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Application Summary

Competition Details

Competition Title: Funding Opportunity: IRA Applications for 2021-2022

Category:

Award Cycle:

Submission Deadline: 11/12/2021 11:59 PM

Application Information

Submitted By: SoHui Lee

Application ID: 1181

Application Title: Plot-a-Thon 2022: Data Visualization Festival

Date Submitted: 09/16/2021 4:08 PM

Personal Details

Applicant First Name: SoHui

Applicant Last Name: Lee

Applicant Department: Writing and Multiliteracy Center

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Additional Applicant Department: MVS School of Business

Application Details

Proposal Title

Plot-a-Thon 2022: Data Visualization Festival

Total Amount Request from IRA

18,640

Brief Activity Description

The WMC requests the support of an IRA grant for a campus-wide interdisciplinary event that celebrates student learning of data analysis, visualization, and storytelling. A day and a half event, "Plot-a-Thon," helps students work together in teams to learn how to translate data into effective data visualizations. Participating students will work in three tool-learning paths: 1) data visualization with Excel, 2) data visualization with Tableau, and 3) data visualization with R; and 4) data visualization with Python. These tools were selected based on the popularity of their use in assignments across disciplines at CI as well as their use in a variety of job fields. In this challenge, students are asked to clean datasets, use data visualization tools, and apply visual storytelling strategies. Winning teams that best meet the data visualization challenge for each path will win a prize. The Plot-a-thon event provides students plenty of support through optional workshops led by faculty experts from Library, CS, ESRM, and WMC, tutors trained to support Excel, R, and Python, and faculty fellows who help to recruit teams for competition. In addition to learning to feel more comfortable and confident with data visualization, the goals of the Plot-a-thon are to help students learn to manage time, work as a team, meet like-minded students, and experience the process of visualizing data in a fun, competitive setting.

Background

Big data is a crucial component of our 21st Century, shaping our business, political, and socio-cultural worlds. In January 2020, faculty in Computer Science, WMC, Library, and Business discussed how we might promote awareness and increase student data visualization skills on campus. We developed a survey to gauge faculty interest and the extent to which data visualization is taught or used. 75 faculty responded to our survey in February, of which 61% (46 faculty) answered "yes" to the first question: they did assign data visualizations, plots, or infographics. Courses that assigned data visualizations, plots, or infographics included university, business, nursing, chemistry, health, sociology, psychology, physics, biology, education, art and esrm. Majority of software faculty used for data visualization was Microsoft's Excel (36%) and Google Suite (17%). For those 35 faculty who did not include data visualizations in class, about 11% (4) responded that they did not know how to teach it; 6% (2) responded that students were "not ready to create charts or graphs to visualize complex data"; and 9% (3) believed that students "do not have the support and/or resources to create charts or graphs to visualize complex data." What this exploratory survey suggests is that our university offers courses across disciplines that require visualization of data; however, the majority of the visualizations students created were in Excel.

Plot-a-thon 2021

The IRA grant funded the inaugural Plot-a-thon held on March 5, 2021. The all-day event (9am to 4pm) was held fully online due to Covid restrictions. We had 48 participants, including students, faculty, and external community members attending the event during various times of the day. 27 students competed in 4 different categories: visualizing using Excel, Tableau, Python, and R. The main sponsor and an active collaborator to the event was The Trade Desk. Their keynote speaker and judge added to the experience. In addition, the Plot-a-thon guest speaker included Michelle McGhee, a young CS major recently graduated from Stanford University, who worked as a data visualization journalist at Axios, an online news website. While students worked on their visualization challenge, they received plenty of support: tutors in break out rooms who could support questions about R, Python, or Excel; faculty who led workshops on how to use all four visualization tools, how to clean data, and how to tell stories with data.

Our post-event survey collected responses from every participant in Plot-a-thon (27). When asked about their motivation to participate in Plot-a-thon, we were surprised how many students were just "curious" (59% or 16 students) or "wanted to learn" (55% or 15 students). Although the faculty-led workshops were optional, the majority attended the data cleaning workshop (81% or 22 students); this was followed by the Excel workshop (51% or 14 students) and infographics workshop (40% or 11 students). Python, R, and Tableau workshops had the least number of attendees but we also had less number of students working on these tools. Based on the survey, most students felt more confident with three knowledge/skill areas targeted by the Plotathon after the event.

Student's increased confidence in the data visualization process is, in part, connected to faculty-led workshop sessions: the responses to the workshops were overwhelmingly positive. Majority of student respondents felt that Plot-a-thon workshops were "useful" (either a "a great deal" or "a lot").

Finally, the demographic of the students who participated at the events closely mirror CI's student population. 55% of participants self-identified as Hispanic, Latino, or of Spanish Origin. Currently in Spring 2021, we also have 55% identified as Latinx. In addition 44% of respondents identified themselves as first generation students. This is lower than the campus's percentage of 61%. Majority of participants were STEM majors (49%); followed by Business (36%), and then Humanities (15%). The data we collected from our first Plot-a-thon is a benchmark by which we hope to increase the diversity of the study body who participate as well as the majors.

In this proposal we ask that IRA will help support another Plot-a-thon event for Spring 2022. This event has

been revised in the following ways based on student feedback:

- recruiting students early in Fall semester with an informational lunch
- recruiting faculty fellows to help with student recruitment and faculty buy in
- Increasing opportunities for networking
- Increasing the amount of time to work on the challenge. Instead of 5 hours, student teams have an opportunity to work overnight like a Hack-a-thon.

This proposal requests for IRA to cover costs of our budget spanning Fall 2021 and Spring 2022; Plot-a-thon event itself is 25 hours long, starting Friday February 25, 2021 at 4:00pm and ending Saturday February 26, 2022 at 5:00pm. However, our recruitment drive begins in Fall 2020.

Activity or Event Date

02/25/1921

List all classes that relate to proposal

Chem 121, 122, 371, 372, 373, 460, 463, 490 Chem/Bio 150 Comm 310 Bio 200, 201 Bus 310, 502 Bus/Art 334 Econ 311, 488, 499 Edpl 620, 629 Edss 540 Engl 315 ESRM 100, 203, 313, 400, 491, 499 Hlth 309 Math 101, 108, 150, 151, 201, 202, 208, 240, 250, 300, 33

Learning Outcomes & Relation to Course Offering

As a result of participating in the Plot-A-Thon, students will learn skills and acquire knowledge related to cleaning, analyzing, visualizing, and communicating data:

- Learn to clean and analyze data sets
- Use visualization tools in Excel, Tableau, Python and/or R
- Use applications like Adobe Spark
- Tell a visual narrative using graphic and visual design
- Improve communication skills in speaking and visualizing
- Understand the broader process involved in creating and presenting effective data visualizations
- Gain more confidence in creating data visualizations

We invite all CI students interested in data visualizations to register. However, due to space and costs, we will have to limit registration to the first 50 students. Plot-a-thon 2022 will be presented in a hybrid format: workshops and the event itself will be held virtually; however, students have options to network and work in teams in person.

The following is a list of programs/courses that faculty identified as creating data visualizations, plots, or infographics in our February 2021 survey:

Chem 121, 122, 371, 372, 373, 460, 463, 490

Chem/Bio 150

Comm 310

Bio 200, 201

Bus 310, 502

Bus/Art 334

Econ 311, 488, 499

Edpl 620, 629

Edss 540

Engl 315

ESRM 100, 203, 313, 400, 491, 499

Hlth 309

Math 101, 108, 150, 151, 201, 202, 208, 240, 250, 300, 330, 350, 351, 451

Soc 100, 303, 360, 440,

Physics 304, 310, 448, 497

Psy 300, 301

NRS 350

Univ 210, 299, 349, 350

Is this activity off campus ?

No

Off Campus - Describe benefit brought back to campus

IRA Activity Budget

Activity Title: WMC Writiing Lab

Name of Sponsor:

| Account | Operating Expenses | Amount |
|---|--|-------------------|
| A. Artist/ Performer/Speaker | | |
| 613802 | Honoraria (Price set by CI) | \$900.00 |
| 613802 | Honoraria (Price set by CI) | \$400.00 |
| 613802 | Honoraria (Price set by CI) | \$400.00 |
| 613801 | Professional Svcs/ Speaker Fees (Price set by vendor) | |
| 601801 | Special Consultants (existing CI employees) | \$3,000.00 |
| 601801 | Special Consultants (existing CI employees) | \$1,600.00 |
| 613801 | Other Consultants /Other Professional Services | |
| 613001 | Independent Contractor(s) | \$1,000.00 |
| | Other: Student Assistant | \$300.00 |
| | | |
| | Artist/Performer/Speaker/Consultant TOTALS | \$7,600.00 |
| B.. Supplies & Services- Other | | |
| 660002 | Printing | \$500.00 |
| 660017 | Advertising (such as in a magazine or publication) | \$0.00 |
| 660831 | Copier Chargeback | \$0.00 |
| 660090 | Event Signage (wayfinding on day of event) | \$100.00 |
| 660835 | Event or Parking-related Staffing | |
| 660825 | Rentals or Leases | |
| 660833 | Promotional Items | \$3,990.00 |
| 660834 | Awards -- Winners in each tool category | \$2,400.00 |
| 660834 | Awards --Winners, Best Overall | \$750.00 |
| 660834 | Awards --Participants | \$1,000.00 |
| 660890 | Registration- Conferences & Meetings | |
| 660003 | Supplies & Services- Other | \$800.00 |
| 660003 | Supplies & Services- Other | \$750.00 |
| 660003 | Parking (please describe) | |
| | Other (specify): snacks for overnight / breakfast | \$750.00 |
| | Other (specify): staff for food set up/clean up; tables, chairs | |

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| | Supplies & Services- Other TOTALS | \$11,040.00 |
| | TOTAL EXPENSES | \$18,640.00 |
| | C. Revenue | Amount |
| | A. Course Fees | |
| | B. Ticket Sales | |
| | C. Additional Sources of Funding | |
| | TOTAL REVENUE | \$0.00 |
| | D. TOTAL REQUESTED FROM IRA | \$18,640.00 |

E. Other Expenses

| | | |
|--------|-------------------------------------|--------|
| 660832 | OPC Chargebacks & Facility Use Fees | |
| | Other (not requested from IRA) | |
| | Other (not requested from IRA) | |
| | TOTAL OF OTHER EXPENSES | \$0.00 |

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| PLEASE EXPLAIN: Comments/Notes |
| |
| \$150 per faculty workshop; 6 faculty workshop leaders |
| Guest Speaker |
| Compentation for two faculty judges |
| |
| Faculty Fellows: Recruiting, tracking, mentoring student teams who enroll in Plotathon |
| Administrative coordinator for paperwork; award distribution; handling of event budgets and reservations |
| |
| Overnight security guard at Broome Library |
| Academic Tutors supporting Excel, Python, R, Tableau |
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| Flyers, posters on campus; 2 stretch table covers with Plotathon logo |
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| Tshirts and mailing; Logo Water bottles (event participants); Recruitment Pens with Logo |
| Four teams (with 3 students each); Excel, Python, R, Tableau |
| Winning team (of 3) win \$250 each |
| Incentives for particiopants to spend 25 hours working on the challenge: \$20 gift card per student; we anticipate 50. |
| |
| Student recruitment lunch (outdoors); include paying Events for setup/clean up |
| Plot-a-thon Kick Off (snacks and drinks); preparing students a week before Plot-a-thon; includes pay for Events for set up and clean up |
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| Snacks and drinks for the overnigheters / breakfast |
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| Comments/Notes |
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