

To be ABLE:

Empowering B.C. Disability Infrastructure:

Initiative:

Research pain points within the BCDisability system to determine what solutions can elevate these pains. Ideas included an app but other ideas can be considered (systematic changes, a community project, social media campaigns, etc). This desire to research the topic came from second-hand witnessing the long, arduous process of acquiring a PWD(persons with disability) designation for those who already struggle with a disability. The process should be easier. And many resources are available but they need help to utilize. Those who have disabilities are a vulnerable population and deserve attention and care to make their lives as easy as possible given the difficulties they are already faced with.

Research Question:

Funding Sources:

Glocal:

<https://glocalfoundation.ca/microgrants>

Deadline: July.31st, 2024

Fill out the interest form:

[CANConnect Diversity Microgrant 2024: Incubator for Youth-Led Civic Engagement Initiatives: Interest Form \(google.com\)](#)

InnovateBC:

<https://innovatebc.ca>

Research for Pain points and resources:

https://www.reddit.com/r/britishcolumbia/comments/1c02y4p/difficulties_with_applying_for_pwd_in_bc/

(resources)

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(pain-point) —> -if someone on PWD works a little bit just to survive in Metro-Vancouver, their PWD benefits are cut, so this possibly pushes those with disabilities into poverty.

Why is this? —>I understand it is to prevent an abuse of the system but maybe the regulations need to be loosened with inflation if the amount given to those with disabilities is not increasing?

Approach:

Organization:

- Use Github to document code for data scrapping Reddit API and data cleaning of Government databases related to disabilities.
- Research Paper to summarize efforts (with Yash's help)

Data:

- Use lecture notes from HSCI 416 for guidance on research methodology construction (making constructs, variables, choosing sampling technique, etc)
- Coding support from GLOCAL & Steven
- =Find evidence-based strategies

Visualization:

- R or Looker
- Storytelling with Data textbook as a reference.
- DAG

Research Methodology:

Chosen Subreddits:

r/disability

r/britishcolumbia

r/vancouver

ChatGPT inquiry:

App Methodology:

To create a healthcare app or streamline the disability application process in British Columbia, you'll need information from various reliable sources. Here are some steps and resources to help you get started:

Understanding the Current Process

1. **Government Websites:**

- **BC Government Services for People with Disabilities:** [BC Services for People with Disabilities](<https://www2.gov.bc.ca/gov/content/family-social-supports/services-for-people-with-disabilities>)
- **Disability Assistance:** [Disability Assistance](<https://www2.gov.bc.ca/gov/content/governments/policies-for-government/bcea-policy-and-procedure-manual/eligibility/disability-assistance>)
- **Ministry of Social Development and Poverty Reduction:** [MSDPR](<https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-s-organizations/ministries/social-development-and-poverty-reduction>)

2. **Service BC Centres:**

- Visiting a local Service BC centre can provide you with direct information and help you understand the nuances of the application process.

Legal and Policy Framework

3. **BC Laws and Regulations:**

- **BC Human Rights Code:** [BC Human Rights Code](http://www.bclaws.ca/civix/document/id/complete/statreg/96210_01)
- **Employment and Assistance for Persons with Disabilities Act:** [EAPD Act](http://www.bclaws.ca/civix/document/id/complete/statreg/02041_01)

Feedback and Community Input

4. **Community Organizations:**

- Connect with organizations that support people with disabilities, such as Disability Alliance BC ([Disability Alliance BC](<http://disabilityalliancebc.org/>)) or Inclusion BC ([Inclusion BC](<https://inclusionbc.org/>)).

5. **Surveys and Interviews:**

- Conduct surveys or interviews with people who have gone through the disability application process to gather firsthand experiences and identify pain points.

Technical and Design Considerations

6. ****App Development Resources:****

- For developing the app, refer to resources such as the BC Developers' Exchange ([BC Developers' Exchange](https://www.bcdevexchange.org/)) for tools and best practices.
- Utilize guidelines from the Government of Canada's Digital Standards ([Canada's Digital Standards](https://www.canada.ca/en/government/system/digital-government/digital-governm ent-innovations/digital-standards.html)).

Financial and Support Programs

7. ****Funding Opportunities:****

- Look into funding programs and grants available for tech innovations and social programs, such as Innovate BC ([Innovate BC](https://innovatebc.ca/)).

Collaborating with Stakeholders

8. ****Partnerships:****

- Consider partnering with healthcare providers, tech companies, and government agencies to create a comprehensive and effective app.

By gathering information from these sources and engaging with the community, you'll be better equipped to create a healthcare app or streamline the disability application process in BC effectively.

To identify pain points in the Persons with Disabilities (PWD) process and the broader disability system in British Columbia, you can use a multi-pronged approach. Here's a detailed plan to help you gather comprehensive insights:

Methodology 2:

Step 1: Research and Data Collection

1. Official Government Resources:

- Review the BC Government's Disability Assistance pages to understand the official process, including eligibility criteria, application steps, and benefits.
 - Look into reports and publications from the Ministry of Social Development and Poverty Reduction.
2. **Online Communities and Forums:**
- Visit forums, social media groups, and websites where individuals discuss their experiences with the disability system in BC. Reddit, Facebook groups, and disability advocacy websites can be valuable sources of firsthand accounts.
3. **Surveys and Interviews:**
- Create a survey targeting individuals who have applied for PWD benefits in BC. Use platforms like Google Forms or SurveyMonkey to collect responses.
 - Conduct interviews with individuals willing to share their experiences in more detail. Consider reaching out to advocacy groups to connect with potential interviewees.
4. **Community Organizations and Advocacy Groups:**
- Contact organizations that support people with disabilities in BC, such as Disability Alliance BC, BC Coalition of People with Disabilities, and local community centers. These organizations can provide insights into common issues faced by their clients.
5. **Healthcare Providers and Social Workers:**
- Reach out to healthcare providers and social workers who assist clients with the PWD application process. They can offer professional insights into the challenges faced by applicants.

Step 2: Identifying Common Pain Points

1. **Application Process:**
- **Complexity:** Identify if the application process is overly complex or difficult to understand.
 - **Documentation:** Determine if gathering required documentation (medical records, forms, etc.) is challenging.
 - **Processing Time:** Assess if the application review and approval times are excessively long.
2. **Eligibility Criteria:**
- **Clarity:** Check if the eligibility criteria are clear and easy to understand.

- **Fairness:** Investigate if certain groups feel unfairly excluded or face additional barriers to proving eligibility.
- 3. **Access to Information:**
 - **Availability:** Determine if information about the PWD process is easily accessible and comprehensive.
 - **Support:** Evaluate the availability and quality of support services (hotlines, help desks, etc.) for applicants.
- 4. **Financial Support and Benefits:**
 - **Adequacy:** Assess if the financial support provided is sufficient to meet the needs of recipients.
 - **Consistency:** Look into any issues with consistent delivery of benefits (delays, errors, etc.).
- 5. **Appeals Process:**
 - **Accessibility:** Check if the process for appealing denied applications is straightforward and accessible.
 - **Transparency:** Determine if the reasons for denial and the steps to appeal are clearly communicated.
- 6. **System Navigation:**
 - **Integration:** Evaluate if the disability system integrates well with other social services and supports.
 - **User Experience:** Gather feedback on the overall user experience when navigating the system, both online and offline.

Step 3: Analyzing and Presenting Your Findings

1. **Organize Data:**
 - Categorize the pain points you've identified into key areas such as application process, eligibility, information access, financial support, appeals, and system navigation.
2. **Quantitative Analysis:**
 - Analyze survey data to identify common trends and statistically significant pain points.
3. **Qualitative Analysis:**
 - Summarize key themes from interviews and open-ended survey responses.
4. **Report Findings:**

- Create a comprehensive report detailing the pain points. Use visuals like charts and infographics to present your data clearly.
- Include quotes and anecdotes from interviews to provide a personal perspective on the issues.

5. Website Content:

- Develop content for your website based on your findings. Create sections that detail each identified pain point and suggest possible solutions or improvements.
- Provide resources and links to support organizations and official information.

Step 4: Gathering Ongoing Feedback

1. Engage with Users:

- Encourage website visitors to share their own experiences and feedback. This will help keep your findings up-to-date and relevant.

2. Collaboration:

- Collaborate with advocacy groups and community organizations to gather ongoing insights and updates on the disability system.

By following this plan, you'll be able to identify the key pain points in the PWD process and the broader disability system in BC, and create a resourceful website to share your findings. If you need help with specific aspects of this process, feel free to ask!

Support Networks:

Inclusion BC:

<https://inclusionbc.org/>

Disability Alliance:

<https://disabilityalliancebc.org/>

Given your background in programming with R, SAS, and C/C++, you have a solid foundation to start developing a healthcare app. Here's how you can leverage your existing knowledge and build upon it to create your app:

Step-by-Step Guide to Developing a Healthcare App

1. Define the App's Scope and Features

- **Objective:** What specific problem will your app solve? For instance, tracking health metrics, facilitating doctor-patient communication, etc.
- **Features:** Make a list of must-have features, such as user authentication, data input, reminders, analytics, and secure messaging.

2. Research and Planning

- **Compliance:** Ensure you understand healthcare regulations like HIPAA if you're in the U.S.
- **Technology Stack:** While you know R, SAS, and C/C++, you might need to learn additional languages or frameworks like JavaScript, Python, or frameworks like React Native for app development.
- **Data Storage:** Plan for secure data storage solutions (e.g., using encrypted databases).

3. Learning Necessary Technologies

- **Frontend Development:** Learn a framework like React Native or Flutter for building cross-platform mobile apps.
- **Backend Development:** Learn a backend framework like Node.js (JavaScript) or Django (Python).
- **Database Management:** Familiarize yourself with databases like MongoDB or PostgreSQL.

4. Design the User Interface

- **Wireframes and Mockups:** Use tools like Figma or Sketch to create wireframes and design mockups.
- **User Flow:** Plan how users will navigate through the app.

5. Develop the Backend

- **Server Setup:** Set up a backend server using Node.js with Express or Django.
- **API Development:** Create RESTful APIs for user authentication, data handling, etc.
- **Database Setup:** Set up your database and define data models.

6. Develop the Frontend

- **Framework Setup:** Set up your frontend framework (React Native, Flutter).

- **Integration:** Connect the frontend with the backend APIs.
- **State Management:** Implement state management using tools like Redux.

7. Testing

- **Unit Testing:** Write tests for individual units of code.
- **Integration Testing:** Ensure that the frontend and backend work seamlessly together.
- **User Testing:** Gather feedback from real users to identify and fix issues.

8. Deployment and Maintenance

- **Deployment:** Deploy your backend on a service like AWS or Heroku. Publish your app on the App Store and Google Play Store.
- **Maintenance:** Regularly update your app to fix bugs and add new features.

Leveraging ChatGPT for Assistance

- **Coding Help:** Use ChatGPT to get help with specific coding problems or to understand new programming concepts.
- **Debugging:** Ask ChatGPT for debugging advice when you encounter issues.
- **Learning Resources:** Request recommendations for tutorials and documentation.
- **Best Practices:** Get advice on coding best practices, security, and performance optimization.

Suggested Learning Path

1. **Frontend Development:** Learn React Native or Flutter.
 - **Resources:** Online courses (e.g., Udemy, Coursera), official documentation.
2. **Backend Development:** Learn Node.js with Express or Django.
 - **Resources:** Online courses, official documentation.
3. **Database Management:** Learn MongoDB or PostgreSQL.
 - **Resources:** Online tutorials, official documentation.

Example Project Plan

1. **Month 1-2:** Learn necessary frontend and backend technologies.
2. **Month 3-4:** Design the UI/UX, set up the backend server, and create APIs.
3. **Month 5-6:** Develop the frontend, integrate with the backend, and start testing.
4. **Month 7:** Conduct user testing, gather feedback, and refine the app.
5. **Month 8:** Deploy the app and perform ongoing maintenance.

With dedication and leveraging your programming background, you can develop a functional and impactful healthcare app.

INSERT CHATBOT

Example: Implementing a Chatbot

Here's a more detailed example of implementing an AI-powered chatbot in your healthcare app:

Step 1: Choose a Chatbot Framework

- **Dialogflow (Google):** A natural language understanding platform for designing and integrating conversational interfaces.
- **Rasa:** An open-source framework for building AI assistants.

Step 2: Design the Chatbot

- **Define Intents:** Identify the different types of user intents (e.g., asking for symptom information, scheduling an appointment).
- **Create Responses:** Develop responses for each intent.

Step 3: Implement the Chatbot Backend

1. **Set Up the Environment:**
 - Install necessary packages: `pip install rasa` or follow Dialogflow setup.
2. **Train the Chatbot:**
 - Create training data with examples of user inputs.
 - Train the model using Rasa or Dialogflow.
3. **Develop API Endpoints:**
 - Create endpoints in your backend to handle user messages and return chatbot responses.

Step 4: Integrate with the Frontend

1. **Frontend Setup:**
 - Add a chat interface to your app using a library like `react-chat-widget` for React Native.
 - Create a message input field and display area for chatbot responses.
2. **Connect to Backend:**
 - Use API calls to send user messages to the backend and receive chatbot responses.
 - Update the chat interface with the responses.

Step 5: Testing and Deployment

1. **Test the Chatbot:** Ensure it handles various user inputs correctly.
2. **Deploy the Backend:** Host on a cloud platform.
3. **Update the App:** Publish updates with the new chatbot feature.

Resources for Learning AI and Integration

- **Online Courses:**
 - [Coursera AI Courses](#)
 - **edX Machine Learning Courses**
 - **Udacity AI and ML Courses**
- **Framework Documentation:**
 - **TensorFlow Documentation**
 - **PyTorch Documentation**
 - **[Dialog**

flow Documentation](<https://cloud.google.com/dialogflow/docs>)

- **Rasa Documentation**
- **Tutorials and Guides:**
 - **TensorFlow Tutorials**
 - **PyTorch Tutorials**
 - **Rasa Tutorials**
 - **Dialogflow Tutorials**

Research up to this point:

Create a website with data on what would be the most useful features for this app and how to implement/distribute the app (business model).

-data on painpoints of PWD system
(based on interviews)

-Wordpress

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Research using Data Science techniques:

-collect data on pain points through Reddit
-filter data through government datasets
-strengthen with interviews

Is this mixed methods research then?

Assess for confounders and

Cultivating data from sources like Reddit involves several data science techniques and steps to ensure you collect, clean, and analyze data effectively. Here's a structured approach to achieve this:

1. Define Your Objectives

- **Purpose:** Determine why you want to collect Reddit data. Is it for sentiment analysis, trend identification, or something else?
- **Scope:** Define the subreddits, topics, and time period you are interested in.

2. Data Collection

- **API Access:** Use Reddit's API (Application Programming Interface) to access data programmatically. This allows you to retrieve posts, comments, and other metadata.
- **Praw (Python Reddit API Wrapper):** It's a popular library for Python that simplifies interacting with Reddit's API.
- **Data Scraping:** If API limits or data restrictions apply, consider [web scraping techniques](#), ensuring adherence to Reddit's terms of service.

3. Data Cleaning and Preprocessing

- **Remove Duplicates:** Ensure each data point is unique.
- **Handle Missing Data:** Address any null values appropriately.
- **Text Preprocessing:** Normalize text data by removing punctuation, stopwords, and converting text to lowercase.
- **Tokenization:** Split text into individual words or tokens.
- **Lemmatization or Stemming:** Reduce words to their base forms to handle variations.

4. Exploratory Data Analysis (EDA)

- **Visualize Data:** Use plots (like histograms, word clouds, or time series plots) to explore trends, distributions, and patterns.
- **Statistical Analysis:** Calculate summary statistics and distributions to understand the dataset.

5. Feature Engineering

- **Extract Features:** Create features from the text data (e.g., sentiment scores, [word frequencies](#), or topic modeling using techniques like TF-IDF or word embeddings).

6. Modeling and Analysis

- **Choose Models:** Depending on your objective, choose appropriate models (e.g., classification, clustering, regression).
- **Train Models:** Train your chosen models using the prepared features.

- **Evaluate Models:** Assess model performance using metrics like accuracy, precision, recall, or F1-score.
- **Iterate:** Refine your approach based on insights gained during model evaluation.

7. Interpretation and Reporting

- **Generate Insights:** Interpret the results to derive actionable insights relevant to your objectives.
- **Visualize Results:** Use visualizations to present findings effectively.
- **Document:** Document the entire process, including methodologies, findings, and limitations.

8. Ethical Considerations

- **Privacy and Consent:** Respect Reddit's terms of service and consider user privacy when using data.
- **Bias:** Be aware of biases in the data and methods used.

Tools and Technologies

- **Programming Languages:** Python is commonly used for its rich ecosystem of libraries (e.g., pandas, nltk, scikit-learn).
- **Data Storage:** Store data in appropriate formats (e.g., CSV, JSON, or databases like SQLite).
- **Visualization:** Tools like matplotlib, seaborn, and Plotly for visualizing data and results.

By following these steps, you can effectively cultivate and analyze data from Reddit using data science techniques, enabling you to derive valuable insights and make informed decisions based on the data collected.