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How might we prevent the wasting of still usable resources, including electronics and household furnishings, during the Georgia Tech Spring 2014 move-out week?

PROBLEM: Problem Statement and Significance

Throughout this paper and project, the word "waste" is used. For all purposes, this "waste" means the waste of resources, not garbage waste. While a growing mass of garbage is indeed a problem, there is a greater concern. The lack of reuse of resources in today's era marks the current society as the "the throwaway society" [1]. The culture of misuse and negligence exacerbates multiple problems concurrent with waste, a declining environment, a continued disappearance of natural resources, and a loss of any and all potential opportunities that were possible with higher sustainability [1]. Without tackling this problem with forms of recycling, reusing, and repurposing, it seems that the wastefulness of current and future generations will lead to spiral of a declining environmental status.

When focusing on the wasting of resources, a key location to target is the college area. In Georgia Tech alone, during the Spring 2012 semester (the last semester for which statistics are available), approximately 12,400 pounds (6.2 tons) [2] of recyclables were diverted from Georgia Tech dumpsters. Collected items include clothing, corrugated cardboard, office paper, glass, non-perishable food and electronic wastes. However, this does not include still-working electronics and other repurposable objects like futons and other appliances. During the Spring 2013 move-out week, Georgia Tech students produced a noticeable amount of reusable waste due to rushed schedules, inability to store and transport items, and apathy towards recycling. The luxury of wasting these resources comes at great opportunity costs, including loss of potential resale and the cost of energy needed to produce brand new materials [3].

PROBLEM: Context of the Problem

The causes behind wastefulness on a national level can be attributed to indifference to recycling, lack of knowledge, and inconvenience, but almost all wastefulness on college campuses can be attributed to inconvenience alone [4]. Studies have repeatedly found that college students recycle less if they perceive a program to be inconvenient [4]. The convenience of recycling is often more concerning for college students than the long term benefits of recycling. In fact, so long as a convenient program is available on campus, even those who are unconcerned with the environmental benefits show high levels of recycling [4]. Currently, for Georgia Tech students, the easiest way to throw away old refrigerators and couches is to toss them in the dumpster during move-out week. Due to a lack of focus from the Georgia Tech Housing Department and Office of Solid Waste Management & Recycling (OSWM&R), no long-lasting repurposing efforts have taken root [2].

SOLUTION: Goal

The scope of this project targets the valuable and reclaimable waste produced by Georgia Tech students participating in move-out week of Spring 2014. This project defines valuable and reclaimable waste as: functioning electronics, household appliances, and household furnishings. It is assumed that the team members can achieve the most impact within the Georgia Tech community since the team members reside on campus. According to OSWM&R, Georgia Tech residents produce a significant amount of reclaimable waste during spring move-out in comparison to other times of the year [5]. This project will focus on move-out week of Spring 2014 in order to provide ourselves enough time to develop our project. Finally, in talking to Bob Canada, the Senior Director of Housing Facilities

Management at Georgia Tech, it was brought to the team's attention that while there are clothing, book, and food drives held during Spring move-out, there are no drives currently in place to handle electronics or household goods. By redirecting these reclaimable resources to Atlanta charities, the intended outcome is to increase these charities' capacities to impact those who rely on their services. The second outcome is to increase both Georgia Tech students' desires to recycle and their usage of campus recycling options [2].

THE SOLUTION: Solution Description

Our team will hold a donation drive during finals week between the dates of Wednesday, April 30th thru Saturday, May 3rd. During this time, two Goodwill trailers will be located on Georgia Tech's East Campus as described in our scope. The first location is the parking lot behind Matheson-Perry-Hanson Residence Halls, and the second location is the parking lot located between the back of Brittain Dining Hall and Howell Residence Hall. The operation hours will be from 12:00 PM to 7:00 PM, which are subject to change depending on when a Goodwill worker is available to work at the trailers. Located at the corner of Bobby Dodd Way and Techwood Drive will be a table marked as Tech Treasure where at least one of the team members will be present to coordinate the volunteers. Volunteers will direct students and help move donation eligible goods to the closest Goodwill trailer. Any items eligible for Goodwill donation will be collected, including but not limited to household appliances, functioning electronics, clothing, and books.

THE SOLUTION: Objectives and Status Update

The following is a list of our past, present, and future objectives and tasks since the inception of our project.

1. Finalize all partnerships and quantify all material support with on and off campus organizations, including, but not limited to, Goodwill and GT Housing
    a. Work with Goodwill agree on terms of partnership and determine what resources would be available to us to use from Goodwill.
    b. Finalize all details of the implementation with Residence Life including liability, bin placement, and student access/ extended volunteer stay.
    c. Connect with RHA to organize a move-out recycling partnership in order to increase the efficacy of both our move-out recycling efforts. Explore whether RHA may provide their name, funds, volunteers, and/or donate the clothes/books to Goodwill as well.
    d. Connect with Students of Sustainability, SOS, in order to see if SOS would have an interest in our program. Explore whether SOS might be able to supply funds, volunteers, or information of other groups that regularly operate move-out recycling programs that can work in parallel with ours.
    e. Organize with any other campus organization that is forwarded to us by Dan Morrison seeking approval for similar move-out recycling programs. Explore whether these organizations may provide volunteers or funds.

    Status: COMPLETED. All partnerships have been finalized with Goodwill and Housing. Through dedicated, repeated, and well organized conversations including one involving both Goodwill and Housing representatives we have been able to fully approve and agree on all major details of the donation drive during move-out. This also includes completely approving our volunteers for operation and to receive a move-out extension. RHA has been inconsistent with responding to e-mail and conversation stopped. However, there would be limited benefit from a

partnership with RHA at this point, so we decided to forgo further attempts at communication until the Spring of next year. We have also decided against communicating with SOS for the reason that communicating with Housing and Goodwill took priority and SOS was put off. There would similarly be very limited benefit if any in a partnership with SOS, so we believed it acceptable to discard this task as well. There has been no organizations forwarded to us by Dan Morrison attempting similar projects.

2. Recruit, train and, prepare the targeted number of volunteers for Tech Treasure.
    a. Decide on positive and negative reinforcement tactics to recruit and keep volunteers.
    b. Recruit for student volunteers on Skiles Walkway.
    c. Host 3-4 orientation meetings for volunteers. We will cover volunteer responsibilities and expectations, liabilities, move-out extensions, and shift sign-ups.
    d. Open sign-up sheet, fill all time slots, and close sign-up sheet.
    e. Keep volunteers updated via email up until and throughout move-out week.

    Status: ONGOING. Recruitment is currently ongoing and we predict now about 10 volunteers. We hosted 2 orientation meetings that had zero attendance, though we had initial student interest. We decided to cancel our planned third orientation and instead moved all volunteer registration online. Since then, we have had volunteers sign up at their convenience while still learning the roles, responsibilities and benefits of a Tech Treasure volunteer. We believe at this point there will be enough volunteers to assist in the move-out donation drive.

3. Advertise the Tech Treasure project, its purpose, and its time of implementation to all targeted Tech students in at least 5 mediums over a period of 2 months.
    a. Develop and finalize logo for Tech Treasure. Be sure to comply with all copyright protections of any design we may use.
    b. Design and Purchase all T-shirts, flags, flyers, chalk designs, and Student Center Plasma advertisements.
    c. Post advertisements of the project via flyers, sidewalk chalk, and Student Center Plasmas.
    d. Create and submit WREK Atlanta PSA.

    Status: ON-GOING. So far we have accomplished:
        - Finalizing Tech Treasure logo
        - Finalized all designs for t-shirts, banners, and all media
        - Purchasing stickers
        - Purchasing banners and table throws
        - Submitting WREK PSA
        - Passed out volunteer fliers, creating initial interest in Tech Treasure
        - Created a Facebook page for Tech Treasure

    We will be utilizing dead week and finals week as major opportunity to advertise Tech Treasure primarily depending on fliers, PL and RA encouragement, and general word-of-mouth.

4. The team will review enough of the gathered material to be able to plan future directives and report the degree of success to Goodwill, Housing, and any interested parties.
    a. Gather analyzable data on the Spring 2014 Move Out. Types of such data could include, but are not limited to:
        i. Categorizing the items collected into groups depending on their type, such as furniture, electronics, books etc. and estimating tonnage of each group.
        ii. Tonnage of items collected per location.

iii. Total tonnage of items collected.
iv. All associated costs of the project.

b. Use said data to draw graphs and charts for the purposes of analysis.
c. Create a survey to get feedback about the project. Possible survey questions:
    i. Did you volunteer?
    ii. Did you donate?
    iii. If so, what types of items did you donate?
    iv. How did you hear about the project?
    v. What did you like most about it?
    vi. Suggestions for improvement?
    vii. Overall, would you donate to us again?
d. Utilize the analyzable data and graphs to plan for other move-outs and to create future directives.
e. Initiate follow-up communication with partner charities (Goodwill) to maintain future relationships.

Status: ON-GOING. We will undertake this objective after the pilot. We have determined that Goodwill of NG does not have the capabilities to measure tonnage of donations, so we will be limited to measuring the quantity of collection by trailer-loads.

SOLUTION: How the Project Changed Over Time

During the first few months of our project, the biggest change that occurred related to the narrowing of our problem space. We intended to implement our project on both East and West campus, however, we realized that a smaller test pilot would be more manageable logistically than a full-scale operation. We chose East campus, as opposed to West, because we believed that freshmen threw out a higher concentration of reusable goods. This belief was verified by Georgia Tech's Director of Residence Life, Dan Morrison. Another change that occurred was the decision to not include broken electronics in the scope of items we aimed to collect. We learned that Dell Reconnect, a computer recycling program in which Goodwill partakes in, is only capable of taking in functioning computers and computer accessories. When we learned this, It was too late in the semester to seek out a partnership with an electronics recycling company. We also had aimed to collect goods overnight inside of dorms, but Georgia Tech Housing was fearful of trash build-up and theft of collection bins, so we decided on only daylight collection.

FUTURE: Future Implications and Next Steps

In the immediate future, corresponding with the summer semester 2014, our team will evaluate the metrics of our success, outline opportunity for future improvement, and communicate with our partners in Housing and Goodwill NG the degree of success and future opportunities. We will be formally measuring our success by two metrics; amount collected and review, and informally measuring our success by the degree of volunteer participation and the reaction of the target move-out students. Due to limitations based on Goodwill's practice we will be limited to measuring the amount collected by trailer-loads. Upon inspection of the trailers, we will also note what items were donated most often and if there are any clearly prevalent items in the dumpsters that could have been donated. We will analyze the amount collected against the effort put in by Goodwill and by ourselves to determine the scalability of adding more collection locations. Hopefully with Housing's help in scouting out new locations and Goodwill's own evaluation we will continue and/or expand our program to other available areas.

In the mid-term future, corresponding with fall and spring semester of 2014 and 2015 respectively, will see the formal charter of Tech Treasure under an SGA budget. This will effectively solidify Tech Treasure as a student organization and streamline its organizing student body into formal roles. The now formal organization will evaluate any new costs needed of SGA or Grand Challenges for a continued collection drive or expanded drive. The limits of the move-out collection drive should only be limited to what Goodwill's willing to commit to, so with continued move-out collection drives, Tech Treasure will be pushing more of campus, more aggressive advertising, broader volunteer participation, closer integration with the regular move-out routine, full campus coverage, and any further opportunities.

The long-term goals of Tech Treasure will be further established after the pilot's successful conclusion. Expected long-term goals are to have full campus coverage with move-out recycling.

REFERENCES

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