Cultural Institute

Cultural Institute
Inigo Rooms
Somerset House East Wing
King's College London
Strand Campus
London WC2R 2LS

KING'S College LONDON

Arts in Society: Project Proposal form

Project name: **Graffiti Plotter**
Lead applicant name: **Daniel Sikar**
Lead applicant contact details: **daniel@sikarsystems.com 07984181617**
Date of submission: **08.05.2017**

Please fill in the form below. If there are parts of the Project Proposal form that are not relevant to your project, or which you cannot yet complete, please submit the information you can, and we will discuss your proposal on that basis.

Academic partner name*: **Chipp Jansen**   Department: **Department of Informatics**   Faculty: **Faculty of Natural & Mathematical Sciences**   Contact email: **chipp.jansen@kcl.ac.uk**   Tick to confirm that you have discussed this project with your Head of Department: Role and responsibilities in project: **Mentorship on air pollution data**   **Note that one or more King's academics must be involved as partners for projects to be considered. If you do not have an academic partner in place but know who you would like to approach then please list their name, research interest and/or department below:*
Somerset House Studios artist partner name: **Daniel Sikar**   Organisation if applicable: **Makerversity**   Contact details: **dsikar@sikarsystems.com 07984181617**   Role and responsibilities in project: **Mechanical designer and software developer, responsible for overall system architecture and final evaluation.**   *If you do not have a cultural partner in place but know who you would like to approach then please list their name and/or area of artistic practice below:*
Please list any additional partners (eg additional cultural partners, students, clinicians) and their role and responsibilities within the project: Name: **David Bower**   Organisation/status if applicable: **Makerversity / Lessonate**   Contact details: **david@lessonate.co.uk**   Role and responsibilities in project: **Project management, software development and final evaluation.**
1. Please give description of your project in <u>no more than 100 words</u>. **Graffiti Plotter aims to generate statistical air quality data art within a 3x2metre working area, by engaging a spray can, attached to timing belts controlled by two stepper motors. Software controlled shortening and lengthening belts, allows spray moving in a coordinate X Y system. A rotating stencil placed in front of spray enables icon plotting to facilitate data visualisation.** **Controlling unit will fetch data from the openair project (http://www.openair-project.org/) providing tools for air pollution data analysis.** **The project aims to increase awareness on air pollution, which causes thousands of deaths annually in London [1].** **[1] - Understanding the Health Impacts of Air Pollution in London**   **https://www.london.gov.uk/sites/default/files/hiainlondon_kingsreport_14072015_final.pdf**

2. When will the project start and end? Please include timings of key milestones and events.
   (nb projects should last no longer than six months)

   Week -1 (ending 26.05.2017) – Internship advertising

   Week 0 (ending 02.06.2017) – Intern interviews and selection

   Week 1 to 5 (ending 07.07.2017) – Mechanical design, prototype production and software development.

   Week 6 (ending 14.07.2017) – Prototype final test and public display at KCL (TBA). Multiple choice project evaluation questionnaire app. Disassembly and storage. Final evaluation and submission to Cultural Institute.

3. Could the project generate an impact case study that could be considered for inclusion in REF 2020?

   YES / NO / **UNSURE – No REF 2020 references found in documentation**

Please read the [FAQs](#) before filling in the following:

4. What is the central idea that you would like to explore through this project? (up to 200 words)

   Air pollution affects everyone, specially in densely populated metropolitan areas.

   Graffiti art is arguably the most ubiquitous form of popular visual art.

   Using one to state the other, our central idea is to underline air pollution in areas that are most affected, by generating air quality statistical data art, through a well established public channel.

5. What evidence do you have that your idea is original or new? (Up to 100 words)

   Google images searches suggest that statistics are not generally considered an art form while Google Scholar (https://scholar.google.co.uk/) searches suggest that graffiti art used as a vehicle for statistical data awareness is non existent.

   Most discussions around Graffiti Art suggest centre around legal implications (such as vandalism) of so called "street art".

6. What is the research area that will be applied and/or developed through this project? (up to 200 words)

   Air pollution is the main research area to be applied.

   Primarily we aim to use data and methods developed and made publicly available by the Environmental Research Group, King's College London, though the openair project [2], to generate compelling graffiti statistical data art, increasing the awareness of air pollution, in areas affected the most.

   [2] http://www.openair-project.org/Default.aspx

7. What would you like to achieve through this project, in the short, medium and/or long term? (up to 200 words)

Short term:

* Solve pending design issues to assure sound mechanical operation with larger working area
* Write software to integrate and plot openair (see TODO) project data
* Promote collaboration and synergies with full time intern
* Achieve repeatable results
* Document project to standard
* Project app allowing users to interact with data as well as provide feedback

Medium term:

* Create at least one mural
   Ideally this should happen in a notoriously polluted area such as the North Circular Road (A406)
* Developed strategies to increase project awareness

Long term:

* Grow a development community
* Promote Graffiti Plotter as a viable statistical data dissemination tool

8. Do you envisage a public facing outcome from the project? (NB this is not a requirement). Please describe briefly in terms of format, discipline, scale, proposed venue. (up to 200 words)

We are looking at a canvas of 3x2 metres in size, to be assembled vertically with 1/2 metre margins, the top edges having brackets which house each stepper motor. The final result being the combination of disciplines including statistcs, graffiti art, mechanical engineering and software development.

The suggested venue for a temporary (graffiti on canvas) demonstration and evaluation is KCL (TBC) while an outdoor venue for a semi-permanent display (graffiti on concrete) the ideal venue would be the North Circular Road (A406).

9. What is your documentation plan for the duration of the project? This can take the form of blogs, photo essays, video blogs, etc.

Documentation will be recorded through Git, a well established open source version control system (VCS), on the website github.com

All mechanical structures being saved in .STL stereolithography format, while software being saved as plain text.

The Git version control system also allows for photos and diagrams, which we intend to include.

10. What key costs need to be covered in order to deliver this project? Please provide an outline budget (nb account for VAT wherever it applies), showing the total required to deliver the project, and a breakdown of the funds requested from the Cultural Institute. Please be clear whom each budget line will be paid to.

Key costs:

1. Internship @ £1500/6 weeks x1 £1500 – Payable to KCL/intern
2. Full time Makerversity hotdesk @ £250/month x1 x2 months £600 (inc. VAT) – Payable to Makerversity
3. Storage (1764 x 620 x 535 mm) @ £15/week x1 x24 weeks £432 (inc. VAT) – Payable to Makerversity
4. Consumables budget (Stepper motors, timing belts, 3D Printer filament and resin, electronic components, web

hosting, etc) £650 – Payable to suppliers
5. Project management, software development and mentorship @ £20/h 15h/week x6 £1800 – Payable to David Bower/lessonate.com
6. Mechanical design, software development and mentorship @ £20/h 8h/week x6 £960 – Payable to Daniel Sikar

Total – (inc VAT where applicable) £5942

11. Do you have any support already in place for the project?

Yes, a working prototype.

The original idea of a graffiti plotter was conceived as a tv show prop, funded by the CNBC network for "The Cloud Challenge" 12 part series portraying the possibilities that internet connected devices enable. The working prototype was built in February 2017.

12. How will you evaluate the success or otherwise of the concept being tested? What are the key outcomes and impacts that you have prioritised for evaluation? Please include a timeline and state who will be responsible for producing the project evaluation.

Key outcome – Generate semi-permanent graffiti murals displaying air quality statistical data and create a reproducible Graffiti Plotter.

Key impact – Air pollution increased awareness.

Evaluation - To be done with selected users using App with multiple choice questionnaire referring to data on display. Users will be expected to successfully identify variables.

Timeline
Week 1 – Self-evaluation template analysis.
Week 2 through to 5 – Graffiti Plotter App development.
Week 6 - User testing and final evaluation submission to Cultural Institute.

Ownership:

Final evaluation to be produced by David Bower and Daniel Sikar.

13. If your project is successful, how will you share your findings with its intended beneficiaries and encourage uptake of the product or its approach?

The project will be "open source" with all finalised digital files freely available for download on github.com. If statistical graffiti art makes a compelling case, we expect that others will be encouraged to build, as well as modify, extending in reach and scope, Graffiti Plotter replicas. While this best case scenario outcome is by no means a given, we believe that, if selected, we have enough enthusiasm in the team, as well as required skills and building blocks in place, to make it happen.

Confirmation of commitment:

Name of lead academic partner	
Signature	*Or provide letter or email confirming agreement*

Date	

Name of Head of Department	
Signature	*Or provide letter or email confirming agreement*
Date	

Name of lead cultural partner	
Signature	*Or provide letter or email confirming agreement*
Date	

When you have completed this form, please submit it by email to sophie.branscombe@kcl.ac.uk.
Application deadline: Monday 8 May 2017