



Appendix A:

Product Requirements Document (PRD) Preservation Provider Collaboration Platform Version 1.1.1

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Overview

Shelter is a basic human need. According to Maslow's Hierarchy, it is on par with other physiological necessities like air, water, and clothing as a foundational necessity for a person's survival and well-being. The need for safe, healthy housing is a universal requirement that cuts across all demographic and geographic boundaries. Regardless of income level, race, or creed, everyone needs shelter.

In the United States, shelter has also been the largest economic driver of wealth creation and economic security for most families. The equity earned through homeownership has often been a key element in creating pathways for upward mobility, where the home is often the largest single asset held by middle and low-income families. It often makes up a majority of their household net worth and becomes a legacy for future generations.

Unfortunately, due to a multitude of factors, the availability of affordable shelter is being severely threatened. In Atlanta, pressures ranging from regulatory restrictions that slow the creation of new housing supply to rising hard costs of construction and increased costs of capital have contributed to skyrocketing housing prices. In the process, according to ULI Atlanta/KB Advisory Group's 2023 study on residential affordability, 130,000 units of affordable housing were lost in the core five counties between 2018 and 2023 while average home prices increased by 73%.

As a part of ULI Atlanta's 2024 Center for Leadership and on behalf of Community Foundation for a Greater Atlanta and HouseATL, the authors of this document engaged in a thorough landscape assessment of the stakeholder organizations operating in Atlanta working to preserve its stock of affordable single-family housing. In the process, the need for a platform to help facilitate collaboration between these organizations to promote more effective and efficient provisioning of home preservation-related services became clear. This is the impetus behind the application we have given the working title Atlanta HomeHub, which we envision as a platform to link homeowners, housing preservation providers, capital sources, and the other contractors and vendors needed to conduct this important work.

This Product Requirements Document encompasses our vision for how such an application might work and carries with it our team's collective hope that it can contribute to a healthier, more just, and more prosperous Atlanta.

User Groups

Based on our exhaustive landscape assessment, we conceptualized a **hub and spoke** organizational arrangement with Atlanta HomeHub at the center serving four different primary user groups. These are:

Homeowners – These will include homeowners looking for informational resources on preservation-related topics such as financial-literacy related or home maintenance related topics as well as homeowners in need of preservation services. These use cases will be explored in more detail in a later section.

Preservation Providers – These include the non-profit and public sector stakeholders providing preservation services to homeowners. Examples of Preservation Providers include organizations like Invest Atlanta, Meals on Wheels, Habitat for Humanity, HouseProud, Neighbor in Need, and many others.

Contractors and Vendors – These include non-profit and for-profit private sector firms looking to provide services required by Homeowners and Preservation Providers. This user group may include everything from for-profit roofing and HVAC contractors providing critical home repairs to non-profit legal assistance organizations like Atlanta Legal Aid helping homeowners with issues like so-called “zombie second mortgages.”

Capital Providers – These include public, private, and non-profit capital providers interested in supporting the preservation projects being conducted by Preservation Providers on behalf of Homeowners.

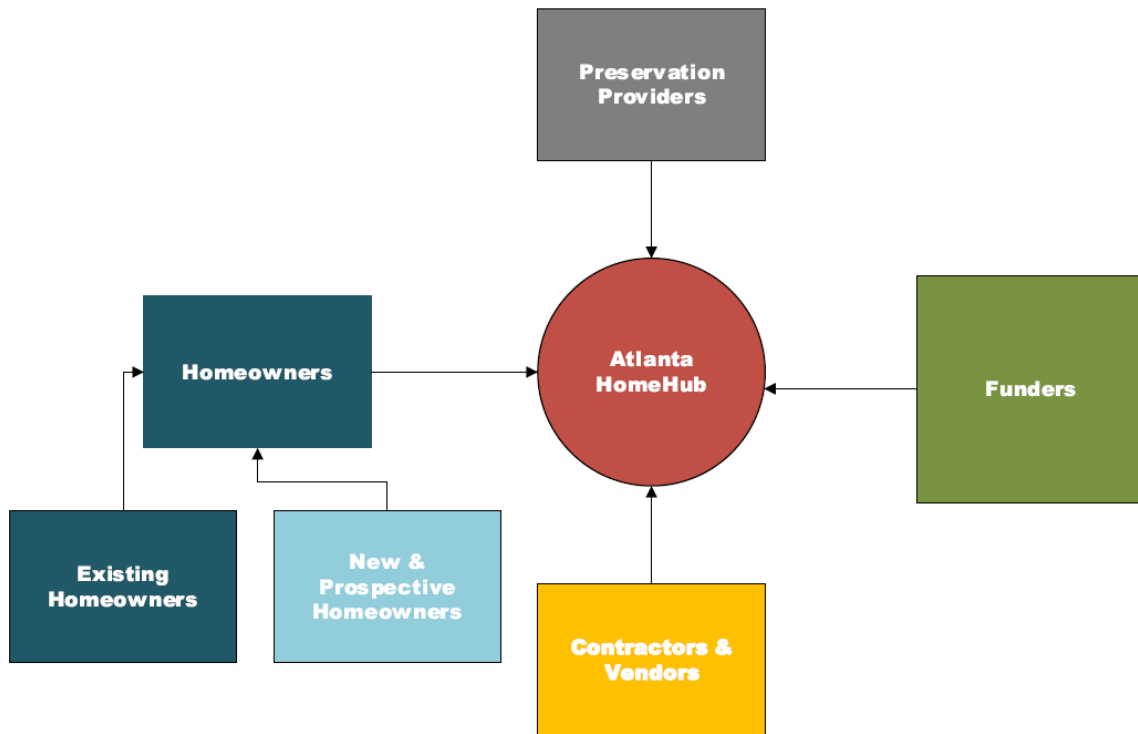


Figure 1: Hub and Spoke Platform Diagram

The general idea behind Atlanta HomeHub is then to provide a platform that helps sort and funnel the needs of Homeowners and pair them with Preservation Providers with the capabilities of providing them preservation services who are then paired with Contractors and Vendors and Capital Providers to provide the funding and third-party services that may be necessary to complete preservation projects. This will also create a larger data ecosystem that will allow for coordination of activities to increase the efficiency and effectiveness of preservation activities and create economy of scale benefits that will help drive down the average cost of preservation services.

User Experience (UX) Flow for the Four User Groups

In this section, we will describe the general user experience (UX) and workflows for each of the four primary user groups.

Homeowners

As noted in the previous section, we envision Homeowners using Atlanta HomeHub for two general sets of needs:

Educational Resources – Atlanta HomeHub should curate, provide, and maintain educational resources for preservation-related topics. These, we envision, will include videos, e-brochures, and infographics that might fall along two lines:

Atlanta HomeHub Processes – Educational materials helping describe to Homeowners the process of applying for preservation services through Atlanta HomeHub and walking them through, step-by-step, what to expect over the course of their project(s). These will need to be created from scratch by Atlanta HomeHub, although there may be some existing resources from participating Preservation Providers that can be utilized as well.

General Preservation Topics – We envision this as a curated set of educational materials on topics critical to Homeowners ranging from financial literacy to ongoing home maintenance and building science, gathered from expert sources like On the Rise and the Southface Institute.

Community Calendar – There should additionally be a prominent community calendar that will be editable by members of the Preservation Providers governing committee organizations. This will be used for informing the public about face-to-face outreach activities and other preservation events directly and indirectly related to Atlanta HomeHub and participating stakeholders.

To Request Preservation Services – Before embarking on completing a formal application for preservation services, the Homeowner will be asked a set of prompted questions that will function as a funnel/filter to determine the nature of their project and their eligibility for preservation program aid. Based on their answers, they will be guided to a Universal Application for Preservation Services, to be developed and agreed upon by a governing committee of Preservation Provider organizations, pre-populated with whatever information they provided during the initial screening process, when available. We envision two general service case flows, which then subdivide into specific service cases as follows: *[NOTE:*

The application process will also need to include the Homeowner agreeing to the Atlanta HomeHub Terms of Service and to share their information, for liability protection for the platform and the participating Preservation Providers.]

Existing Homeowners – We envision the bulk of preservation requests will come from this use case flow and therefore these modules should take priority as the application is built out. These include:

Critical Home Repairs - Initially, this should be the primary focus of application development, as it is the area of primary need. Critical home repair programs focus on assisting vulnerable communities such as seniors, those with disabilities, and/or low-income homeowners faced with challenges like roof damage, settlement causing flooring damage, broken HVAC systems, broken plumbing systems. *[NOTE: Each of the above, except for floor settlement issues, is considered a priority case by the Baltimore LIGHT case study program when triaging application cases.]*

Accessibility Upgrades – Because many seniors live on low, fixed-incomes, it becomes challenging to age in place in their homes if they are not already designed and built to accommodate accessibility. This service case includes renovations such as wheelchair ramps, roll-in showers and tubs, installation of grab bars, and other modifications to the home that make it easier and safer for seniors.

Home Health Renovations – Although technically not “critical home repairs,” there are a few potential service cases that are nonetheless critical because they represent chronic dangers to the health of Homeowners. These include:

Mold Remediation/IAQ Issues – Because many homes that are renovated by preservation programs suffer because of deferred maintenance and many are in neighborhoods that also suffered from chronic disinvestment and may have been built with substandard materials and techniques to begin with, they can suffer from bulk and vapor water intrusion issues leading to mildew, mold, and other IAQ issues. These can lead to chronic respiratory illnesses including asthma if unremediated.

Hazardous Material Remediation – Additionally, given the age of many of the homes renovated by preservation services, many have legacy hazardous

materials such as cancer-causing asbestos or nervous-system impairing lead paint which need to be remediated. Lead paint remediation is a particularly challenging issue in the neighborhoods of Atlanta's Westside. *[NOTE: It is the recommendation of the authors of this PRD and the report it was created for that hazardous material remediation should be decoupled from the requirements for federal critical home repair program funding sources like CDBG funding and have separate, stand-alone funding that does not bottleneck critical home repairs.]*

Weatherization/Electrification/Decarbonization

Upgrades - We may conceptualize this service case as the “sustainability bucket” dealing with the resource efficiency of homes. Utility burden from energy and water/sewer bills is a pernicious challenge that disproportionately hurts low-income families and seniors on fixed incomes. And as will mold remediation and IAQ issues, poorly performing building envelopes and HVAC and plumbing systems in preservation service homes are often the product of deferred maintenance and neighborhoods that suffered from chronic disinvestment and may have been built with substandard materials and techniques to begin with.

Energy Efficiency Upgrades – These include improvements to the house enclosure, such as upgraded insulation and windows, and upgraded active systems such as HVAC and lighting system upgrades. These may also include electrification upgrades such as electrical panel improvements and switching to induction stoves such that the home can be taken off natural gas systems and onto cleaner electric energy sources. *[NOTE: The Inflation Reduction Act includes point-of-sale rebates up to \$14,000 per home at 100% of cost for low-income households for many of these items. The program is being administered in Georgia by GEFA and Atlanta HomeHub Preservation Providers should be encouraged to try to expand their services offerings where logical to take advantage of these and similar subsidies.]*

Plumbing Upgrades – Because of the high cost of water/sewer utilities in Atlanta, which are among the highest of major cities in the United States, plumbing leaks and antiquated plumbing fixtures

can burden low-income families and seniors on fixed incomes. Preservation Providers in this space, in addition to addressing the above issues, may also be called upon to address replacement of piping where hazardous or unsanitary contaminants are present.

Home Safety Upgrades – These would include safety and crime prevention renovations such as the installation of smart doorbell cameras and other security devices, the repair and installation of additional outdoor lighting, fencing repairs, and porch repairs. *[NOTE: Baltimore’s LIGHT program is launching an initiative to improve the safety of homes in neighborhoods where crime is a significant concern. The authors of this report have included it as a potential preservation service case as well.]*

Legal Assistance – Many Homeowners who work with Preservation Providers require legal assistance due to estate-related issues or fraud/consumer protection related issues. Some of the specific service case types in this category include:

Heirs Property Issues – Either the proactive creation of estate planning documents like trusts and wills or the retroactive legal documentation of title transfer following the passing of a family member.

Resolution of So-Called “Zombie Second Mortgages” – Many low-income families and seniors who went through debt consolidation programs after the Great Recession and thought their second mortgages had been resolved only to find out to the contrary now that the economy has stabilized, and home values have risen. Homeowners may engage a legal Preservation Provider to fight this unethical practice.

Fighting Other Forms of Fraud – Seniors, in particular, are a regular target of fraud. Homeowners may engage a legal Preservation Provider to fight these practices, as well.

New Homeowners [Future Capabilities] – In addition to the service case flows for existing homeowners, future modules can be added to address the needs of new/potential homeowners. These include the following specific service cases:

Homeowner Preparation – Organizations such as On the Rise specialize in services dedicated to helping prospective Homeowners prepare for their purchase and the aftermath so they can hold onto their homes. These services may include:

- Credit Score Preparation
- Fiscal Planning/Budgeting Education
- Down Payment Assistance
- Homestead Exemption Filing Assistance
- Mortgage Assistance
- Routine Home Maintenance Education and Assistance

“Zillow for Affordable Housing” – A long range goal suggested by Preservation Providers for this platform is the creation of a real estate application like market rate applications like Zillow and Redfin dedicated to helping prospective homeowners find affordable housing units while also helping affordable housing developers reduce absorption of their units through presales and preleasing.

Other Services [Future Capabilities]

Interoperability With Other Social Infrastructure Programs – The needs and challenges of low-income and senior communities obviously do not stop at affordable housing preservation. This is evidenced by the fact that Provider organizations like Meals on Wheels and Neighbor in Need both started from opposite ends of the playing field in their service offerings, and both ended up providing services to address food insecurity AND critical home repairs to seniors with fixed incomes. When available, participating Homeowners should be given the chance to opt-in to other social infrastructure programs like those addressing health care access, food insecurity, etc. This suggests that, in the very long run, Atlanta HomeHub should have the ability to plug into an even larger and more sophisticated technology infrastructure designed to even more holistically, efficiently, and affectively address the needs of Atlantans.

ADU Construction – In the course of the authors' landscape assessment, Focused Community Strategies (FCS) Ministries noted their pilot program assisting low-income existing Homeowners interested in construction accessory dwelling units (ADU's) on their property as a way to help create missing middle housing to alleviate the dearth of

affordable housing supply while also giving the Homeowner a stream of passive income to improve their economic stability and quality of living.

Preservation Providers

Preservation Providers being onboarded to the platform will need to provide and routinely update information pertaining to their service area, capabilities, resource availability, etc. such that the platform can accurately assess the overall case load of the system and recommend cases to the appropriate Preservation Provider(s). These will all be directed through the HomeHub dashboard interface from which the Preservation Provider will have access to the Homeowner's information, application documentation, any existing property assessment reports, etc. *[NOTE: At onboarding, Preservation Providers should be required to agree to the platform Terms of Service as well as a Memorandum of Understanding or more legally binding agreement through which they agree to the Preservation Provider governing committee's code of ethics, to include specific provisions for the protection of Homeowner information. This should include clearly delineated procedures for dispute resolution with actionable tools for enforcement by the committee.]*

Before that happens, however, the authors of this PRD recommend that property assessments for applicant's cases be conducted by third-party inspectors or inspectors from Preservation Providers trained to Resnet or NIBS standards to holistically evaluate the challenges and opportunities of each property. *[An objective holistic property assessment is a current part of the process for onboarding projects undertaken by Raleigh's Orange County Affordable Coalition. It was recommended as a way of capturing a full picture of a home's needs as well as any sustainability upgrade opportunities that may be present, as well. Southface Institute recommended that such assessments be undertaken by a Resnet or NIBS accredited inspector with the average inspection time of 3-5 hours at roughly \$80 per hour or \$240-\$400 per inspection.]*

Contractors and Vendors

The public facing side of the application should also include links to invite private and non-profit contractors and vendors interested in providing services to the Preservation Providers for Homeowner projects. Because the platform should be flexible enough to allow for future accommodation of a broad array of preservation services, the onboarding funnel for Contractors and Vendors should be equally flexible. Some of the potential user firms that could be expected to participate would be as follows:

Construction Contracting and Subcontracting Firms
Legal Firms
Accounting Firms
Architecture and Engineering Firms
Realtors
Etc.

For each potential Contractor or Vendor type the governing committee for the Preservation Providers should develop a set of prequalification criteria to ensure that work only goes to those capable of providing high quality projects to the highest of ethical standards. This will include providing and routinely updating information pertaining to their service areas, capabilities, resource availability, insurance certificates, bonding capacity, etc. as applicable. These will help the HomeHub dashboard to analyze Homeowner projects and Preservation Provider needs and give them recommendations for the best available Contractors and Vendors to conduct the Homeowner's project. *[NOTE: At onboarding, Contractors and Vendors should be required to agree to the platform Terms of Service in which they agree to the Preservation Provider governing committee's code of ethics, to include specific provisions for the protection of Homeowner information. This should include clearly delineated procedures for dispute resolution with actionable tools for enforcement by the committee.]*

Contractors and Vendors should have limited access to the HomeHub dashboard as necessary for them to efficiently conduct their projects. For instance, in the case of construction contracting and subcontracting firms, they should have access to basic homeowner information such as their name and address as well as to any existing property condition assessment reports. Other access should be restricted.

Capital Providers

The final user group of the Atlanta HomeHub hub and spoke ecosystem is Capital Providers looking to fund affordable housing preservation work. These will include a mix of non-profit philanthropic organizations, government institutions, and even private sector funding sources. The Preservation Provider governing committee should develop prequalification criteria to determine which capital providers are eligible to use the HomeHub application and participate in its projects. Capital Providers will need to provide and routinely update information pertaining to their service area, resource availability, underwriting criteria, etc. In doing so, the HomeHub dashboard will be able to analyze existing project gap funding requirements and recommend appropriate pairings of Capital Provider funds with Homeowner projects and Preservation Providers. *[NOTE: At onboarding, Capital Providers should be required to agree to the platform Terms of Service as well as a*

Memorandum of Understanding or more legally binding agreement through which they agree in which they agree to the Preservation Provider governing committee's code of ethics, to include specific provisions for the protection of Homeowner information. This should include clearly delineated procedures for dispute resolution with actionable tools for enforcement by the committee.]

HomeHub UX Flow and Features

The Atlanta HomeHub dashboard is envisioned as a platform to help better organize affordable housing preservation activities across the core Atlanta metropolitan area. It is intended to help participating stakeholder organization collaborate more effectively and efficiently giving Atlanta a force multiplier for affordable housing preservation investments that makes impact of the allied groups using the HomeHub greater than the sum of their parts.

The dashboard should include data from across all the projects in the system including project type(s), project contractor/vendor need(s), geographic location, project status(es), estimated cost, actual cost at completion, funding source(s), and gap funding need(s). Because many homes within preservation programs will have multiple needs and require multiple rounds of Preservation Provider activities, as guided by the front-end assessment reports also available through the dashboard, the Hub should not only have built in logic to recommend project assignments, it should also analyze and recommend how best to assign the various parts of a project to different stakeholders. *[NOTE: Per the case study of Raleigh's Orange County Affordable Housing Coalition, during the initial startup of the organization when stakeholders input their existing caseloads into the system, it will become clear which Homeowners have multiple applications out with multiple Preservation Providers. The Hub's internal logic should also be able to analyze these overlaps and help Providers more effectively these cases, which will reduce overall case backlogs during the early implementation of the Hub.]* It is the authors of this PRD's hope that this capability will also allow Preservation Providers to bundle projects to harness to-this-point elusive economies of scale and drive down the average cost per project across some project typologies, as well.

In addition to providing these granular project management tools, the intention is also to provide a clearer and better-informed picture of the overall affordable housing preservation needs in Atlanta. The Hub should be able to clearly aggregate data from across all projects and have computational logic that allows Preservation Providers to understand where the geographical areas of greatest activity and need are, likewise the greatest activity and needs by project type and contractor/vendor resource type, the type and magnitude of available existing funding and the magnitude and type of needed gap funding, as well as a database of completed project costs to more accurately model and predict future costs of preservation projects. This last point is of particular importance: there should be allowance for the future capability of using AI to analyze trend data to not only assess the affordable housing preservation landscape as it is today, but to confidently assess where it will go in the future. This will allow Preservation Providers to lobby decision-makers more effectively in contributing organizations in the public, private, and non-profit sectors to make better decisions when appropriating and allocating resources.

System and Environment Requirements

In the development of this PRD, our group has discussed three similar applications which the application development team should draw insight from:

The Federal Government's Healthcare Marketplace – healthcare.gov

The site has a clean interface that prompts users to answer a series of onboarding questions that then pairs an applicant with the available health care subsidies and a selection of insurance plans to choose from.

The Federal Government's Student Loan Application Website - studentaid.gov

The site has robust educational resources for student aid applicants and boasts a fast and clean universal application for student loan funds.

lendingtree – lendingtree.com

The site has an onboarding funnel that quickly leads the applicant through a series of questions to narrow down their financing needs and obtain their information, then quickly provides them with an array of loan products to choose from.



Figure 2: Similar Applications

Although the application will be primarily accessed in the office by laptop or desktop computer because seniors are one of the primary Homeowner demographics envisioned, face-to-face in-home interactions will be critical for initial data entry and ongoing client service. As such, a system or environment that is also user-friendly and effective on a tablet computer in both Microsoft and iOS devices is highly desired for the public-facing end of the application. We also contemplate holding “mobile community center days” that may take place at local libraries that have existing IT infrastructure as another way of facilitating face-to-face interactions within the community to introduce it to Atlanta HomeHub. Finally, although a minor consideration relative to others, onboarding technologies should allow for the easy

scanning and conversion of paper applications into digital text are also preferred as many seniors also prefer paper applications.

Assumptions, Constraints, and Dependencies

Note that the authors of this document are NOT software application developers. We have done intensive research to try to craft a document that will convey our intent to actual software application developers, but we acknowledge our technical limitations up front.

Although beyond the scope of the software application developer, we would also like to note here again as we did in the text of the report this PRD accompanied, it is ESSENTIAL that this application must have the educational component specified in this document and it is equally ESSENTIAL that this software application be used as a tool to supplement but not replace in-person, face-to-face community outreach to the Homeowners that this program is meant to serve.

Without an educational component that includes in-person, face-to-face community outreach, this initiative will not be successful.