

# **Helping the Homeless**

## **Phase 1: A Usability Study to Help the Homeless in Atlanta**

Prepared by **La Gente Inteligente:**

Chris Howse  
Dinesh Nagar  
Jordan Patton  
Justin Smith

CS 6750 – Prof. Bruce Walker  
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## Overview

Every day, hundreds of thousands flock to Atlanta, working all day to bring home a paycheck. Every night, they go home to their comfortable beds and families, and they prepare to return the next day. But in the twilight hours between work and sleep, thousands wander the streets of this unforgiving city, looking for a meal, a bed, another chance... *Homeless*. The very word is enough to frighten some people. Others are simply apathetic, choosing to ignore the problem that they rationalize will never go away. Whatever the case, it is important to remember that homeless people are just that: people. Some of them have simply lost their way; others are just down on their luck. Some of them, however, need mental care, rehabilitation, or other forms of help they simply can't procure on their own.

Just like any other group of people, the homeless are a community. They share information and resources by word of mouth, and a surprising number of them have personal cell phones. Many of those who are currently homeless were not so just a year ago, and this presents a growing concern to those who wish to help. Every year, thousands who have never previously been homeless are suddenly thrust into this unfortunate situation, completely unaware of the options that are available to them. Some organizations, such as the Gateway Center, provide information services and limited transportation to the itinerant population. Other groups have case workers that labor diligently, trying to find job placements and shelter for those in need. There are ministries, charities, hospitals, and others who provide all kinds of aid to the homeless, but they are usually understaffed and often under-funded. Even those who are managing to stay above water find it difficult to work *with one another* due to limited time and resources. The number of needs in the homeless community easily outweighs the number of solutions. This particular "problem space" is overwhelming in the sheer number of problems that need to be solved. Furthermore, the *most important* need varies from homeless person to homeless person, and it is difficult to identify what kind of solution would provide the greatest benefit to the most people.

In order to tackle this problem, our group has decided to take a step back and view it from a different angle. According to the subject matter experts, another problem that deserves attention is how to help the homeless help themselves. Many of these people already know how to get a hot meal, a new pair of shoes, and a place to sleep. Others, who are recently homeless, have no idea which safe houses are truly *safe*, and which ministry serves the best hot meal on Wednesday. For a large portion of the homeless population, the problem is not one of material goods, but rather an issue of motivation. Others simply need a positive force to help keep them away from alcohol or harder drugs. All of these people form a community, and it is important to approach them as a community. Our group, through the course of this project, intends to help the homeless community by providing the stakeholders with a sustainable system that will allow them to improve their own lives.

At a future stage in the project, we would like to provide an information service that will allow homeless people in Atlanta the opportunity to better their own lives. Rather than focusing on a particular method of "picking them back up", we would like to encourage these people to stand on their own two feet with the help of our final deliverable. It may take the form of a job placement application, or possibly a communication and collaboration website. Other ideas we have discussed include a resume-building application for helping people apply for jobs, or a communication system that will help the *providers* work together more efficiently with the homeless. There are several opportunities to provide information services to both the needy and

the providers that help them, and very few of the existing ones are usable, accessible, outward-facing applications. Most of the existing systems are used by caseworkers from behind a desk. Our group proposes to provide a more personal approach that will provide a directly interactive information service to the homeless, the providers, or both.

## Description of the Users

Our study revolves around the homeless community of Atlanta. The projected user group for our team project includes the people who are currently homeless (“needy”) as well as those who provide help to the homeless (“providers”). Providing help to either of these sub-groups would simultaneously benefit the other, and it is our intention to use this reciprocal relationship to help both.

### **Needy**

The homeless population is a very complex group, and it is always very difficult to properly classify human beings. One way of examining this diverse group is by looking at the many needs of the individuals. Often times, homeless people will find themselves in need of **food**. It is not uncommon for this population to seek help in nourishing their bodies, and fortunately there are many opportunities available to those who are hungry.

Another common requirement of indigent people is decent **clothing**. Not only does clothing provide protection from the elements, but it is also protects people from social stigma. When homeless people seek to fulfill other needs they may have, it is very important that they not be shunned by society. It is not uncommon for homeless people to pursue employment, and it is especially important in this case that they have proper clothing.

Further protection can be provided by safe **shelter**. Homeless people, by the very nature of their circumstance, require a safe place to stay. These forms of shelter must protect them not only from rough weather, but also from crime, health hazards, and social stigma. It is often the unfortunate case that “a roof over your head” is just not enough. Many of the places that homeless people stay are riddled with pests, and problems with drug abuse are not uncommon. This particular need is common to all, and it is also one of the most difficult requirements to properly satisfy.

Finally, it is important to recognize that many homeless people are in need of some form of **rehabilitation**. Many of these individuals have problems ranging from drug and alcohol addictions to cognitive impairments. Others seek gainful **employment** as a means to rejoin society. Whether it is a low-paying custodial job or skilled labor, many homeless people have a hard time holding down a job because they are subject to housing curfews or they don’t want to miss out on a hot meal. Whatever the case, it is very difficult for many people to overcome life’s obstacles, and it is very important that help is available to these people when they are ready to seek it. In the interest of helping these people meet their needs, our group intends to provide a ready and sufficient information service to the needy. Furthermore, we wish to support homeless people by helping them to communicate not only with other needy individuals, but also with those who can help meet their needs.

## **Providers**

There are many organizations that provide support to homeless people on a regular basis. Rather than trying to name them all, it is perhaps more useful to classify them according to their primary functions and the needs they attempt to fulfill. In the city of Atlanta, there are many **ministries** that meet a diverse number of needs for homeless people. Several churches in the area provide not only regular hot meals for the local population, but also clothing through member donations. Others provide free or subsidized housing to a small number of people, subject to certain rules. There are also several ministries that provide the homeless with free rehabilitation counseling. (For a list of ministries in the Atlanta area, please refer to **Appendix A.**)

There is a select group of **charities** that focus on helping homeless people in America. There are even some local Atlanta groups with the same goal. These organizations receive support from philanthropic individuals and corporations in the form of dollars and free labor. They help the homeless by coordinating donor efforts, and by directing helpers to build houses, pass out clothing, and prepare food where it is needed the most. Other charities provide useful services, such as the United Way. This group services the needy by providing a local access phone number (211) which connects individuals to other service providers. (To see some of the charities that help the homeless in Atlanta, please refer to **Appendix A.**)

The final group that regularly provides aid to homeless people is the **government**. Federal, state, and local administrations all have their own methods for helping the itinerant population. Sometimes the federal government redirects tax dollars to aid the needy, and other times legislators write laws to protect the homeless from discrimination and disenfranchisement. State governments often build public facilities and modes of transportation that help the needy get from one place to another. City administrations have the difficult job of providing shelters for the homeless, and some do an admirable job. Many city governments provide other forms of aid, such as information services, employment help, free rehabilitation, subsidized housing, and transportation. For example, The Gateway Center is the result of Mayor Shirley Franklin's request that local organizations work together and help the homeless in Atlanta. This particular organization is a combination of government and charity efforts, and it provides information, rehabilitation, and limited bedding to those in need. Finally, it is the responsibility of the local police to protect homeless people from crime, just the same as they do for other members of society. (There are several examples of government groups who help the homeless, and some of them are listed in **Appendix A.**)

There are other groups who provide aid, including hospitals, clinics, and more. Many organizations that provide help to the homeless put great passion into their efforts. According to our information sources, the individual organizations (of all types) do not always work very well together. Our project aims to remedy this non-cooperation by helping groups to approach the issue as a community. In doing so, we wish to do away with the notion that this is *anyone's problem*, and replace it with the vision that we have a *communal opportunity* to pool resources and help make the lives of the homeless better.

# Task Analysis

## ***Characteristics of Tasks Performed by Users***

There are two sides to aid in the problem of homelessness: finding resources and offering resources. The first is most often the problem of the homeless people themselves, while the latter deals with the shelters and operations offering assistance to the homeless. The resources required are of the basic form necessary to survive. Food is the one that comes to most peoples' minds when they consider the necessities. The term food here also refers to water and other beverages that may bolster an individual's health. Shelter is another resource that the homeless need in order to survive. Weather conditions such as extreme cold/heat and storms can be very difficult to live through without some form of shelter. Lack of clothing is another issue that homeless people may face. Clothing may become worn and weathered and need to be replaced in order to help maintain a relatively healthy life. Rehabilitation is another common need. Many face sundry addictions, and many have mental or physical illnesses (Le Dantec & Edwards, TBP 2008). Providing rehabilitation for these difficulties can help return these people to permanent housing situations. The last resource to be considered is a source of employment. A large number of homeless people are homeless due to economic strife, and having an outlet that can lead them to potential employment could help them get their lives straightened out (Le Dantec & Edwards, TBP 2008). These resources are what the homeless often seek and what many shelters and charitable organizations attempt to provide. Our system will need a way of both guiding the homeless to these resources and/or aiding organizations in getting these resources out to the homeless.

Aspects of the user analysis also factor into the tasks performed. The tasks need to be easily accessible to both the homeless and the organizations. Having organizations be able to access the system is an easy solution, but having the homeless who are spread out and often in remote, unkempt locations gain access can be arduous. Tasks need to be able to be performed at any time of the day or night. Nights can be dangerous for the homeless, both socially and environmentally, and, ironically, this is the time of greatest need. The system also needs to cater to the disabled. Since many homeless have addiction problems or disabilities the system needs to take this into account and not exclude this portion of the population. These are some sweeping considerations that should be taken into account when designing how the tasks described above will be performed.

## ***Characteristics of the Task Environment***

A system designed to help the homeless must be designed for the environment in which it will operate. The first consideration must be the numerous forms of weather that could affect the system. Even though the homeless often escape extreme weather conditions, the situation may arise where the system needs to endure harsh environmental elements. Extreme cold is a condition that must be considered. In a physical system parts could become frozen and begin to degrade, rendering the system unusable. Similarly, extreme heat could also damage a physical system. Rain brings its own issues. The water and accompanying wetness can damage electronics, ruin fabrics, and destroy other 'soft' materials. Snow presents the wetness problem of rain with issues of cold as well. Hail can be damaging in the fact that it is essentially a projectile falling from the sky. This can account for a myriad of physical damage problems to avoid. The sun itself can not only bring the heat but also cause vision difficulties. Glare and brightness can decrease someone's ability to see things correctly, much like the problems that occur with ATM

displays. Wind is another element that can present a design conundrum. It can cause noise problems, much like the issues that arise when using a cell phone outdoors. These are all weather conditions that must be taken into account during design in order to prevent future dilemmas and possible harm.

The living environment itself is something that also must be considered. In order to be robust, the system must resist the dingy and often unsanitary conditions that many homeless people live in. Living conditions can be among animal and human waste, garbage, and other pollutants. The system needs to be able to stand up against these potentially harmful elements. It should be designed to help the homeless escape these situations, and not stop them from working while they are in the midst of them.

One of the most important concerns is within the social environment concerning the aspect of **confidentiality**. Homeless people are understandably concerned with protecting their privacy. For reasons such as wanting to fit in with society as much as possible or hiding their situation from family and friends, the homeless often want their information to remain **secure**. As many measures as necessary should be taken to prevent the leakage of personal information in order to avoid embarrassment and social harm. Matt Garbett of The Samaritan House, a local Atlanta organization, mentioned there are also laws in place that require information security. Privacy is a crucial requirement in the design of a system to aid the homeless and should be a focal point during every part of the design phase.

## **Structured Task Analysis**

The decision was made to do a hierarchical task analysis (HTA) for this section due to its graphical breakdown of the functions required. It provides a very helpful representation of the functions and how they relate to one another. It also demonstrates the order in which the tasks are normally performed. The HTA will give us a holistic view of the problems that homeless people face, and it will provide an avenue for choosing a particular branch to focus on in further stages of the project. This specific HTA is fairly high level because we must approach the solution *beginning with the problem*. As we come closer to the final solution, we will be able to generate a hierarchical task analysis that is more specific and useful.

The HTA begins at the highest level of simply helping the homeless. From there it is split into two groups (the providers and the homeless). The next level consists of the functions that these two sides perform. Finally, the lowest level presented here is a vague description of how to perform these functions. (Please refer to **Appendix B** for the HTA.)

## **Existing Systems**

Many systems currently exist to support the homeless community in their search for necessities and independence. In addition to the financial, skilled, and manual assistance given by service providers, technological aids have begun to appear in recent years. For example, the United Way operates a 24/7 telephone service that can direct people toward service providers in their area. Information about service and job availability is being disseminated using the Internet with greater frequency. The service providers themselves also use information technology to manage their clients' needs and to collaborate within and between their organizations. Service providers also use the Internet to spread information about their mission, recruit volunteers, and solicit donations.

One technological solution we encountered bears mentioning as it caters directly to the homeless population in service and usage: the Community Voice Mail service.

### ***Community Voice Mail***

Community Voice Mail (CVM) is a public voicemail service that provides a reliable point of contact for people lacking a permanent phone number (Community Voice Mail, 2007). After being registered with the system, a user receives a unique local phone number that can be provided to family, friends, and employers. When the number is dialed, the caller will hear several rings before being redirected to a voice mailbox. The owner of the mailbox can reach it from any public telephone and, after entering a private passcode, can receive his messages. The service is provided free of charge for patrons of several local charities, and it is available to individuals for a modest monthly charge. Organizations can also purchase mailboxes to provide to their own clients.

To access his mailbox, a user begins by dialing his designated phone number. When the voice mailbox answers, the user presses star (\*). He must then enter his voicemail number and press pound (#). The user next enters his 4-digit private passcode. If done correctly, an interactive voice system will then guide him through the steps to listen to his messages, change his greeting, and conduct administrative tasks. In addition listening to and removing messages, the user can retain important messages by 'saving' them for later review. When finished, the user needs to simply hang up.

### ***Analysis***

The CVM system has many benefits for a homeless person lacking a permanent phone number. The service is reachable from any public phone, making it reasonably accessible regardless of where the user is located. CVM is designed in the mold of the common voicemail system, making its usage familiar to anyone that has used such a system before. It also has been designed to be indistinguishable from a real phone number: it provides a unique local number, with a prefix used by phones outside of the system. This ensures that only a very determined and technical caller would realize it was part of a shared mail system. This helps to preclude any discrimination that would occur due to the stigma of homelessness. Finally, the modest cost ensures that a user can retain the phone number even when finances are limited.

CVM is not without its problems, though. From an end-user's standpoint, the steps to access one's voicemail are complex, not easily memorized, and are done without prompts. Part of this design likely exists to ensure the anonymity of the service, but it complicates its use nonetheless. As the user must call his specific number to access the service, the need to enter this number a second time seems redundant. On a more functional level, a phone number that is used exclusively for voicemail forces any contact with callers to be made indirectly, even when both parties are available. Short of calling and checking one's messages, there is no immediate indicator that someone has attempted to contact the user. By comparison, many homeless people are in possession of cell phones or have personal phones provided by a service provider (see Technological Context below), which would not preclude direct access. Since these points of contact may lack the permanence of the voice mailbox, there is still benefit to using both in conjunction. A call forwarding service, for example, would be beneficial in tandem with the voice mailbox.

## **Context**

Reachability is only one of the difficulties the homeless must cope with to survive. The world they inhabit poses many other issues, but also offers many opportunities to improve their situation. A better understanding of the environment and culture they exist within is necessary to know how to serve them best.

## ***Geographic***

As mentioned earlier, social services are often central to meeting a homeless person's needs. Access to these services is often a mitigating factor in their usage, and one of the most basic aspects of access is location.

While there is often a plethora of service providers in most urban areas, there is no guarantee that they will be in close proximity to each other. City planning measures can be taken to place these providers close to each other, but the availability of real estate and priority of the homeless community's needs in city planning can limit this proximity.

Service providers can be spread diffusely or centralized in one area. Each has its advantages and disadvantages. A wide distribution of providers can ensure that the homeless originating from various places can find providers without relocating. However, unless they are fortunate enough to find providers for all their needs, they may be forced to travel greater distances to meet all their needs. A central location for services would help alleviate this situation, but could require traveling or outright relocating to this new area in order to access services. Issues of culture, demographics, and economic status of this area can then become a concern for stakeholders.

Where service providers are not close together, transportation becomes an issue. One benefit of residing in an urban area is the ubiquity of public transportation. Many service providers can even provide such transportation to their clients for little or no charge. This can be done by forming relationships with the public transportation authority, providing funds to pay for the use of public transportation, or even providing the mode of transit themselves.

## ***Chronological***

Just as location is a concern, time also imposes issues. Many providers of essential services, such as food and shelter, operate on fixed time schedules. For example, a transitional housing provider may issue a curfew of 8:00 PM. It then becomes essential to ensure that a homeless person can accomplish what he needs during the day and return to the shelter before curfew. Complicating matters, many such deadlines are not concrete. For example, a convenient emergency shelter may accept visitors until 10:00 PM, but may typically reach capacity at 7:00 PM, at which point any incoming visitors are turned away.

The time of an individual provider cannot be considered in isolation. Many homeless people, particularly those coping with health problems, must access specialized providers with schedules outside of their control. For example, an HIV-positive laborer may need to meet regularly with his physician, his job counselor, and his case worker. All three providers operate on their own schedules, and often cannot accommodate each other. The ability to work within these time constraints, as well as those imposed by basic needs providers, must be carefully considered.

## ***Societal***

In addition to interacting with service providers and their homeless peers, a homeless person **must interact with the community at large**. This interaction varies from the altruistic to the hostile, but is frequently neutral. This interaction can influence perceptions, which can indirectly affect the moral, economic, and policy support the homeless receive from service providers. It is a relationship to be carefully considered.

Foremost, the public has varying **perceptions** of the homeless community. Many are sympathetic to the plight of the homeless, considering them victims of circumstance or an uncaring society. Others consider homelessness a condition of one's own doing, and undeserving of sympathy or support. Many people have differing feelings toward different subpopulations of the community. For example, someone concerned for a family displaced by a disaster may not be as empathic to an ex-convict who cannot find housing security due to his past misdeeds. Regardless of the basis of these perceptions, these feelings are reflected in their actions as advocates, volunteers, and voters. These actions, in turn, can affect the availability of funding to service providers, mandates of operation, support from donors, and the availability of volunteer labor. As voting measures and social service initiatives may not distinguish between subpopulations of the homeless community, perceptions of these groups may impact the community as a whole, constructively or adversely.

In addition to the homeless community, the service providers that serve them must operate within the boundaries set by society. Service providers are established with many different mandates: governmental, non-profit, religious, and even for-profit. While all share common goals, each has different expectations of what must be accomplished, how it is to be done, and how quickly to do so. For example, a government agency may dictate that efforts should be focused on transitional housing and employment readiness, neglecting support for emergency shelters. A religious organization may have certain expectations of faith and reverence, and may be compelled to limit services for those that do not share their beliefs. Due to differences in belief and mission, many organizations cannot or do not collaborate even when it might better benefit their clients to share information and manpower. Depending on the size and sophistication of an organization, problems may even exist within an organization as to how and where resources should be allocated.

## ***Technological***

Technology itself is beginning to factor more into the lives of the homeless. While a vast “digital divide” continues to exist across social and economic strata, information technology is beginning to become more accessible to the poor, including the homeless.

In a qualitative study, many homeless people indicated an affinity for cellular phones, and several even possessed and made regular use of them (Le Dantec & Edwards, TBP 2008). The portability of a cellular phone is all the more relevant for the homeless, especially those lacking a fixed place to reach out and be reached. For economic reasons, most respondents in possession of a cell phone used prepaid phones and were very mindful of their purchased minutes. As regular income may not be available, there exists a constant risk of their cellular numbers being reclaimed due to lack of payment, preventing them from becoming a permanent point of contact.

In addition to cell phones, the Internet is becoming a surprisingly common resource for the homeless. Most libraries in urban public libraries now provide terminals with which to access the Internet. Many service providers also provide Internet access points. While many of the homeless express discomfort with using computer technology, the benefits that can be

obtained from its use can outweigh its complexity (Le Dantec & Edwards, TBP 2008). The useful resources the Internet provides include job listing sites and classifieds, email and social forums, information about service providers, and even sources of entertainment and catharsis.

The service providers supporting the homeless community also use information technology alongside and as agents of their clients. Internally, IT is used to coordinate efforts, direct funding, and manage information about their clients. The Internet is also used to share information between agencies and to help them communicate with their clients, donors, and partners. The Internet is quickly becoming the primary medium for spreading information about their organizations and courting donors and volunteers.

## Evaluation Criteria

Creating technological solutions for the homeless requires sensitivity to their itinerant and unpredictable situation. It is important that any design be not only user-friendly, but also easily accessible regardless of changing circumstances. Special consideration must be given to the needs of several of the disadvantaged homeless subpopulations, such as those coping with addiction and mental illness. From these considerations emerge the dimensions we can use to evaluate an effective design.

### **Accessibility**

One of the distinguishing qualities of a homeless audience we have encountered is the transient nature of their lives. As their situation fluctuates, migration between resource providers is common. This poses complications for a population that may lack reliable storage and security. Any design should act to minimize such complications. To achieve this, the designer should strive to uphold the following principles:

- **Distribution:** A design should be as widely distributed as possible. It should be reachable by traveling as minimal a distance as possible. Ideally, the resource should be accessible through means as person has immediate access to at all times. This principle can be quantified as the mean distance traveled to regularly access this resource.
- **Locatability:** In addition to being available in as many places as possible, the design should be easy to locate when not immediately available. Efforts should be made to increase awareness of where the resource can be found, or where it should can be expected to be found (e.g. at housing programs, health services centers, etc.). Findability is bit more difficult to represent quantitatively than distribution, but could be operationalized using surveys and questionnaires inquiring about how difficult the design is to find.
- **Portability:** Many design alternatives may require multiple encounters with the design. These encounters may occur at different locations over varying periods of time. Data that is collected across encounters should be easily migratable between each instance of the design. This could be measured as the number of steps necessary to resume an activity across encounters at various points during use. If a single instance of the design is used across multiple encounters, then the design should minimize the effort needed to transport, secure, and maintain it. Examining physical dimensions, particularly size and weight, would adequately capture this quality.

## **Simplicity**

Ease of use is the cornerstone of any good design. This is no less true for the homeless population. Moreover, certain sub-populations within the community require extra measures to accommodate. In the metropolitan Atlanta area, nearly 26% of the homeless population lacks a high school education, and a non-trivial portion is illiterate (Pathways Community Network, Inc. et al., 2005). Over 50% of the homeless population is at least 45 years of age. 50% also cite substance abuse and health issues as the primary cause of their homelessness. To reach these populations, we prefer designs that possess:

- **Retainability:** Following an initial introduction and acquaintance with a design, the use of the design should be easily recalled. This means limiting complex behaviors, providing helpful cues, and keeping cognitive load reasonable. An effective measure could be taken in a learning scenario, where the user's ability to effectively use the design across increasingly long periods of inactivity is observed and analyzed.
- **Multimodality:** Due to differences in age, acuity, and skill, the ideal means of access might not be the same for the next person. Some modalities may not even be accessible for certain subpopulations, such as text interfaces for the illiterate. A design, therefore, should be available in as many forms as possible, without compromising other design principles. A sampling of the various subpopulations that would use the design could be checked against the design's different interfaces to ensure compliance.

## **Sustainability**

If a design is to be used regularly, every effort should be made to ensure its longevity. The homeless receive little assurance in many aspects of their lives. A design should not add to this uncertainty, and preferably should work to counteract it. The costs of realizing a design for the long-term may be direct or indirect, but they can be described as follows:

- **Cost-effectiveness:** A design should not impose any unreasonable expense on its users. This cost could be of money, resources, time, and trust, and it may be born by the users or their service providers. Regardless of the benefit, a design that cannot be afforded cannot be adopted. An analysis of the costs of maintaining a design should be collected and compared against the various incomes of its users and stakeholders.
- **Interoperability:** As a design progresses through its lifecycle, it will likely need to interact with different users, organizations, and systems. A design should be flexible enough that it can change to accommodate the needs of these users, not the other way around. If a design draws upon external resources to supplement its capabilities, it should be able to interact with new resources as they become available, and adapt to changes in existing resources.
- **Affectiveness:** A design should not simply fulfill a user's needs, but do so in an engaging way that makes its benefits plainly visible. Many homeless people described their cell phones not just as “useful” but “valuable”, a possession that they did not wish to part with even in times of particular hardship (Le Dantec & Edwards, TBP 2008). The more a service or device holds personal value, the greater the likelihood it is to be retained and recommended to other. Following a period of moderate usage, a survey of attitudes toward the design could be used to determine its affective impression.

## Information Sources

In order to build a knowledge base in the problem area we are trying to approach, we consulted multiple information sources on the existing problems, available technology, general statistics, wants, needs, and characteristics of the homeless population. This information came from people who are directly in touch with the homeless community, subject matter experts, and published documents on the subject. These invaluable sources provided a great deal of insight about the homeless population, and they helped us to consider creative solutions that we might not have otherwise. For providing us with expert information in their respective subjects, we would like to thank the following people:

- Matt Garbett - Volunteer IT specialist with Samaritan House Atlanta
- Shirley Sykes - Service Director, Gateway Center
- Dr. Jacqueline E. Brown - Executive Director, Atlanta Children's Shelter Inc.
- Rev. Phil Thomason - Director, Outreach Ministry, St. Mark United Methodist Church

Furthermore, we received a great deal of help from people who are involved in the research related to homelessness. These generous people shared their knowledge and findings with us, and this information was significant in motivating us, giving us a broader sense of the problem at hand, and helping us to understand the resource and time constraints. For their excellent help and charitable donations of time and effort, we are most grateful to the following people:

- Chris Le Dantec - Ph.D. Student, HCC Program, Georgia Tech
- Hugh Crawford - Professor, LCC Program, Georgia Tech

The other sources of information that we consulted were the systems and organizations which are providing help to the homeless people. These groups include the following:

- Collaborative 211 system of “United Way of America” (UWA) and the “Alliance for Information and Referral Systems” (AIRS)
- The 2005 Metro Atlanta Tri-Jurisdiction Collaborative Homeless Census and Survey: Homeless Survey report

Finally, during our information-gathering process, certain members of our team were able to conduct an informal discussion with a few of the homeless people at St. Mark United Methodist Church. To the homeless individuals who selflessly provided us with their expert opinion, we thank you.

## Implications

Through the course of phase one of this project, we gained a great deal of insight into the plight of the homeless. Our analysis of the existing systems and our informal discussions with potential users resulted in several important implications. The homeless population has many varied needs, and the stakeholders are generally trying to provide two types of solutions:

1. Fulfilling basic human requirements including food, clothing, and shelter.

2. Making lives better (this includes rehabilitation, job placement, and other efforts to help people break out of homelessness).

Both of these problem areas have a common link, and that is the information systems that make solutions possible. In the process of analyzing the current situation, we were able to recognize a unique opportunity. The homeless people of Atlanta would greatly benefit from a solution that would allow them to help themselves. Furthermore, the organizations that help the homeless have a vast need for better information systems, and providing them with such systems would greatly improve the situation.

It is important to consider how much actual technology can be easily embedded into homeless society without being destructively intrusive. According to the subject matter experts that we were able to contact, a significant segment of the target users have cell-phones, and a major portion of those who don't are familiar with how to operate these devices. This inclination towards mobile devices provides us with a potential avenue for reaching out to the homeless.

Much to our surprise, we discovered that there are some computer labs that are readily available to homeless people in Atlanta. These labs provide the itinerant with the opportunity to browse the internet, build resumes, search for jobs, and communicate with other people. This presents us with a great opportunity, and it allows us to consider solutions we may have otherwise ignored. For example, more complex client applications and web-based solutions are certainly feasible given this helpful development. (Efforts put into this front could potentially result in an online training platform or a collaboration tool for peer review of the available services.) The downside of these kinds of solutions is the time and money required to develop and maintain the infrastructure of both the software and the hardware.

Analyzing the environment in which the homeless are immersed provides a lot of issues that need to be incorporated into the design implications. The design should be highly accessible and possibly mobile. It needs to be quite resilient to weather elements and grungy living areas. The level of robustness can possibly become the difference in life or death. It must be a constantly accessible, sturdy system that requires minimal maintenance in order to perform optimally when helping the homeless.

Privacy is an absolute must. Confidentiality is a big concern with stakeholders within the homeless community. It must be preserved in order to prevent embarrassment and social harm. Our design will require that this be a focal point and that no privacy issues are ever breached.

During the first phase of this project, our data collection, analysis, and discussion have lead us to focus on providing an accessible interface which can help users get the information they need in the easiest possible way, and to integrate it with the resources available. We intend to provide an information service that will benefit the homeless, the providers, or both, and to concentrate not only on functionality but also on usability and accessibility. Furthermore, we realize that we must take great care in deploying our solution, and we must design it such that it will not be destructive to the comfort, safety, or privacy of the homeless.

## References

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## **Appendix A – List of Providers in Atlanta**

The following list is intended to provide a sample of the groups and organizations that help the homeless in Atlanta. The list is neither comprehensive nor complete. Much of the information used to prepare this list was gathered from the Gateway Center (<http://www.gatewayctr.org/>).

### ***Ministries***

- Atlanta Union Mission
  - food, shelter, clothing, housing, rehabilitation, counseling, training, career services, childcare
- Catholic Shrine of the Immaculate Conception
  - shelter, participation in charity events
- Central Presbyterian Outreach Center
  - food, clothing, shelter, transportation, document procurement services, rehabilitation, counseling, career services, healthcare, haircuts, etc.
- Crossroads Community Ministries
  - food, information services, mailroom services, healthcare, job training, counseling
- North Avenue Presbyterian Church
  - spiritual guidance
- SafeHouse Outreach Ministries
  - food, rehabilitation, job placement
- St. Mark United Methodist Church
  - food, housing, rehabilitation, counseling
- Zaban Night Shelter
  - food, shelter for couples with supervision/protection

### ***Charities***

- Community Friendship, Inc.
  - psychiatric rehabilitation
- Gateway Center
  - information services
- Genesis Shelter
  - shelter for parents & children
- Jewish Family & Career Services/Project Connect
- Project Open Hand
  - food (& delivery)
- Salvation Army
  - clothing, consignment, etc.
- Samaritan House
  - food, clothing, shelter, legal, medical care, employment services, and holiday help
- United Way
  - 211 information services

## ***Government***

- Georgia Department of Community Affairs
- City of Atlanta Courts & Judicial Services
- City of Atlanta Department of Corrections
- City of Atlanta Mayor's Office of Constituent Services
- City of Atlanta Mayor's Office of Human Services
- City of Atlanta Police Department
- Atlanta VA Medical Center/United States Department of Veterans Affairs

## ***Other***

- Cobb Human Services Coalition
- Emory University
- Grady Mental Health
- Saint Joseph's Mercy Care Services

## **Appendix B – Hierarchical Task Analysis**

Please refer to the Hierarchical Task Analysis (HTA), which is attached as an external document.

- The electronic version is named **LGI\_P1\_HTA.pdf**.
- If you are receiving a paper version of this document, the HTA may be attached after this page or at the end of the document.

## **Appendix C – Statistics**

The following information was gathered from the Homeless Survey report, which was prepared by The 2005 Metro Atlanta Tri-Jurisdiction Collaborative Homeless Census and Survey.

**Age:** 94% between 25-64 yrs old

**Gender:** 76.4 % men

**Ethnicity:** 86.8% African Americans

**Marital status:** only 6% married

### **Education:**

42.6% High School or equivalent

27.2% some college or a technical or associate degree

3.8% had a bachelor's degree or higher

### **Reasons for homelessness**

64.1% economic

47.9% substance abuse

39.0% family issues

29.0% health issues

The most common specific reason cited for the cause of homelessness was job

loss/unemployment (mentioned by 47.9%) followed by alcohol/drug use (mentioned by 44.7%).

### **Problems in getting the work**

39.5% Transportation

15.0% Health

09.0% Skills/education/expertize

06.6% Drug/Alcohol

06.4% Criminal Record

### **Percent of Respondents Reporting Physical or Mental Impairments That Make It Difficult to Carry Out Daily Activities**

24.8% Alcohol abuse

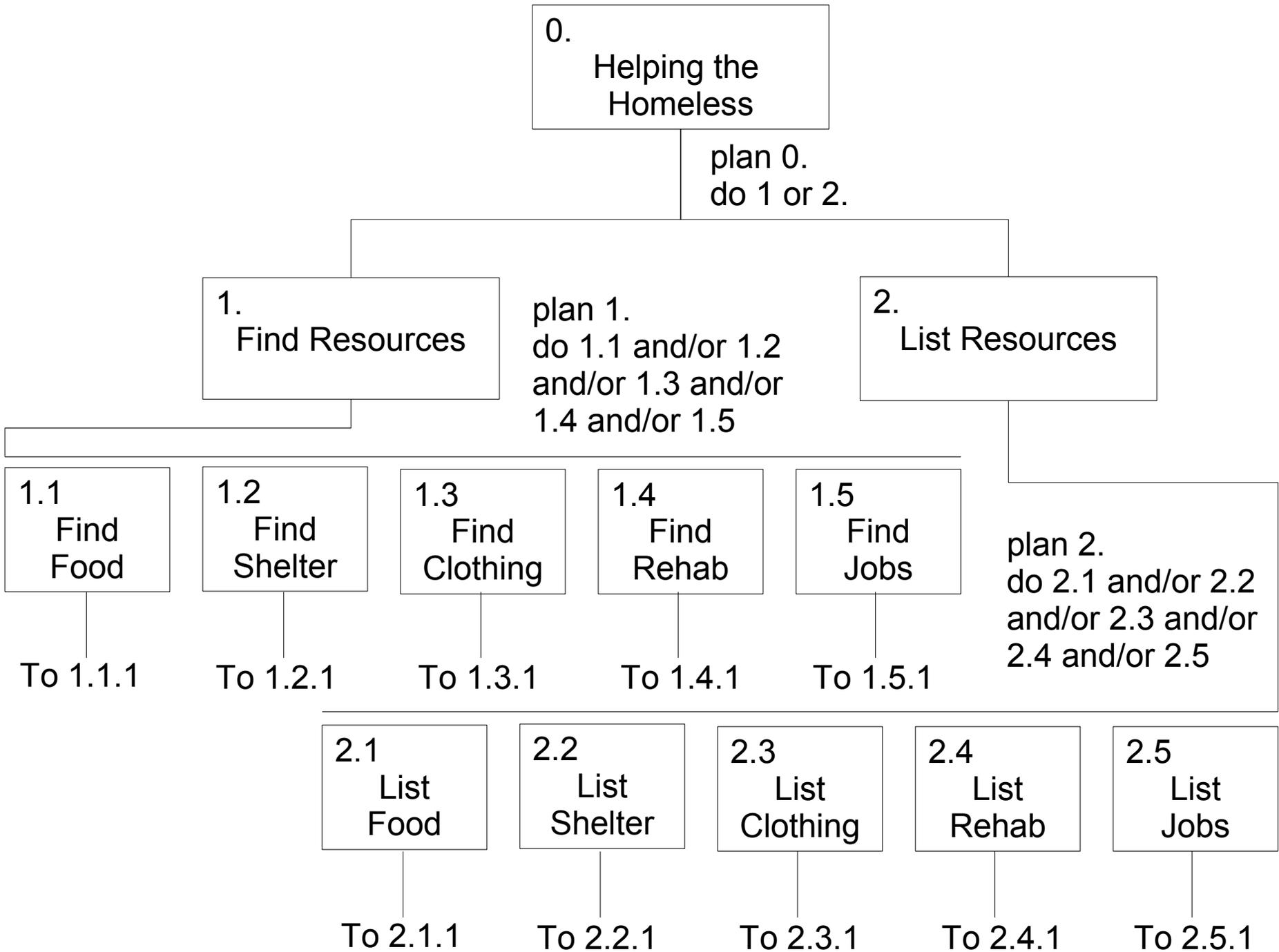
22.4% Drug Abuse

23.1% Depression

14.4% Physical disability

10.8% Mental illness

07.6% Chronic health problem



plan 1.1: 1.1.1 – 1.1.2 – 1.1.3 - if found 1.1.4 - 1.1.5

1.1.1  
Determine  
Need

1.1.2  
Search for  
Food

1.1.3  
Find the  
Food

1.1.4  
Obtain  
Food

1.1.5  
Consume  
Food

plan 1.2: 1.2.1 – 1.2.2 – 1.2.3 -if found 1.2.4 - 1.2.5

1.2.1  
Determine  
Need

1.2.2  
Search for  
Shelter

1.2.3  
Find the  
Shelter

1.2.4  
Procure  
Shelter

1.2.5  
Use Shelter

plan 1.3: 1.3.1 – 1.3.2 – 1.3.3 -if found 1.3.4 - 1.3.5

1.3.1  
Determine  
Need

1.3.2  
Search for  
Clothing

1.3.3  
Find the  
Clothing

1.3.4  
Obtain  
Clothing

1.3.5  
Utilize  
Clothing

plan 1.4: 1.4.1 – 1.4.2 – 1.4.3 – if found 1.4.4 - 1.4.5

1.4.1  
Determine  
Need

1.4.2  
Search for  
Rehab

1.4.3  
Find Rehab  
Resources

1.4.4  
Secure  
Rehab  
Resources

1.4.5  
Utilize  
Rehab  
Resources

plan 1.5: 1.5.1 – 1.5.2 – 1.5.3 -1.5.4 – if offered job 1.5.5 - 1.5.6

1.5.1  
Determine  
Need

1.5.2  
Search for  
Jobs

1.5.3  
Find  
Available  
Jobs

1.5.4  
Interview/  
Submit  
Resume

1.5.5  
Secure Job

1.5.6  
Work at  
Job

plan 2.1: 2.1.1 - 2.1.2

---

2.1.1  
Provide  
Food

2.1.2  
Distribute  
Food

plan 2.2: 2.2.1 - 2.2.2

---

2.2.1  
Provide  
Shelter

2.2.2  
Distribute  
Shelter

plan 2.3: 2.3.1 - 2.3.2

---

2.3.1  
Provide  
Clothing

2.3.2  
Distribute  
Clothing

plan 2.3: 2.4.1 – 2.4.2 – 2.4.3 - 2.4.4

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2.4.1  
Provide  
Rehab

2.4.2  
Enlist  
Participants

2.4.3  
Check up  
on patients

2.4.4  
Sign off or  
repeat  
process

plan 2.5: 2.5.1 – 2.5.2 - 2.5.3

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2.5.1  
Provide  
Jobs/Job  
Search

2.5.2  
Interview/  
Examine  
Resumes

2.5.3  
Employ  
Candidate