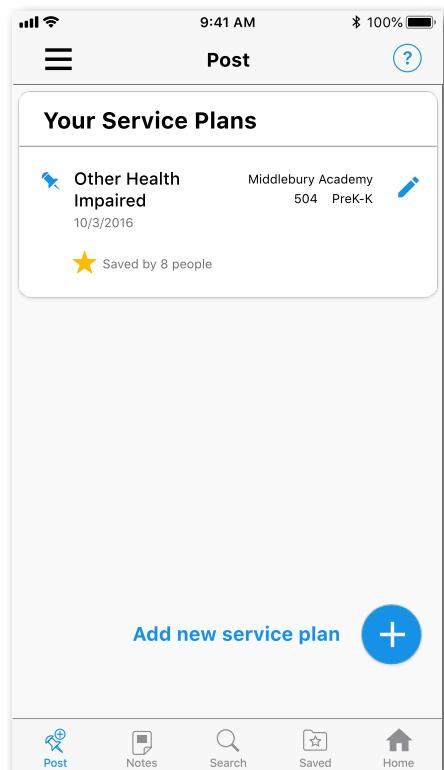
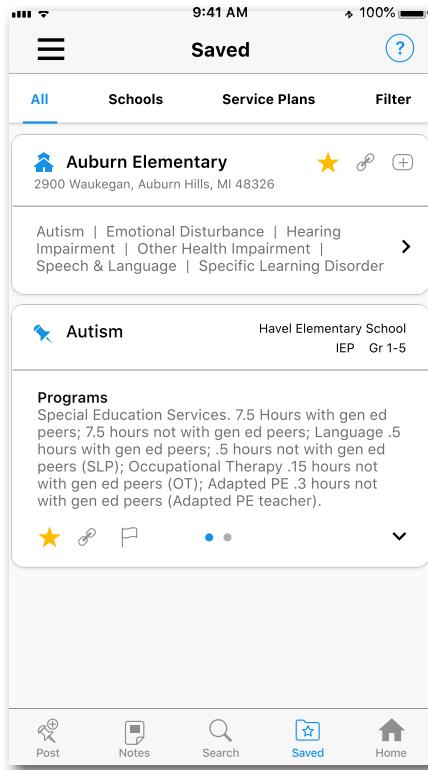
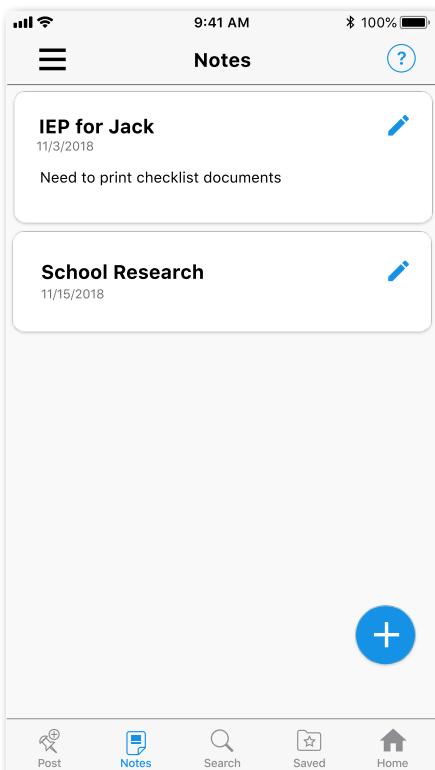
Users can save a school, copy a link to the page, or follow it to see updates about it in their home feed.

Example service plan posts. Users can save these posts, copy a link to them, or report them if they're inappropriate.

Users can click to see the full plan text. If there are multiple pages they can swipe to read more.

Appendix

Notes, Saved & Post pages



Users can write notes and paste links of schools, service plans or other files.

Saved schools and service plans are stored here. Users can remove items from this section by un-starring them.

Users see their previous posts of service plans and start a new one here.

Appendix

References

- ¹National Center for Education Statistics (April 2018). “Children and Youth With Disabilities.” https://nces.ed.gov/programs/coe/indicator_cgg.asp
- ²The Advocacy Institute (April 2015). “Analysis Finds Students with Disabilities Served under Section 504 Overwhelmingly White, Disproportionately Male.” <https://www.advocacyinstitute.org/resources/504analysisCRDC2012.shtml>
- ³Dwight, Valle (2015, April 30). Great Schools. “Special needs programs and schools: a primer.” <https://www.greatschools.org/gk/articles/special-education-special-needs-learning-disabilities/>
- ⁴MacLean, A., Young, R. M., Bellotti, V. M. E., & Moran, T. P. (1991). “Questions, options, and criteria: Elements of design space analysis.” *Human-Computer Interaction*, 6 (3-4), 201-220.
- ⁵Saffer, Dan. (2010). “Designing for interaction: Creating innovative applications and devices (2nd ed.)”. Berkeley, CA: New Riders.