

Difference Engine – set up & operation updated 17/5/18

1. Start up laptop

Open laptop, and switch on (power button top left)

Click anywhere on the screen (rainbow striped image)

A screen with user name and password will come up

Password = Difference

Press Enter

Open desktop (picture of a field) with two shortcuts in the middle (Wamp:  and Difference Engine: )

NB We have disabled access to the internet on the DE laptop, for security reasons, as we have to have the firewall down to enable the broadcasting – so we don't want to risk anything from external sources. **PLEASE DO NOT ENABLE INTERNET ACCESS** by changing the wifi network – this should stay on DifferenceEngine

2. Open Difference Engine

On the desktop, click on the Difference Engine shortcut:  (the one in the middle of the screen – there is another older version which is just a back up)

A small command-line-interface window will open (black screen with white text) - ignore this

A second, larger window will open – this is the Difference Engine operator interface

Use F11 to make it full screen (may have to press this x 2)

Any time you need to access anything else on the Desktop you can just use F11 to toggle between full screen and a smaller window.

At any time press H for the Help menu of commands

Note that 'S' toggles between Edit and Broadcast modes:

- When the outline is in white, it is broadcasting
- When the outline is in yellow, nothing is being broadcast, and you can edit without risk of anyone seeing it before you are ready

It will open on the default.scrp file. Do not use this one – it's just a holding screen.

3. Preparing captions

Refer to Help (H) or the printed DE commands help sheet for how to enter, amend and run text.

Open a new File using the template (Ctrl + O / Captions Template.scrp) and then Save (Ctrl + S) with a new name (short and easy to recognise advised!)

Enter captions into Channel 1 (CH1), from the cell below the Welcome captions we have pre-loaded (you can run through these in the 20-30 minutes before the show, as people arrive and connect, so people can see they are connected).

Each caption - as you would want it to be seen on a single screen - needs to be in a separate cell, one under the other (think of each caption as a cell in one column of a spreadsheet).

Captioning scripts can be typed line by line into the Difference Engine (Ctrl + E to edit a cell) – but this is time consuming (but useful when devising a show!) They can also be imported into the system, from Word or a text editor, via a spreadsheet.

You will probably already have your script in Word or something similar. However, you need to go through it and 'chop it up' into caption-size bits of text

a) Get a 'clean' copy in Word

- On your own laptop/PC – in Word or similar programme, first cut the script up into caption-sized chunks (max around 20-25 words/ 125 characters) using the return key after each chunk (to create paragraph marks)
- Take out any stage directions / anything you do not want displayed
- You can choose whether or not you want to include the name of the character speaking
- Take out any blank lines that you do not want
- Add any sound cues you might want people to be aware of (eg [Silence falls.], [A foghorn sounds], [Tumbling music, growing louder]). We suggest describing sound effects in square brackets to differentiate from speech. (NB NOT angled brackets <>)

To create a line break within one caption – i.e. to put text on the next line within a single screen of captions (e.g. to break lines correctly during a verse of a song), type \n

Eg to get on one screen:

*Happy birthday to you
Happy birthday to you
Happy birthday dear Freddy
Happy birthday to you*

You will need to type:

*Eg Happy birthday to you \nHappy birthday to you \nHappy
birthday dear Freddy \nHappy birthday to you*

In 'Edit Cell' (E), you may need to use the keyboard shortcut 'CTRL+N' to enter '\n'.

The DE supports additional unicode characters (e.g. foreign language characters), but the operator window does not always display them properly (even though the App does!). So they should display fine on someone's device but might not look right in the operator's screen. Check this by looking through all the captions on your mobile device before going live with them.

If your performance has music in it, you might want to add a musical notes symbol (♪) to the description by using the shortcut 'CTRL+M'

Do not use angled brackets (< >) anywhere in the script as this causes the captions to not be displayed properly on the (back up) browser version for audience members.

Please add our 'end captions' to the start and end of your own captions (See spreadsheet provided) – these are to encourage feedback.

4. Importing a script

If you have an existing captions script prepared in Word it is relatively easy to import this. Just save on a memory stick from your computer and open this on the DE laptop. It will open in Open Office Writer. You can now just copy all the text (Ctrl A) and then in the DE paste it using Ctrl + V.

If for any reason this does not work then you can copy and paste the script into one column of a spreadsheet and import it from there.

Transferring it into Difference Engine

- Open the Difference Engine laptop up, and insert the memory stick.
- Open your document – a Word document may open in Open Office Writer or WordPad. (A spreadsheet will open in Open Office Calc).
- Copy the text (Ctrl+C) If using a spreadsheet, select the specific cells you want to copy rather than selecting a whole column as this can cause the DE to crash. With a long script you might want to select sections at a time to copy
- Open the DE (see above)
- F11 twice to maximise screen (for ease)
- Open the template script: Ctrl + O and arrow down to select 'Captions template.scrp'
- Ctrl + A to name it with name of your script – choose an obvious title!
- Select the cell you want your text to start from (below the Welcome captions) – and copy the spreadsheet cells (Ctrl + V)
- Save NOW! (Ctrl + S)
- If you need to go back to your document to copy more cells, press F11 to shrink the Difference Engine window.

It's important to run through to make sure you have cut the text up in the right places. Use Difference Engine commands (see help sheet – or press Ctrl + H) to make adjustments.

REMEMBER TO SAVE OFTEN! (Ctrl + S)

You might prefer to make changes on your Word/spreadsheet document and then re-import it. That way you have a backup.

We recommend you save a copy of your Difference Engine captions .scrp file onto a memory stick as a back up too – it will be saved in the DE Script folder. There is a shortcut to this folder on the desktop – labelled DE Script Directory.

You are now ready to run the captions.

Running the DE

7. Connect laptop to the router

Open laptop as above – it is probably wise to have it connected to a power supply - but not essential

Ensure router (white box) is connected to its power supply and is switched on using the back button next to the power supply. Green lights on top will come on

Put the antennae up. DO NOT press the small Reset button on the back! Check wifi signal on router is lit up (MUST HAVE power supply on!)

The router and laptop will connect via wifi

Check that the laptop is connected to the router's network: on the laptop, in the taskbar at the bottom, click on Networks 'bar chart' symbol (bottom right) – it should say Difference Engine (it will say Limited which is ok – its because it is not connecting to external internet)

8. CHECK that the Wamp server is running

If the laptop has been restarted, you may need to restart the server. Look at the task bar at the bottom right of the screen for a W: if it is green, you are good to go. If it is red, click on the W, then click *Start all services*



If the W is not there, double click on the Wamp shortcut:  on the desktop in the middle of the screen.

Running WAMP enables audience members using the browser version to receive captions.

Open the Difference Engine

Now open the DE (as in section 2) and open your script file (Ctrl+O – select your file)

The Difference Engine has two modes – Edit and Broadcast. (use S to switch between modes) You can still edit in Broadcast mode, but captions will only be sent out when you are in broadcast mode.

Whatever words are in the selected row in Channel 1 (CH1) will be broadcast as captions – so make sure that the currently selected cell (which will be highlighted in blue) is in the CH1 (captions) column. (The CH1 title at the top will be in white if you are in that column)

Captions are broadcast by using the down arrow or space bar to move through the captions. Make sure you are in BROADCAST mode – it will say Broadcast above the selected cell. The outline around the row you currently want to broadcast is in WHITE.

If it is in yellow (Edit mode), press 'S' to switch it into Broadcast mode. In Edit mode, nothing is broadcast (so you can toggle into this mode to make any changes during the show – but that's a bit risky on time!)

9. User (Audience) instructions

The Difference Engine is accessed via an App on iOS or Android. There is a way to access the captions via a browser if people have a different phone or are on older versions of the operating systems that are not supported – but the App is the best way. Audiences should download this in advance.

a) Getting the App

Users of **Android devices** must have a Google Account and they can download the app direct from the Google Play Store via this link:

<https://play.google.com/apps/testing/com.talkingbirds.differenceengine>

For users of **iOS (Apple) devices** (iPhones/iPads) - we currently need their email address a day or two in advance so we can add them to our system - this should be emailed to access@talkingbirds.co.uk (We can add them very quickly, but it depends on our Technologist being around) They will receive an email to install **Test Flight** (the Apple testing platform) and through that they download the DE App by redeeming the code in their email. They will receive emails notifying them of any updates.

NB we hope very soon we will have a publicly downloadable iOS app – it is just being reviewed by Appl. As soon as it is public we will send you a link to it.

People with devices using lower than iOS 8, Android 6, or other devices or anyone who turns up on the day without the app can access the captions via a browser. This is a bit clunkier and we know the main feedback will be about ease of accessing it – so please encourage users to use the App where possible.

b) Connecting to the Difference Engine system

Audience users need to switch to airplane mode, then re-enable their wifi and select the Difference Engine network (you should have this up and running at least 20 mins before the show starts so people know they have connected). Then they open the DE App or go to their browser.

App users have a Guide in the App. Currently the App is only for users of iOS 8 or above or Android 5 or above.

With the DE there are some postcards with the guide to doing this on them - also some sheets for those who do not have the app and access it via browser (see below - but NB the App is the best way!)

10. Feedback

Audience members using the App can select Feedback from the app menu, to send comments about the Difference Engine.

Audience members using a browser can use their back button and select Feedback

NB - These only work while the DE and WAMP server are still running, at the venue – so please leave the laptop, router, and WAMP 'on' for 20-30 mins after the show.

To view their Feedback, click on the Feedback File shortcut on the desktop (under the DE shortcut: 🌀)

You will see comments with a date stamp.

You can copy and paste comments out of here - **please copy all comments and send these to George@talkingbirds.co.uk** – ideally after each performance – so that if there are any problems we can try and address them as soon as possible

All users can also send feedback at any time by email to george@talkingbirds.co.uk

Please also gather feedback from anyone who operates the DE and send this to us. Thank you!