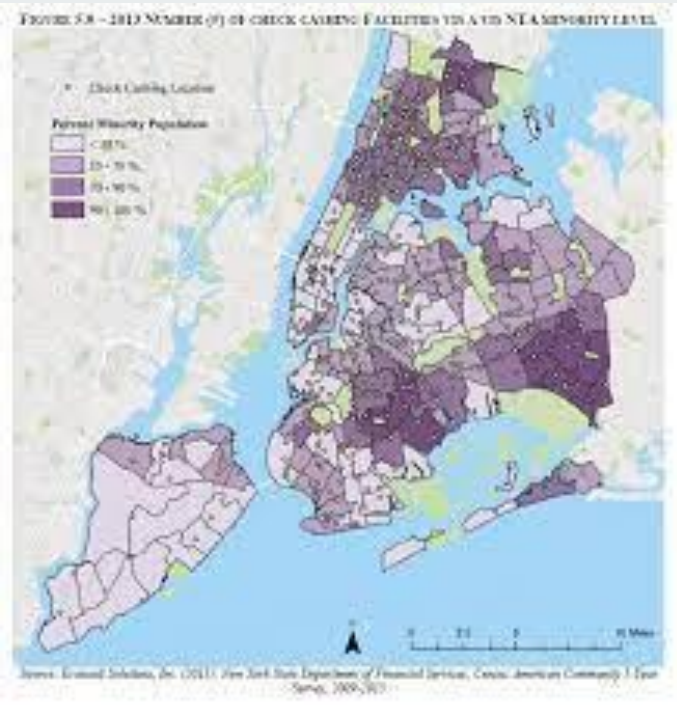




# WORK IN PROGRESS

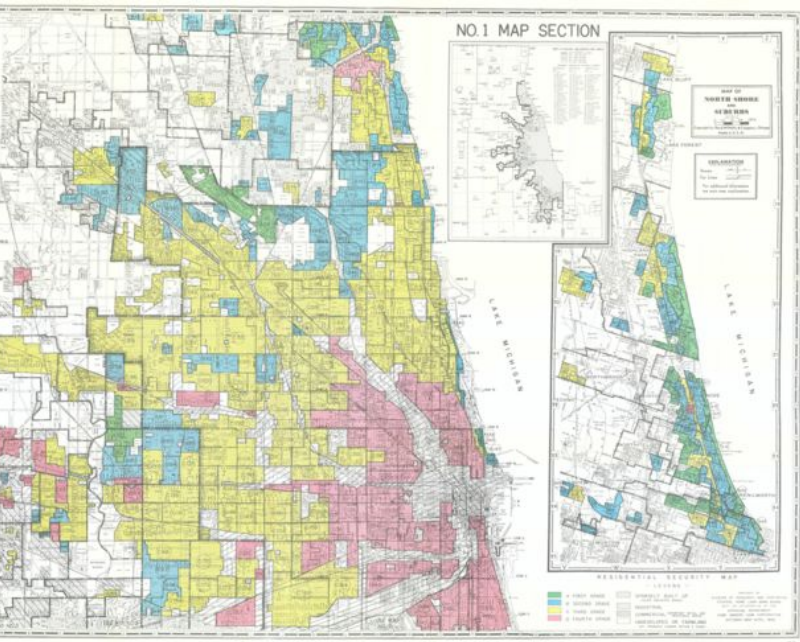
# Digital Redlining in Banking



Presented by Alana Robinson & Stephen Sabaugh  
CSCI 77800 Fall 2022

# The Problem: Background on Redlining

Digital redlining shares many things in common with traditional redlining, the deliberate withholding of loans and other key resources from residents of certain neighborhoods, largely along racial divides.



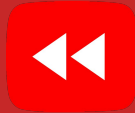
Retrieved on November 28th, 2022 [What Is Digital Redlining? Experts Explain the Nuances](#)

# The Problem: Background on Redlining

[What is Redlining?](#)



[The Legacy of Redlining](#)



The term redlining is a nod to how lenders identified and referenced neighborhoods with a greater share of people deemed more likely to default on mortgage. Using red ink, lenders outlined on paper maps the parts of a city that were considered at high risk of default, as well as more desirable neighborhoods for approving a loan. Riskier neighborhoods were predominantly black and Latino.

Physical copies of such maps are stored in the National Archives. The University of Richmond has [digital versions](#) of about 200 maps once used for redlining, including the one below. (Retrieved on November 29, 2022

<https://www.cbsnews.com/news/redlining-what-is-hi-story-mike-bloomberg-comments/>)

# The History

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## Data Visualization of Redlining in NYC

Here is an informative and interactive website that gives a historical data visualization of Redlining in NYC using some open source data.

[Inequality in NYC -  
Redlining](#)

# DEFINITION The PROBLEM:

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## Digital REDLINING

[https://en.m.wikipedia.org/wiki/Digital\\_redlining](https://en.m.wikipedia.org/wiki/Digital_redlining)

The Problem

# The DEFINITION: The PROBLEM

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## Digital REDLINING

Digital redlining is the practice of creating and perpetuating inequities between already marginalized groups specifically through the use of digital technologies, digital content, and the internet.[1] The concept of digital redlining is an extension of the practice of redlining in housing discrimination,[2][3] a historical legal practice in the United States and Canada dating back to the 1930s where red lines were drawn on maps to indicate poor and primarily black neighborhoods that were deemed unsuitable for loans or further development, which created great economic disparities between neighborhoods.[4][5] The term was popularized by Dr. Chris Gilliard, a privacy scholar, who defines digital redlining as "the creation and maintenance of tech practices, policies, pedagogies, and investment decisions that enforce class boundaries and discriminate against specific groups".[6][7]

[https://en.m.wikipedia.org/wiki/Digital\\_redlining](https://en.m.wikipedia.org/wiki/Digital_redlining)

# The DEFINITION:The PROBLEM

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## Digital REDLINING

[https://en.m.wikipedia.org/wiki/Digital\\_redlining](https://en.m.wikipedia.org/wiki/Digital_redlining)

The Problem



# The DEFINITION:The PROBLEM

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## Digital REDLINING

[https://en.m.wikipedia.org/wiki/Digital\\_redlining](https://en.m.wikipedia.org/wiki/Digital_redlining)

The Problem

# What is DIGITAL REDLINING?


## Digital Banking increases likelihood of Digital Redlining

With the rise of digital banking, some regulators and community advocates are becoming concerned about a new form of discrimination, digital redlining. Digital redlining is a form of discrimination where lenders restrict access to credit, or offer credit on unequal terms, because of the applicants' digital footprint. This type of redlining occurs when products or pricing offered to the consumer or presented in display ads or social media marketing differ by channel, so that channels with greater minority usage are offered adverse conditions. It can also occur when lenders curate online loan advertising or set loan terms and conditions based on internet tracking or big

(Retrieve on November 29, 2022

<https://www.treliant.com/knowledge-center/digital-banking-raises-the-specter-of-digital-redlining/>

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# Code: Banking Program 01 (Java)

Stephen: One line explaining program

```
AccountUI [Java Application] /Library/Java/JavaVirtualMachines/jdk-17.0.1.jdk/Contents/Home
|Select option number and press enter:|
+-----+
|Option 1: Add New Account|
|Option 2: See Balance|
|Option 3: Transaction|
|Option 0: Exit|
+-----+
1
Enter First Name:
Alana
Enter Last Name:
Robinson
Enter Zip Code:
11208
Enter Starting Balance:
250
Your Account has a $5.00 monthly fee.
Your first payment is due at the time of opening your account
Initial Deposit: $ 250.00
Fee: $- 5.00
Current Balance: $ 245.00
+-----+
|Main Menu|
+-----+
|Select option number and press enter:|
+-----+
|Option 1: Add New Account|
|Option 2: See Balance|
|Option 3: Transaction|
|Option 0: Exit|
+-----+
3
+-----+
|Transaction Menu|
+-----+
|Select option number and press enter:|
+-----+
|Option 1: Deposit|
+-----+
```



# Code: Banking Program 01 continued (Java)

Stephen explains

```
Williamsbridge / Baychester      10466 0.160000
Williamsbridge / Baychester      10467 0.160000
Pelham Parkway                    10461 0.150000
Morrisania / East Tremont        10457 0.280000
Morrisania / East Tremont        10456 0.280000
Morrisania / East Tremont        10459 0.280000
Kingsbridge Heights / Mosholu    10463 0.240000
University Heights / Fordham     10453 0.300000
University Heights / Fordham     10468 0.300000
Highbridge / S. Concourse        10452 0.260000
Soundview / Parkchester          10472 0.220000
Soundview / Parkchester          10462 0.220000
Soundview / Parkchester          10460 0.220000
Mott Haven / Hunts Point         10451 0.310000
Mott Haven / Hunts Point         10454 0.310000
Mott Haven / Hunts Point         10455 0.310000
Washington Heights / Inwood      10032 0.180000
Washington Heights / Inwood      10033 0.180000
Washington Heights / Inwood      10040 0.180000
Washington Heights / Inwood      10034 0.180000
Morningside Heights / Hamilton Heights 10025 0.150000
Morningside Heights / Hamilton Heights 10027 0.150000
Morningside Heights / Hamilton Heights 10031 0.150000
Morningside Heights / Hamilton Heights 10032 0.150000
Morningside Heights / Hamilton Heights 10039 0.150000
Central Harlem                    10037 0.200000
Central Harlem                    10026 0.200000
Central Harlem                    10030 0.200000
Central Harlem                    10035 0.200000
East Harlem                       10029 0.190000
East Harlem                       10028 0.190000
North Shore                       10302 0.110000
North Shore                       10303 0.110000
North Shore                       10310 0.110000
Bushwick                          11206 0.200000
Bushwick                          11207 0.200000
Bushwick                          11221 0.200000
Bushwick                          11237 0.200000
Bedford Stuyvesant                11205 0.210000
Bedford Stuyvesant                11216 0.210000
Bedford Stuyvesant                11221 0.210000
Bedford Stuyvesant                11233 0.210000
North Crown Heights / Prospect Heights 11216 0.190000
North Crown Heights / Prospect Heights 11213 0.190000
North Crown Heights / Prospect Heights 11213 0.190000
```



# Code: Banking Program 02 (AWK)

Stephen explains this program

Describe the content of Julia's job and the problem  
she and her team are currently facing.

```
Williamsbridge / Baychester 10466 0.160000
Williamsbridge / Baychester 10467 0.160000
Pelham Parkway 10461 0.150000
Morrisania / East Tremont 10457 0.280000
Morrisania / East Tremont 10456 0.280000
Morrisania / East Tremont 10459 0.280000
Kingsbridge Heights / Mosholu 10463 0.240000
University Heights / Fordham 10453 0.300000
University Heights / Fordham 10468 0.300000
Highbridge / S. Concourse 10452 0.260000
Soundview / Parkchester 10472 0.220000
Soundview / Parkchester 10462 0.220000
Soundview / Parkchester 10460 0.220000
Mott Haven / Hunts Point 10451 0.310000
Mott Haven / Hunts Point 10454 0.310000
Mott Haven / Hunts Point 10455 0.310000
Washington Heights / Inwood 10032 0.180000
Washington Heights / Inwood 10033 0.180000
Washington Heights / Inwood 10040 0.180000
Washington Heights / Inwood 10034 0.180000
Morningside Heights / Hamilton Heights 10025 0.150000
Morningside Heights / Hamilton Heights 10027 0.150000
Morningside Heights / Hamilton Heights 10031 0.150000
Morningside Heights / Hamilton Heights 10032 0.150000
Morningside Heights / Hamilton Heights 10039 0.150000
Central Harlem 10037 0.200000
Central Harlem 10026 0.200000
Central Harlem 10030 0.200000
Central Harlem 10035 0.200000
East Harlem 10029 0.190000
East Harlem 10028 0.190000
North Shore 10302 0.110000
North Shore 10303 0.110000
North Shore 10310 0.110000
Bushwick 11206 0.200000
Bushwick 11207 0.200000
Bushwick 11221 0.200000
Bushwick 11237 0.200000
Bedford Stuyvesant 11205 0.210000
Bedford Stuyvesant 11216 0.210000
Bedford Stuyvesant 11221 0.210000
Bedford Stuyvesant 11233 0.210000
North Crown Heights / Prospect Heights 11216 0.190000
North Crown Heights / Prospect Heights 11213 0.190000
North Crown Heights / Prospect Heights 11217 0.190000
```

# Assumptions

“Technological redlining” is the perpetuation of racial, cultural, and economic inequities in technologies. The concept of “redlining” stems from a history of housing discrimination since the 1930s where red lines were (literally) drawn on maps to segregate the poor and dominantly black neighborhoods.

Today, redlining appears virtually in our devices and is regulating the decisions we make. Banks offer high-cost mortgages to people living in minority zip codes; internet service providers don't provide high-speed services to low-income communities; advertisers target ads for housing and employment based on race, gender, and geography.

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<https://atnd.medium.com/technological-redlining-how-algorithms-are-dividing-the-country-6939dcc88659>

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**Solution Proposal: Teach the ethics of redlining and it's legacy of digital redlining:**

**Digital Redlining, Access, and Privacy |**  
**Common Sense Education**

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\_\_\_\_\_





# Solution description

Now that you've justified your attention to the problem, summarize your solution in one or two sentences.



**Why it's better than existing solutions**

Questions?

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# References: Works Cited

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