

Report 3: due 10am, 24th October. 25%.

Individual progress report. Individuals address their goals in response to the previous report. Explain successes. Address problems that arose, analyse and present clear strategy for moving forward. Projects should already have accumulated sufficient and attractive documentation at this stage (documentation is not a last-minute thing).

Goal

State clearly the goal of the task and its relation to the wider goals of the group project.

Background

Provide relevant and clearly researched background to the problem. Present relevant concepts and succinctly explain any key technical issues.

+ Overview.

Approach (main section)

Describe your approach, providing detail about your findings and how you structured your work. Be clear about your motivations at each step.

Conclusion

Conclude by summarising your findings or outcomes. Include a clear analysis of the problem domain.

References

Provide detailed references.

Sequential Tasks.

Report 2's Theoretical Research.

HCE.

Communication Code.

religious texts / ai linguistics / gscribe etc. / deviantArt comment feeds?

Kinect/Projection Set.

- Dimensions - 2x(40x40) x 1100, 2x(40x40)x950 , 2x(30x30)x800
- Adam's code - projection interface/setup. (code requested)
- Dale's code - SimpleOpenNI used, (code requested)
- spotlighting.

- ^ Initial thoughts and suggestions on communication code.
- dimensions as discussed and concluded on by the group
- code requested.

Talked to Mark more about the content of the text. Sent him my research from report 2 which he read through and got back to me. Essentially too theoretical - really time to start implementing. He suggested the manual generation of texts based on pseudocode that was feasible to us. Followed his advice.

[From Notes] - (I came up with a list of existing topics we had talked about and expanded upon them).

Instead of generation, find and dump them in and see what it sounds like.

- News article comment threads.
- simple generative poetry? Exist code?
- Wikipedia knowledge jumping.

^ prototype implement all of the above and see how they sound! And send over

[From Notes]

HCE Communication Notes.

- News article comment threads
 - SMH has no commenting system.
 - surprisingly many other famous blogs don't seem to have many comments.
 - Whirlpool forums' texts are too large - chunk-wise.
 - Stack Overflow - would also be kinda cool. Very tech-orientated though (could fit well into the context of the bots, but isn't really humanly comprehensible).
 - Similar issue with Apple Support Communities. (discussions.apple.com)
- Tweets
 - Nearby to the rocks - <http://nearbytweets.com/> - not very conversational.
 - random content? trending topics? (hmm, hard to parse together)
- DeviantArt
 - <http://browse.deviantart.com/photography/civilization/>
 - too positive. and too contextually tied to art.
- Generative
 - [PDF] A Case on Generative Art: Digital Poetry - BCS www.bcs.org/upload/pdf/ewic_create10_paper18.pdf
 - <http://itp.nyu.edu/~ap1607/lsys/>
 - http://www.wired.com/beyond_the_beyond/2008/03/yet-another-gen/
 - <http://mystery-engine.com/> - not very ... understandable
 - <http://www.dataisnature.com/?p=82>
 - <http://generative.net/papers/aesthetics/>
 - <http://www.brianevans.net/docs/quinary.pdf>
 - () = simply a reference, don't need to check out

- (<http://media.rmit.edu.au/research/projects/generative-poetry>)
- <http://leonardoflores.net/post/15238579726/generative-poetry-by-geniwater>
- Song Lyric Jumping?
 - also searching song and lyric generators
 - manual input required for these generators;
 - <http://www.songlyricsgenerator.com/>
 - <http://www.song-lyrics-generator.org.uk/>
 - <http://feralcreature.com/lyrics-generator/> - no input, more random
 - <http://www.peteevin.com/countrylyrics.htm> - manual human-created options
 - <http://www.anticulture.net/RandomLyrics.php> - still so random
 - <http://www.tpolm.org/~ps/recyclebinladen/metagenhaiku/> <- haiku's actually really nice - short enough that humans make their own inferences. - (ah i see, in edit it shows it's derived from manual input in a way)
 - <http://swab.cityu.edu.hk/sm1011/Linda/GenerativeLit.pdf>
 - <http://www.archetypewriting.com/muse/generators/plot.htm> <- we certainly can make relations from simple snippets of text / material.
 - <http://ieeexplore.ieee.org.ezproxy2.library.usyd.edu.au/stamp/stamp.jsp?tp=&arnumber=6327270>
- Wikipedia Knowledge Jumping.
 - 1.
 - Rules: Start with random article. Grab first sentence. And first hyperlink - Ignore anything in ().
 - Rule+, if the sentence contains no hyperlink, keep reading until you hit a sentence which does.
 - Outcome:
 - Future Work:
 - can jump between 'pages' - instead of going up, be able to move up and down.
 - have snippets of pages pre-visited so we have a tree directory.
 - have 'sinks' that attract selection of pages to certain topics, and away from recently discussed topics.
 - can also substitute 'questions' between each conversation. (presampled questions with word substitutes of the topic.
 - we can manually add our own initiating snippets (e.g. paragraphs from certain entries like the rocks).
 - Conclusions. Wikipedia jumping can be quite knowledgable.

Message to Mark:

HCE - code update. Updated code (explored a few different)

Main Conclusions:

- no to most generative songs, poetry, stories, tweets, news article comments and forums.

- generative haiku's are technically feasible, and their vagueness allows them to be pieced together by humans - though they will change the conversational nature of our exhibit
- wikipedia jumping has quite a nice aspect, and has much technical-conceptual weight to it. it can also be expanded and controlled in many ways whilst retaining sentient randomness. ^ i have added a dummy transcript to listen too (rule=read first sentence, go to first hyperlink)

^ instructions: load server, press "L"

Reasoning for Kinect Work.

Link Dale's and Adam's Work.

Give them something to do that would more realistically contribute to the project. (Adam Plinths, Dale - Sound-producing Bots)

[from todo]

KINECT WORK.

- x download team's codes.
- x Check what library Dale is using.
 - . Using SIMPLEOPENNI
- Setup libraries on computer
 - . Ok, got shiffman's basic OpenKinect working. Laptop still doesn't like the use of P3D or OpenGL though.
 - . Attempting to reinstall simpleopenni - get that working, since that's multiplatform and Dale has used it: <http://code.google.com/p/simple-openni/wiki/Installation>. A new SimpleOpenNI Appears to be available for download.
 - . P3D/OpenGL not working at all on own laptop. SimpleOpenni conversely doesn't work on laptop.
 - . FINALLY got P3D working - basically cleared my "/System/Library/Java/Extensions/" and everything worked again - Testing PeasyCam on Processings 1.5, 2.0a5, 2.0a6. I guess too many extensions can be bad.
- get basic sketch working
- get picture scanning working again.
- create tracking humans - spotlighting. based on existing code.
 - ok, how to track humans ...
 - can get scene object - that's the person in kinect space.
 - let's leave it at that for now.
- create 3d modeling of plinths. based on existing.
- create visuals to the plinths.

[from Notes app]

Kinetic todos.

- create human spotlighting, gradual.
- create 3d modeling of plinths interface.
- create some visuals.

Now.

- pseudocode the above.

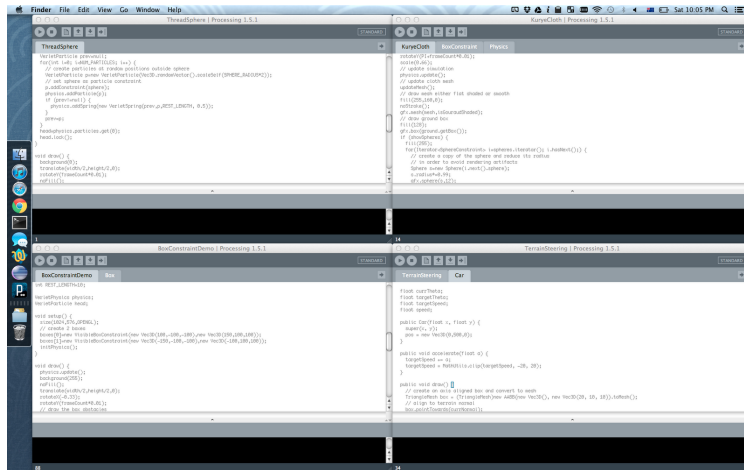
Extracted tasks.

- assumptions.
 - kinect and projector in same space.
- Get 3d depth image.
- extract ground.
 - outline four points on the ground and expand.
- v Can be done without kinect with dummy ground v-----
- display ground model (elevated slightly) over webcam image for validity.
 - will have to map webcam image with Depth image.
- create 3d cubes that sit on this ground plane.
 - the could potentially be pushed and popped matrices. Rotated according to the ground.
 - this means spotlight would have to be treated similarly.
 - or the cubes could have their vertices set algorithmically according to the Plane.
 - ...
- turn cube into a circular spotlight projection.
 - prototypable with mouse interaction without the kinect. I have this in old rtm code. 2d to 3d.
 - perpendiculars from the ground plane.
- pre-generate plinth sized cubes, create method of layout.
 - 3d coordinates will have to be mapped to real world dimensions if possible,
 - or plinths will have to be relatively scaled.
- create detection points that get scared when a person gets too close (gradual red)
- turn all plinths too detection points.
- create visualisations between the plinths
 - a simple mouse cursor following will do for now.
- remember to incorporate others code.

Initial explorations of different Kinect Libraries. Decided to just reinstall SimpleOpenNi since Dale's code was based on it and it was multiplatform (hence could be collaborative) as opposed to OpenKinect or shiffman's.

Realised why setup - and previous setups were so hard. After much incompatibility. Cleared the System Java Extensions folder and all worked great again.

Some helpful code that directed me to the plane physics and other associated maths and functions. ToxiLibs was found to be very helpful.



(also added own functions that speeded the entire process of coding; e.g. `translate(Vec3D v) > translate(v.x,v.y,v.z)`)

Kinect.

Final Products.

- from subset code - taking photos - being able to capture people in 3d space, and navigate space
- code that has the structure/framework to incorporate both Adam's texture and Dale's presence code.
 - also added;
 - setting up of ground plane (dealing with matrixes and hacking) - by building interface to select ground points
 - being able to add cubes to this point and use keys to manipulate rotation, scale, and translation.
 - // all quick hack code.
 - // should attach code as zips to append to this document.
- an app that was ready to be projected. discovered great difficulty in adjust the kinect image to align with projector image.
 - determined that this was a difference in Frustrums, or Field of Views.
 - Told Adam. He will look into it later after more important things are dealt with, meanwhile this projection-kinect stuff is paused.

Some brief Initial research of difference in frustrums lead to this:

- <http://forum.libcinder.org/topic/projection-mapping-with-kinect>
 - which links to:
 - <http://www.kimchiandchips.com/blog/?p=544>
 - [both whom have achieved our desired effect and provide brief steps]

// Sentient - Helped Mark for a bit, work out why his Bot was failing (through putting the code back to working basics, and gradually adding layer by layer of additional code until it stuck on a problem) - figured it was the continuous buffer stream - and it was lagging / some characters

missed. Hence delay was added to processing and fixed (though i also suggested methods for solving this for a longterm exhibition incase the buffer get's full - either constantly only read most recent buffer character and clear, or clear every so often (when no-one's around), or don't send messages from processing when the servo doesn't have to move at all or by much.

Ken, Mark. Helped move plinths - driving, delivering.

-

Setup plinths.

-

Situated Design. Positioning of things - different designs and concepts (e.g. central small webcams, surrounded by other larger plinths - peek-a-boo as people browse around in a way - Mark took a photo)

conceptual documentation++ - human proximetrics - zones of comfort - (the three or so zones) - can analogueise this to the distances of the computers/plinths - thinking of how they can be associated and their different characteristics.

Additional areas of Conceptuaal Research:

- proximetrics
- situated design

I should take a video/snapshots of the kinect work and add them to document (also show).

- >>> a. Get Java to load contents of a webpage.
- >>> b. Get Java to read page as xml file.
- c. Extract required introduction snippet.

Wikipedia Jumping:

Rule 1:

- get random wiki page.
- store first entry.
 - entry content is defined by first n sentences, where n is last sentence with hyperlink.
- repeat for hyperlinked entry.

Pseudocode 1:

- Preloaded network of entries.
 - //preferably generated in java, so it has the potential to be called live
 - // though also have power of terminal-access, hence python as

well.

- Each Node Entity is:
 - uniquely representing a hyperlink?
 - or a particular entry/paragraph of that hyperlink?
 - or different types of nodes; with pages and subset of pages?
- Had a bit of a thought.
 - and simply - it'll just be better to have nodes represent pages.
 - pages are the crux of predominant content.
 - they are our predominant links (not paragraphs/

snippets).

- hence pages is more broad, scalable and

appropriate.

- Node = Wiki Page.
 - (Concept (Network Graph))
 - (there exists a wiki api)
 - Unique Attributes:
 - Page URL.
 - Other Attributes:
 - Information Snippet (e.g. first sentence minus brackets)
 - Info Snippet must retain a form of link encoding /

hyperlinks.

- this is for near-future link referencing, making sure context is kept.
- Would be nice to generate a list of all other potential links.
- but not necessary for now.

- Generate network graph by creating one Node ^, then associated nodes.

Aim:

>>>

1. Load a wikipedia article in Java (if not possible, do other languages, but keep it java accessible e.g. terminal).
 - This needn't be the website.
 - Check the Wiki API.
 - http://www.mediawiki.org/wiki/API:Main_page
2. Generate Information Snippet.
3. Generate PageNode.
4. Generate associated node.
5. Preload Wiki Network.

6. Demo with talk.

1+.

- can read as xml / json <- choosing json.
- <http://en.wikipedia.org/w/api.php> <- base url
- e.g. <http://en.wikipedia.org/w/api.php?format=xml&action=query&titles=Main%20Page&prop=revisions&rvprop=content>
- queries: <http://www.mediawiki.org/wiki/API:Query>
- sandbox: <http://en.wikipedia.org/wiki/Special:ApiSandbox>
- redirects: exist, there is a parameter to experiment with.
 - same applies for continuing queries.
- look up processing-wikipedia projects/code.
- ^- Special Export looks like a nice option;
<http://en.wikipedia.org/wiki/Special:Export/>
- //// - Found alternative tutorial for Text-To-Speech
<http://amnonp5.wordpress.com/2011/11/26/text-to-speech/>
 - google TTS
- Special Export looks like a great avenue for now, let's stick with that.
 - // can extract out links
- a. Get Java to load contents of a webpage.
- b. Get Java to read page as xml file.
- c. Extract required introduction snippet.
- Double curly brackets extraction - handling that with a stack cause it's nested
 - " // NOTE: This will BREAK if it turns out there are nested double-curly brackets. (In that instance, a stack should be used.)
 - // OK, it turns out there is nesting - need to handle that with a stack. "

Proposals for addressing the plinth angular rotation problem.
Physical stops were also mentioned.
Matt thought and experimented more - and found physical stops the most practical.

Potentially stopping / interrupting speeches. Method.
<http://frontiernerds.com/text-to-speech-in-processing>
- could also potentially be used to determine if speech is done.

- ok, tried it - can't do it - for proper timing
- but found later to be useful for making only one speech at one time (good with OSC / multitude of controlled speechers).

Setup plinths.

Noted:

- needed router.
- need to fix communication network for older computers / more delayed UDPs - time delays, compensating for older computers and processes.
