Final Report

Miami Dade College's Miami Budget project

PIT-UN 2019 Network Challenge

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Developed by:

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Summary of the project

Miami Dade College (MDC), in partnership with Code for South Florida and the City of Miami, developed the Miami Budget project – an open source platform for citizen inclusion in the budget of the City of Miami. Students worked with faculty and industry professionals from Code for South Florida, Microsoft, and the City of Miami to create the participatory web application, which allows Miami residents to be informed contributors to their local budget.

Background and Problem Definition

a. Project's main objective
b. What was the initial problem you wanted to solve?
c. Who/what are other individuals or institutions working on similar projects?
d. Did you work with other teams or institutions? If yes, how?
e. How did you define diversity, equity, and inclusion with respect to your work?

Today, more than ever, local communities' involvement in democracy is essential. However, Miamians struggling with poverty, lower levels of education and limited access to official documents may feel isolated from their local government. The Miami Budget project will address these concerns by providing a straightforward interface and streamlined opportunities to build civic participation for the budgetary process in Miami.

Currently the City of Miami houses information related to the budget in a cumbersome PDF. Residents can provide comments via emails and voice messages. This is a daunting task for many, and it can be difficult to reach a consensus from messages. By providing policy makers with a clear view of budgetary preferences, the Miami Budget connects a marginalized population with their local government and allow direct feedback on tax allocations and spending that can be easily accessed and analyzed by the city.

The Miami Budget draws from the Austin Budget Party, created by Open Austin, a civic technology group under the Code for America organization. Austin Budget Party, a web app designed for mobile devices, teaches users about the City Budget and invites them to remix how departments and services are funded as part of a partnership with the Austin Monitor and funded by the Mozilla Gigabit Fund to teach high schoolers about civic priorities. Additionally, an analysis of participatory budgets implemented in 53+ cities across the nation was performed. The focus was finding scalable, reusable, and case studies of digital forms of participatory budgeting. There is no evidence of any participatory budgeting through online service in Florida. In the US, there are a few cases of digital service attempts by cities. Only 3 were reusable. The Cities of San Francisco, New York, and Austin were among the few cities noted with a participatory budget model as a digital service.

The Miami Budget built upon the ideas of the Austin Budget Party to create a new app which aligned with several PIT goals. Students and faculty participating in this experiential learning worked in direct partnership with Code for South Florida (originally Code for Miami) and the City of Miami. The City of Miami provided the key parameters from the city budget while Code for South Florida acted as the management team in identifying project scope, relationship management, team management, user research and design, and coordinating agile development sprints with the student team.

MDC recognizes cultural and ethnic diversity as vital to education. In the 2019-20 academic year the student body was 73% Hispanic and 16% black non-Hispanic. However, as a minority majority institution, MDC believes diversity and inclusivity expand past demographics. MDC monitors publications and presentations for prejudicial approaches and statements and provides printed materials, instructions, and student information in Spanish, Creole, and English. MDC ACCESS Services supplies disabled students with an array of assistive technologies to support access, retention, academic success, and graduation, including tape recorders, audio readers, text magnifier screens, materials printed in large type, keyboard voice recognition, Braille signage, telecommunications devices, and special reading and writing software for the learning disabled. MDC faculty and staff do not penalize students for missing classes because of religious holidays. MDC provides evening, weekend, and online classes and after-hours advisement to break down age barriers for nontraditional students.

Code for South Florida has done significant work in Civic User Testing with the City of Miami. The execution of this project was accomplished with a diverse and inclusive team (see table 1). Additionally, the platform allows to gather demographic information to provide a snapshot of which populations of Miami residents are engaging with local government via the Miami Budget. This data can be used to assess where measures can be taken to engage under-served residents and to fuel outreach.

Table 1. Team diversity by contribution area
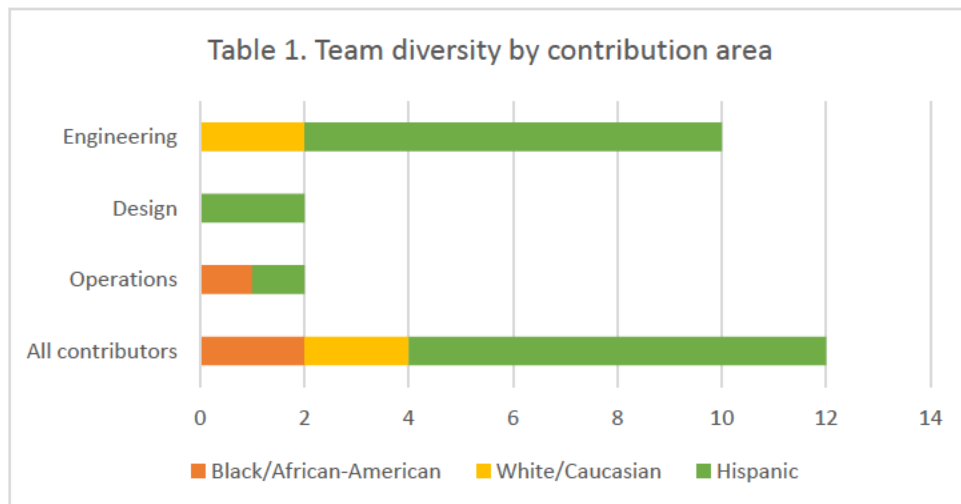
Students working on the project gained valuable skills in design, project management, programming, and code repositories. Thousands of lines of code were written and are publicly available on GitHub. Such experience will be invaluable as students embark on their new careers.

Development

a. How did you first approach the project? i. What were the intended methods and processes you wanted to use?
b. What changes did you make to the project? i. How did you adapt to any changes in circumstances for the project?
c. How did you evaluate the success of the project?

In terms or coordination and management, the first approach was to hire a Program Coordinator to serve as the point of contact between the PI, students, and the external partners. However, the PI and

budget manager couldn't find a candidate for the position so they decided to modify the approach by transferring the coordination and management responsibilities of the project to Code for South Florida, with a close collaboration with the PI. As a result, a Core team was created to implement the project:

- David Freer, Computer Science Professor at MDC (Principal Investigator)
- Gregory Johnson, Project Leader at Code for South Florida
- Livio Zanardo, Project Manager at Code for South Florida
- Ildar, Data Scientist Volunteer at Code for South Florida
- Ailyn Guerra, Associate at Code for South Florida

While the Core Team was identified, the PI proceeded to select students via an application process culling from MDC's and Florida International University's (FIU) programs in Computer Science, Data Visualization, and Graphic Design. The responsibility of the student team was to carry out supplementary tasks reporting to core team.

- Earl Cameron, Developer Team Lead
- Annie Delgado, Graphic Designer
- Alexander Mendez, Graphic Designer
- Andre Aragon, Jr. Developer
- Jeff Yuvero, Jr. Developer
- Sasha Feliu, Jr. Developer
- Osmany Pujol, Jr. Developer
- Miguel Amaro, Jr. Developer
- Anthony Ruiz, Jr. Developer

The technical approach defined by the Cote team to develop the Miami Budget was to follow an Agile Methodology. The Agile methodology means that every release is a usable product.
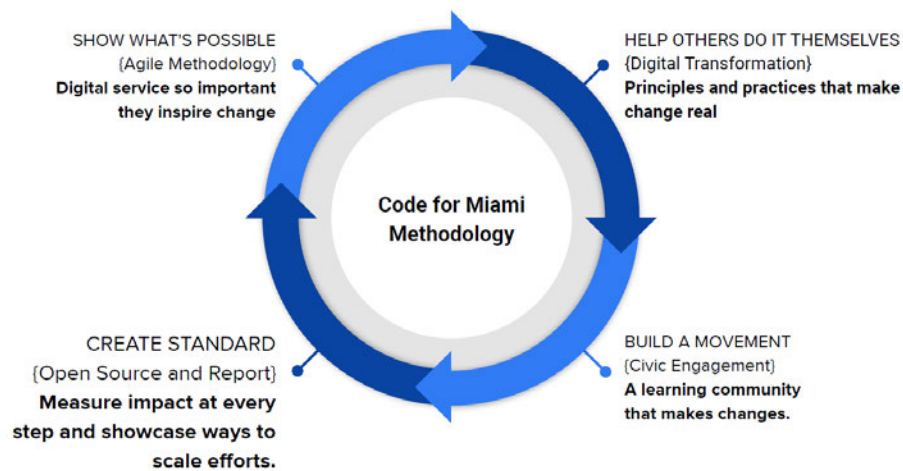
Technical approach to develop the project

Each week the team had a list of tasks to complete. Students would make pull requests and commits to the codebase in GitHub. The team had weekly 30-min calls since January to review over:
- What was done?
- What was being worked on?
- What challenges were being faced?

Regarding the development of the platform, the team conducted 1:1 user session for 30-45 minutes with 10 South Florida residents using the Austin Budget website. The focus areas were navigation and ease-of-use, users finding the right information, and interest of users in a budget hearing. These were the results:

- o   All 10 testers enjoyed the simple and instructional steps to the tool
- o   6 out of 10 testers did not understand how their decisions would make an impact and did not get the purpose.
- o   3 out of 10 testers were curious to see what other people had put for their budget and wanted to see a sample of others completing the process

The decision from the team was to build our own participatory budget from scratch instead of replicating the Austin Budget:

1) Adopt simple and instructional steps.
2) Focus on 1 area under the budget and specific projects.
3) Make it easier to see how other people vote in the local area

The success of the project is based on two clear metrics: (1) were the students exposed to a professional programming environment where they could advance their skills; and (2) was the code developed able to be presented to the City of Miami for their consideration to adopt the project?

The code repository, developed by students for this project, has nearly one hundred branches. The fact that all branched are merged and closed shows evidence of student progress and completion of the project. Hundreds of separate commits were made by students, representing thousands of hours of work.
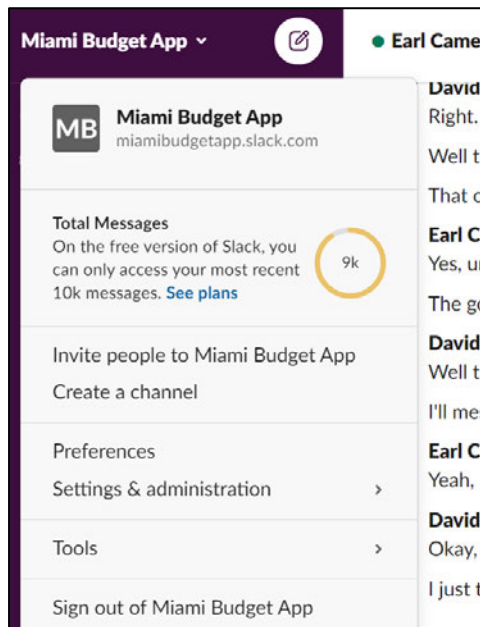
One of the methods of communication for the team was Slack. There were over 9,000 messages sent across the Slack message board. Students and the Code for South Florida team, as well at the PI, David Freer, shared ideas, plans, and progress. Without such student engagement, there would have been no progress on a project such as this. Students were grouped into smaller teams of two or three to handle the hundreds of tasks necessary to complete a software development project of this magnitude. Additionally, students created a separate WhatsApp chat to further communicate. Trello boards, another tool favored by software professionals, were used to formally assign projects to students.

Before the pandemic, students regularly met in person at the computer lab in Miami Dade College, Kendall campus. After conditions forced the project to go fully remote, Jitsi and Microsoft Teams replaced the computer lab. By being adaptable, the code continued to flow.

For the first metric, student engagement and production of working back-end code and the front-end design was a success. This point brings us to the second metric, adoption by the City of Miami. After a live presentation of the project in September 2020, the City of Miami officials were impressed by the user interface and research conducted by Code for South Florida and expressed their interest to adopt

the platform. Code for South Florida, under the direction of Gregory Johnson, is also having discussions with Miami Dade County officials to adopt the online participatory budget.

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Lessons learned

a. How would you summarize your insights?
b. What specific advice would you offer to other members with regards to this project?

Election → The value in participatory budget is in empowering people to vote on ideas that can lead to visible change. This keeps people believing in the tool. For example, in the 53+ cities we noticed that the cities with ongoing use of Miami Budget model outside of Year 1 had partnerships set in place to ensure real decisions were being made in that community.

Feature: A feature like product hunt that allows for upvoting, shows results and leads to reports is an important part of participatory budgeting (e.g Product Hunt)

Education → A content platform which informs and helps users understand how the budget works and what ways to get involved at a local level (E.g GIS Maps)
Feature: Create use cases or samples of Miami Budget project decisions. For example, BadgeWatch demonstrates how decision to create a civilian investigative panel can impact communities through transparency in real-time.

Easy Setup → A simple setup to create a new election or education process using new or existing content while publishing it on a easy to share report or website (e.g PowerBI).
Feature: An easy to deploy website for new elections and reports for administrators.

Interface Design → The interface is important and just like Austin Budget Party it should be simple and feel modern. This should not come up at the cost of being simple to understand and compare other elections to the one you are in.
Feature: A map view and a list view function could help people understand what areas are impacted by location.

Experience Design → The user experience should be accessible and consider that not everyone knows the material being shown. This should be assisted with a walkthrough tab, instructional video, or a guest experience.
Idea. A guest user or demonstrative experience for new users for them to get the hang of the Miami Budget process.

IT Services and Adoption → The demonstration of a concept and a prototype can help add context to why a solution is needed. The adoption of a tech solution requires more than a GitHub codebase.

Diversity and Inclusion → Miami is diverse by nature. In other cities it would be hard to predict multi-language or other features to make this accessible. Because of experience and staff diversity we had staff onsite who could speak Spanish, French and Haitian Creole to handle any questions from the platform users.

Possibilities to replicate

a. How can other members replicate the project, or part of the project?
b. What considerations should other members have when approaching your challenge?

Scaling Adoption → The way we built our tool it is possible to be replicated in other cities and universities. It would require support from Code for South Florida's team and Professor Freer as PI of the grant.


Current state of the project

The project accomplished the main objective of developing the prototype for a Miami Budget website.

Front page of the People Budget App.

Students have created a beautiful landing page with links to Proposals, Profiles, and Login and Logout pages. Great care was taken to create a cohesive design across all the pages. Adorning the site are beautiful pictures of our home, Miami, which create an inviting atmosphere for citizens to express their thoughts about the city budget while officials can manage the status of projects
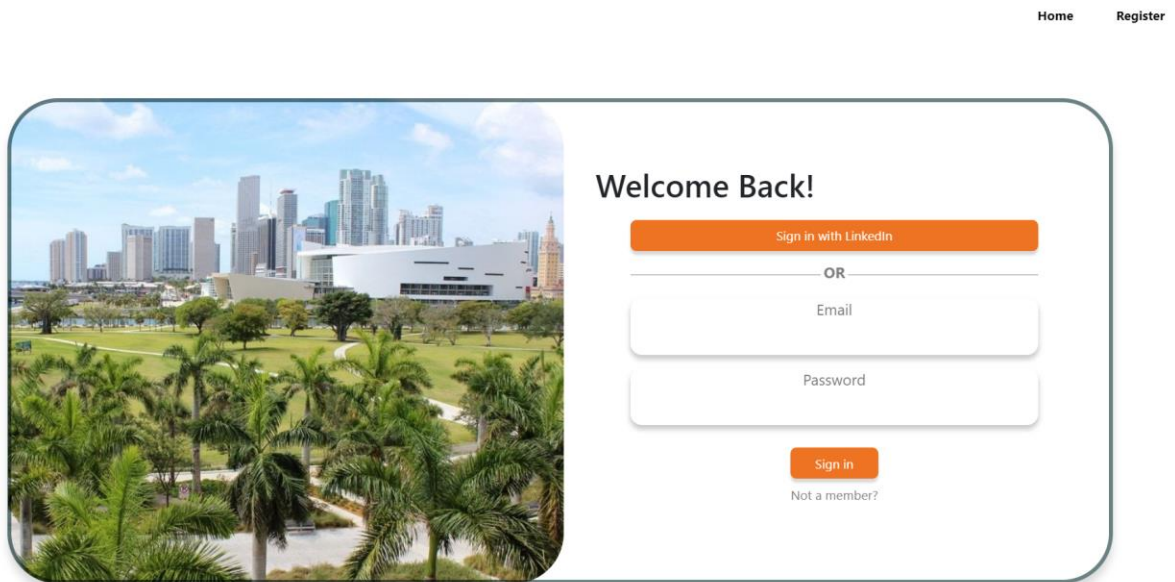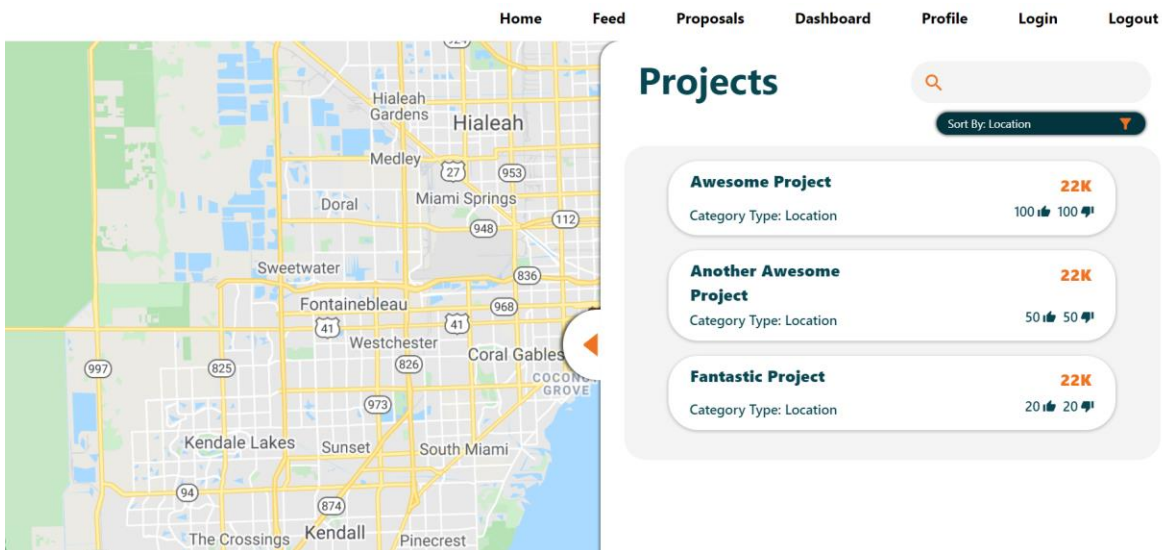

Users can login with their existing accounts or register a new account.
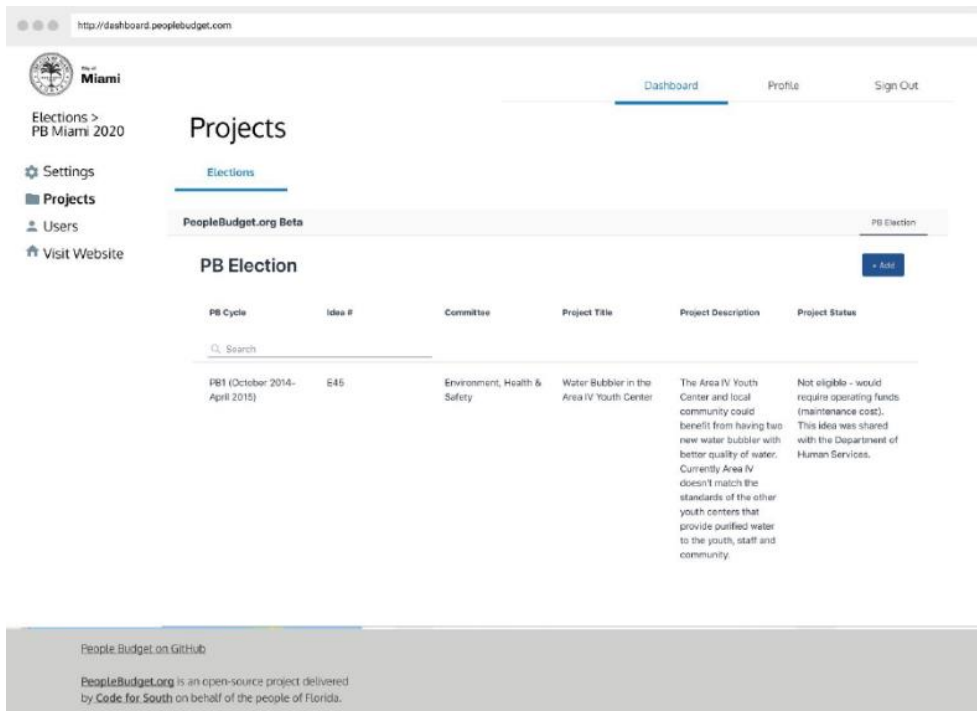
City officials can manage project ideas and users from the Dashboard.

Projects can be sorted and voted up or down.

The Code repository developed by students with supervision from the core team is on this link:
https://github.com/CodeforSouth/peoplebudget-beta

Additionally, the team created a video to show the final product and share student's testimonials:
https://www.youtube.com/watch?v=AKnHIU1vPec&lc=UgxLeWEvj8BGUEC1UaR4AaABAg

Regarding the sustainability of the project, Code for South Florida is committed to continue the initiative. The City of Miami's Department of IT is excited to continue working with Code for South Florida on the implementation. In addition, the team is exploring partnerships with FIU and Stanford, also members of the Public Interest University network, to continue improving the project.

General Information

a. Who can be contacted to get more information?

For more information, contact:
David Freer, Principal Investigator – dfreer@mdc.edu
Antonio Delgado, Budget Manager – adelgad9@mdc.edu
Gregory Johnson, Project Coordinator - greg@codeforsouth.com

Annexes & Publications

a. Please attach copies of any media or publications regarding this project.

Annex A.
Blog about "Civic Hacking Chronicles: Earl Cameron Is Helping Build Miami's First Participatory Budgeting Tool" by Code for South Florida.
Source:
https://codeforsouth.com/blog/civic-hacking-chronicles-earl-cameron-is-building-miamis-first-participatory-budgeting-tool/

Annex B.
Blog featuring perspectives from the students and principal investigator, David Freer, documenting the project development: https://blog.earlcameron.com/

Annex C.
MDC Student newspaper The Reporter covered the budget app:
https://www.mdcthereporter.com/students-to-build-city-of-miami-budget-web-app/

Annex D.
Interview with the PI, David Freer, and two of the students involved in the project (Annie Delgado and Sasha Feliu):
https://www.youtube.com/watch?v=2dfbxvBLKHs&t=17s&ab_channel=DavidFreer