CASA0003- Group Mini Project: Digital Visualisation

Project Brief 2018-2019

Project Theme: Invisible Cities

This year's theme is "Invisible Cities", and it's your task find an interpretation of that theme, and create a coherent visualisation project which communicates your group's vision. Use data and/or models to explore and visualise urban spatial patterns and processes that relate to "Invisible Cities". For example, your project could focus on visualising urban activities and interactions that are typically invisible: e.g. communications, data, energy, money, waste, segregation... Your group could reveal past and/or future city states and structures through visualisation and city modelling. Your group could consider more imaginary and abstract city forms: making the invisible visible.

Here are some starter questions to give you inspiration:

How can you reveal and provide insights into the patterns and activities that characterise cities?

What stories can you develop and explore in relation to Invisible Cities?

What datasets illuminate this theme?

What spatial scales and perspectives are most appropriate for your theme? An individual street-level view? A city-region map view? A global view?

What timescale(s) do you want to work on – a day in the life, a week, a year? Are you describing city patterns as they are now, as they were in the past, or how they may become in the future?

Assessment Components

There are four parts of the assessment in this module:

(i) **Individual Visualisation**: short visualisation example completed during the taught sessions of the module in Term 2.

The remaining parts of the assessment are completed as a Group in Term 3-

(ii) **Group Project Output**: a web-based **group project** which will incorporate your visualization outputs

(iii) **Group Project Presentation**: a 30 minute presentation providing an overview and explaining your project vision and its components

(iv) **Group Project Report**: explaining the technical and design challenges and planning decisions you made as a group, and identifying individual contributions from each team member.

See below for a full explanation of each component

Assessment Deadlines

Dates	Deadline	% of module grade
11th March 2019	Individual Visualisation Submission	Visualisation: 10%
13th March 2019	Project concepts development (not assessed)	
22nd May 2019 10am-1pm	Group Project Presentations	Presentation: 20%
28th May 2019 5pm	Submission of Group Project Report [via Moodle/Turnitin], Group Project Outputs, Slides from Presentation, and supporting materials [via Moodle].	Report: 30% Outputs: 40%
June 27th 2019	Expected provisional grades and feedback	

Individual Visualisation (10%)

Each student will submit an individual visualisation example, based on one of the exercises from the term two practicals. The Individual Visualisation should be relevant to the module and demonstrate the student's abilities and skills related to spatial data visualisation. Example types of visualisation could include an interactive mapping website (HTML/JavaScript page), a p5.js website, a Processing sketch, or a Unity project.

Prepare a short 400 word document summarising what the visualisation is aiming to show, outline the design and technical approach taken, and describe where the data came from. Include this report and the visualisation files together as a single zip file in the submission.

The individual visualisation will be assessed under the same general criteria as the project outputs:

Aesthetics: How appealing are the visualisations and the overall output? How sophisticated is it?

Communication: How effectively does it convey the idea, model or data on which it is based?

Originality: How far does the work go beyond the ideas and techniques detailed in the taught part of the course? How much help did the students get to realise their goals?

Difficulty: Is the work one of substantial technical difficulty for the student involved? *We are aware that this level of difficulty will be different for different students.*

Goals: How closely does it match the stated goals of the exercise (if based on classwork)? How well does it meet the student's stated goals (if not based on classwork– the student should explain their goals and process in their report contribution)?

SUBMISSION

Submitted individually via Moodle. Zip the project files and 400 word visualisation report together into a single file. **Standard UCL lateness penalties apply.**

Group Project Presentation (20%)

Structure

- Groups should prepare a 25 minute presentation (based on a 4-person team – see below for pro-rata for smaller and larger groups).
- This should include within it a demonstration/walkthrough of the group project.
- Every member of the team should discuss their contribution to the output, and could include discussions of:
    - What their visualisation(s) demonstrate(s)
    - How it relates to the whole
    - What decisions they made and what challenges they faced
- Presentations can use powerpoint, keynote, flipcharts, audiovisual elements, demonstrations, interactivity, and/or other elements, but this is left to the group to decide.
- An example structure could be:
    - 5 mins on the aims of the project and a demonstration of the output
    - 15 mins (3x5mins) on visualisations created
    - 5 mins to recap and summarize

      If you have a different structure in mind, please go ahead with it as long as it meets the goals of the presentation. Discuss with us if you're unsure.
- There will follow a 10 minute discussion allowing the examiners to ask questions about the work, implementation and techniques.
- There will then be a short break to allow the next group to set up.
- Groups will receive written feedback on their presentations when they receive feedback on their reports and outputs.
- *Larger/smaller groups will be allocated more/less time proportionally.*

Assessment Criteria

The presentations will be assessed on:

Communication: How well did the presentation communicate the output of the project? Did it explain the objectives behind the output? How well did it communicate the challenges and solutions? Did the team explain these concepts clearly and succinctly?

Contribution: Did every team member have the opportunity to communicate their work?

Following the presentation, students should submit any supporting materials (e.g. powerpoint slides) to the course assessors at the same time as the report and output submission.

Group Project Outputs (40%)

Students will produce a project exploring the given theme(s); usually, this would be delivered as a website or online exhibition. It will include a number of the following elements: text, image, video, animation, interactive visualization, mapping, data visualization, model visualization, games, online apps, augmented reality apps, mobile apps. You should consider using both 2D and 3D elements.

The output needs to show evidence of a coherent set of themes and/or narratives; to demonstrate that you've worked as a team to produce something which is greater than the sum of its parts; and to demonstrate individual contributions over a broad range of approaches.

A successful project should result in an output which:

- Combines a number of visualisation techniques.
- Does so in a coherent, "joined-up" manner; we want to see clear evidence of teamwork.
- We would expect all students to contribute individual visualisations to the final piece; we would further expect the nature and complexity of these to vary with prior student experience and expertise; and how much work they have put in to create the architecture/narrative as a whole.
- Each component visualisation should communicate data, model outputs, or demonstrate a modelling/simulation/visualisation approach, and should fit into a wider narrative.
- We expect there to be an element of interactive visualisation and dynamics unless there is a strong rationale for the exclusive use of static tools (image and text, for example) or they are of a very high level of sophistication.
- It should range across a number of techniques and concepts covered in the taught material of the course. It is not necessary that you cover *all* aspects of the course.
- It is acceptable and encouraged to cover topics and techniques beyond the core module materials.
- The output and portfolio submissions should be supported by discussion and explanation in the project report (see below).

Assessment Criteria

In assessing the project output, we will consider the above criteria, along with more holistic questions of:

Aesthetics: How appealing are the visualisations and the overall output? How sophisticated is it?

Communication: How effectively does it convey the idea, model or data on which it is based?

Originality: How far does the work go beyond the ideas and techniques detailed in the taught part of the course? How much help did the students get to realise their goals?

Difficulty: Is the work one of substantial technical difficulty for the student involved? *We are aware that this level of difficulty will be different for different students.*

Contribution: How much has the student contributed to the project? How coherent is the work with the overall project?

Group Project Report (30%)

Structure

The report should be no longer than 6,000 words (or 1,500 words per person in the team, whichever is longer) excluding any references, footnotes, and figure captions.

Any reports exceeding the word count will incur a 10% penalty. There is no explicit penalty for a report which is shorter than the lower word limit but bear in mind that it will be harder for you to articulate your work and gain full credit.

In addition:

- It should have a clear motivation, methods/process and conclusion.
- Each team member should make a clear contribution to the report, with a checklist and short discussion of their individual contributions.
- Previous work, any third-party code utilized and any readings should be clearly referenced in the body of the report and a bibliography provided.
- It should link clearly to the project blog/website

In addition, the report meets parallel goals to the presentation, so each will be assessed on:

Communication: How well did the report communicate the output of the project? Did it explain the objectives behind the output? How well did it communicate the challenges and solutions? Did the team explain these concepts clearly and succinctly?

Contribution: Did every team member have the opportunity to communicate their work? What contribution did the team member make and how well did they explain their techniques and methods?

SUBMISSION

Standard UCL lateness penalties apply.

The **report** and **outputs** should be submitted by the date shown above, along with slides from your **presentation**.

Submitted individually

- All portfolio work, zipped into one file/folder

Submitted as a group (one submission per group)

- The report [via the Turnitin link], including a clear link to the website

  And zipped into one file, submitted via Moodle:
- The output (in the form of video/application or similar, if appropriate)
- Any slides or videos from the presentations
- Any code, data files or links to data sources for components (examiners should be able to run code themselves to see it in operation if necessary, so please provide any 3rd party libraries)

- Oversize files or folders can be submitted via UCL Dropbox, by emailing Duncan Smith and Anahid Basiri by the deadline.

GRADING

The weighting of each component of assessment is as follows:

40 Group Project Outputs

30 Group Project Report (written report)

20 Group Project Presentation (oral presentation with output demonstration)

10 Individual Visualisation

In your feedback, you will receive letter grades to indicate your performance in each category, with boundaries based on:

Grade	Mark
A+	80% or above
A	70-79%
B	60-69%
C	50-59%
D (FAIL)	40-49%
E (FAIL)	Below 40%

You will be marked on the quality of your group output, but remember to make your individual contributions clear in the project report and presentation as stated above. In cases where students are not able to demonstrate their contribution, or demonstrate their contributions to have been significantly greater or lesser than their peers, the marks awarded may be reduced or increased appropriate to the contribution (e.g. a B quality project where the student contributed only C standard material will result in a C grade for that component for that student).