ASSESSMENT 3

UP IN SMOKE

BY DYLAN HENSBY AND DANIEL BISMIRE

GAME: https://up-in-smoke.netlify.app/
VIDEO: https://youtu.be/Tc9IOc275Xk

DECO3200

DBIS6511 DHEN2548

TABLE OF CONTENTS

VISUAL REPORT

INTRODUCTION

EXPECTATIONS AND OUTCOMES

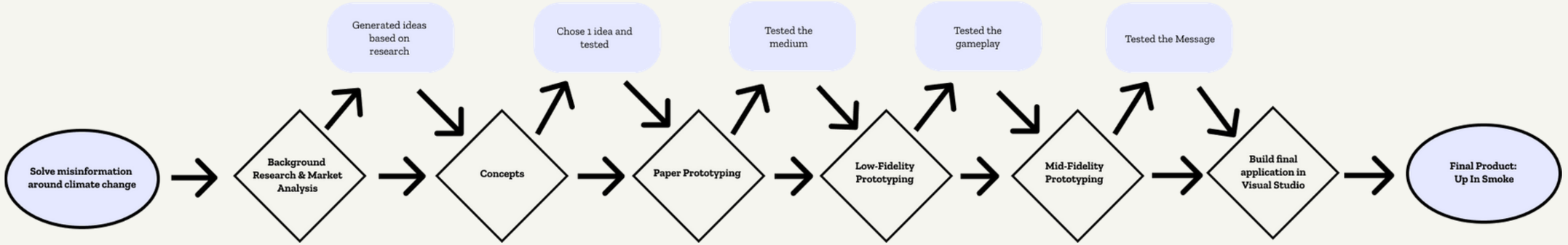
Many people are unaware, bewildered to causes and misinformed when it comes to bushfires. This was highly evident in the Australian 2019-2020 bushfires with numerous people believing the cause of the bushfires was arson. (Knaus, 2020) Through our research we found this misinformation was able to be spread because of a lack of education and interactivity. We decided to address these two areas with a digital solution in order for people to stay informed, support their local environment, and not fall victim to misinformation.

For clarity we distilled this gap into three succinct problems;

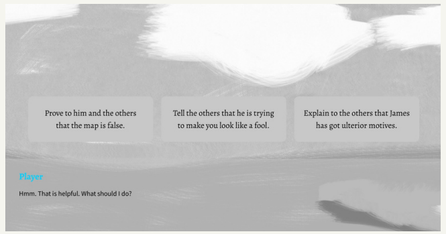
- Users need education to be able to make informed decisions when processing information.
- Users often lack the ability to discern biased sources.
- Applications within the space are lacking in interactivity.

Up In Smoke, an interactive visual novel, is our response to this wicked problem. It aims to educate young Australians on bushfires and the misinformation surrounding them.

DESIGN PROCESS



Paper Prototype
Iteration 1



Low Fidelity
Iteration 2

Mid Fidelity
Iteration 3

DESIGN PROCESS

BACKGROUND RESEARCH + MARKET ANALYSIS

Our design process began with background research into the problem area. We looked at both the problem of misinformation and climate change in an effort to understand some of the major issues within these areas. We also analysed the existing market to see what other solutions had been created in response to these problems.

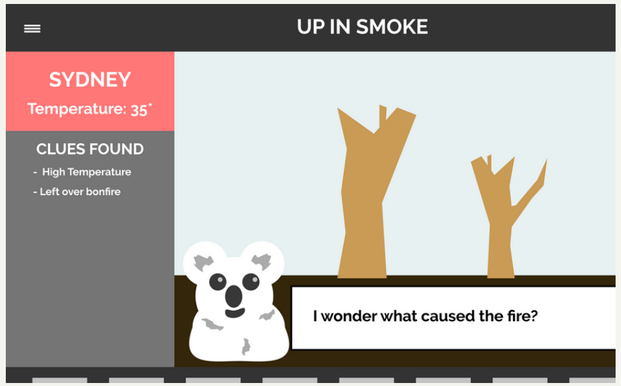
CONCEPTS

Drawing from our research and analysis, we came up with three solutions that responded to the brief. They were;

- Info Inferno, an infographic designed to educate users about the dangers of misinformation and bushfires.
- Illuminate, an app which informs the user about dangerous local and national misinformation.
- Up In Smoke, an storytelling experience that is designed to teach users about misinformation surrounding bushfires through gameplay.

We designed mockups for our ideas, and used storyboards to convey how they would work. We used storyboards because they are a cheap and quick method to demonstrate the user's journey.

After conceptualising three potential solutions for this problem we used a decision matrix to determine what solution fulfills the needs most. We felt that our Up In Smoke idea personified the solution strongest. Through testing, we found that this was indeed the case, with most users saying that Up In Smoke would be a versatile educational tool, and that they believe it would be most effective in educating people about climate change and bushfires. Therefore, we decided to pursue Up In Smoke further..



(Fig. o Up In Smoke concept art.)

DESIGN PROCESS

PAPER PROTOTYPES

After receiving positive feedback on the idea from our users we moved onto a paper prototype. This allowed us to build out a prototype of what our mental model of the final game could look like. This low fidelity method was ideal, as due to the unfinished nature of the product, it allowed users to feel more like they are a part of the creation process, allowing us to receive greater feedback.

Our main goal was to test the medium of a visual novel, and see if it was suitable for our project.

The paper prototype consisted of 9 screens, including a shortened version of the experience and settings options. During testing only one choice the user would make was available. For our testing, we gave our users concrete as well as abstract tasks, and used the think aloud method. We conducted five usability tests as this has been shown to be the most ideal amount (Nielsen, 2000) .

Task Difficulty Key	
	Challenging
	Moderate
	Simple

Time Taken Key	
	Failed to complete task
	Completed with assistance
	Completed task
	Completed task quickly with no problems

(Fig. 0 Demonstrating the difficulty rating and time for each concrete task)

Abstract Task	Concrete Task	Time	Notes/Feedback:
Play through the story and make your first decision	Login/hit start to begin		
	Click through the story until an option appears		
	Choose an option		
Navigate to settings and chose the colourblind option	Hit the drop down menu bar and choose settings		Did not recognise the menu bar straight away
	Interact with the sliders to select the option		
Save progress and exit	Navigate to the main menu		
	Choose a save spot and confirm		Had a bit of trouble understanding the visual novel save navigation
	Exit from the same screen		

(Figure 0 Example of recording the think aloud using colour as indicators of time and difficulty with notes of where the user struggled.)

DESIGN PROCESS

PAPER PROTOTYPES

KEY FINDINGS

- Users found the medium of a visual novel engaging and useful in transferring educational content.
- Many users were not familiar with the medium, which could signal that there is still a lot of room for innovation in the space.
- Navigation within visual novels is generally clear for users.

DESIGN PROCESS

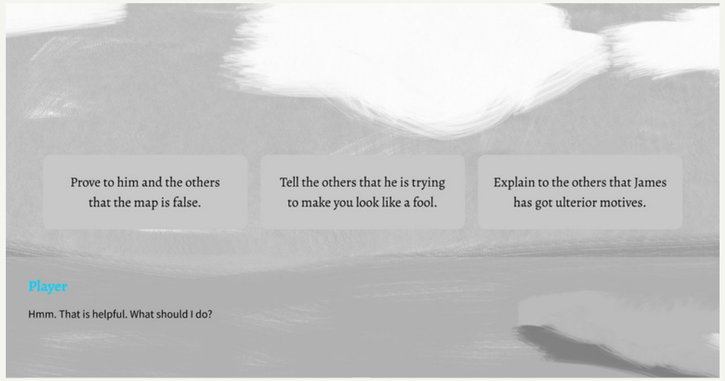
LOW FIDELITY

Next we proceeded to build our low fidelity prototype. We utilised Figma as it was a strong collaboration tool. Further it was user friendly to prototype, design and test with. We built a mock visual novel, using a simple backdrop with overlaid dialogue. Users would click on the prototype and the current text box would be replaced with another text box. Using this process we created two branching paths that would form our A and B test.

Our A prototype path gave users a test to see if they could identify the type of misinformation that was being displayed, while our B prototype path gave the user the option to choose their response in regards to the story.

After conducting the interactive prototype AB test we interviewed our five users for qualitative data, additionally we gave them a survey to fill out for quantitative data.

(Figure o Low-fi Prototype Decision A)



(Figure: Low-fi Prototype Decision B)

DESIGN PROCESS

LOW FIDELITY

KEY FINDINGS

- Users were frustrated that the demo did not inform them if their response was correct.
- Climate change was being pushed out of focus.
- If climate change was made the main focus, then the ‘choosing your response’ gameplay would be better suited.

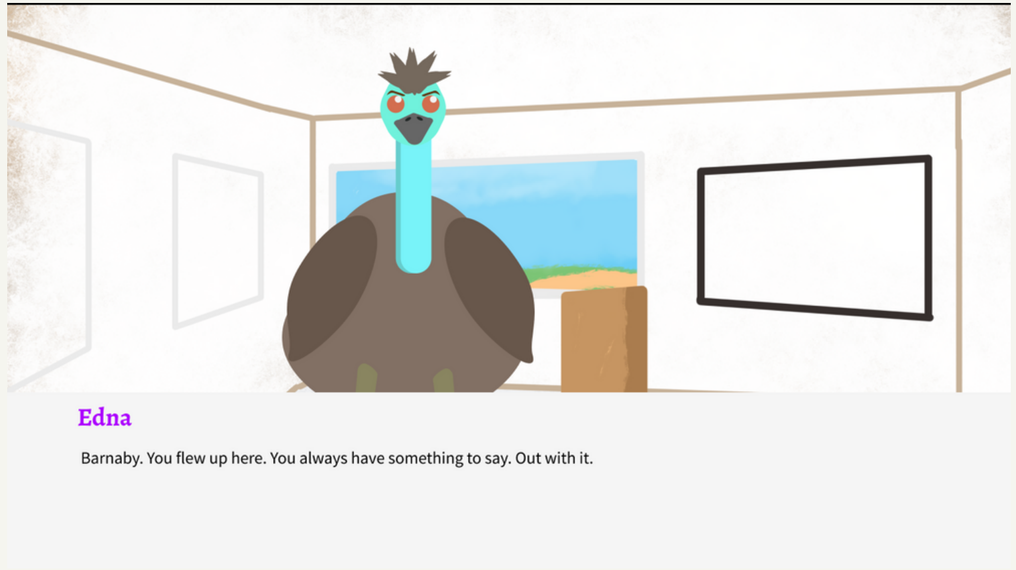
DESIGN PROCESS

MID-FIDELITY PROTOTYPE

Our focus now was to assess the educational content that will be provided. The content of the story had to be appropriate, concise and educational. Further the story was rewritten to focus on climate change more so instead of misinformation. The full story was implemented including the three main decision points for the user to respond to. However due to constraints and technological hurdles only the last choice affected the users outcome.

The prototype was rebuilt in Figma. The technique of using overlays utilised in the Low-Fidelity Prototype was made use of again. This time however we also introduced characters into the scenes, including the koala who represents the main player, Edna the emu, and Barnaby the butcher bird. We also included new hand drawn background artwork, including scenes drawn for each of the endings that the player may encounter. We aimed for an increase in fidelity to assist in testing the educational and story content of our design.

We conducted user testing using an interview afterwards about our participants' experience and a survey.



(Figure: Mid fi screen of Edna talking)

DESIGN PROCESS

MID-FIDELITY PROTOTYPE

KEY FINDINGS

- Our prototype is effectively educating users, giving them a better understanding of climate change's role in bushfires, as well as identifying bias in regards to information in general.
- Interactivity increases the users engagement with the story.
- Our users believe the story is appropriate for ages of 8 years and up.
- The politics surrounding the bushfires may pose another avenue to explore.
- More characters need to be seen in game, rather than just text.
- It may be more effective to slowly reveal Barnaby's background during the story rather than at the end.

DESIGN PROCESS

FINAL PRODUCT

Moving forward we finalised the story and begun building the fully functional product. We decided to use Monogatari.io to build our game, a visual novel web engine that utilises HTML5. This provided the framework that allowed us to build the game without strong coding skills. The game's code was written using Visual Studio and assets were created in Adobe Illustrator and Photoshop. For collaboration we used github to make changes together and keep track of versions.

At this point the process became primarily iteration, increasing the fidelity of the game each week as worked towards a minimum viable product. After refining the story we built the core of the game, with the full story implemented and choice system working. Next we created and added our assets including different character sprites and emotions, more backgrounds and more detailed endings.

After the core features were finalised we worked on additional features. This included overhauling the engine's UI, adding animations for the characters to come to life, implementing audio which included sound effects and a backtrack.

(Figure: Final Product screens featuring home screen and in game footage)

CORE FUNCTIONALITY

CHOICE

One of the most valuable functions that monogatari provides is the ability to present the user with choices, which is what our game is built around.The game's story has three core choices which will affect the users' ending, and is calculated using an internal point system. When the user reaches the end of the story, the game runs a check to assess how many points the user has earned, which is then marked against a criteria. If the user satisfies a certain criteria, then they receive that ending.

Users are also given immediate feedback for their decisions. After a response is made the game explains how the characters and crowd react, additionally displaying a pop up notification with the level of the crowds overall agreement.

ADDITIONAL FUNCTIONS

Other useful functions in our game include particle effects, custom animations, and audio. This in turn made our game more aesthetically pleasing for the user. Furthermore user functionality and utilities were added to the game in order to be more accessible, this consisted of saving and loading, a help screen, and a settings screen.

```
//this is where the ending is calculated
{'Conditional': {
    'Condition': function(){
        if(this.storage().agreement <= 4) {
            return 'badEnd';
        } else if (this.storage().agreement <= 6) {
            return 'neutralEnd'
        } else {
            return 'goodEnd';
        }
    },
    'badEnd': 'jump badEnd',
    'neutralEnd': 'jump neutralEnd',
    'goodEnd': 'jump goodEnd',
}},
```

(Fig. o The code which calculates the ending.)

HARDWARE AND SOFTWARE REQUIREMENTS

USERS

Software

- An internet browser that supports HTML5
- Up to date ios or android operating system

Hardware

- A Modern Smartphone (2015+) or computer
- The computer must have a functioning keyboard and screen
- Connection to internet

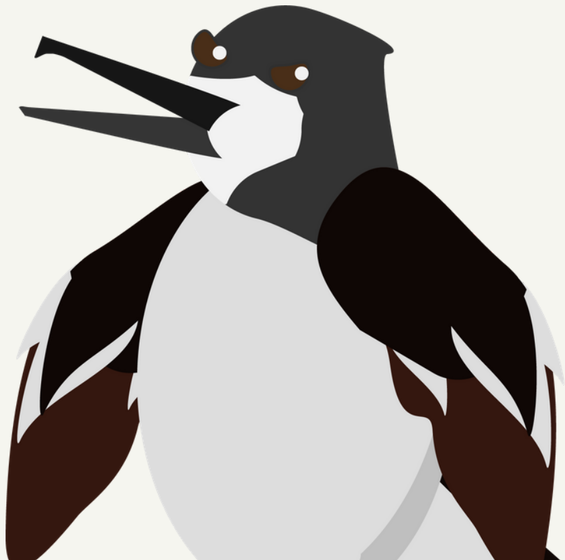
DEVELOPERS

Software

- Code editor (Visual studio)
- Illustrator
- Photoshop
- Github (To host the files)

Hardware

- Computer
- Mouse/Trackpad
- Keyboard
- Monitor
- Connection to Internet



ILLUSTRATED SET UP

HOW TO PLAY UP IN SMOKE

1. Open up a browser on a smartphone device or computer and type in the url for Up In Smoke

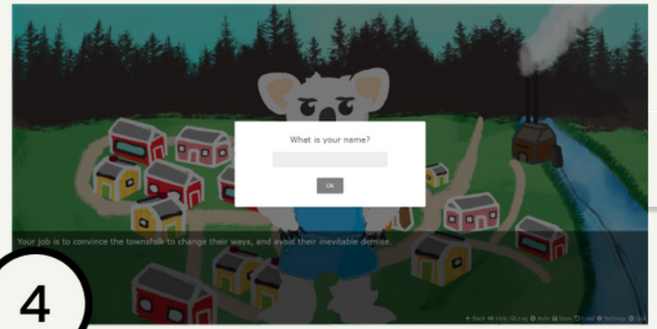
1

2

2. Click start to begin.

3. Play through the story by reading and clicking on the screen.

3



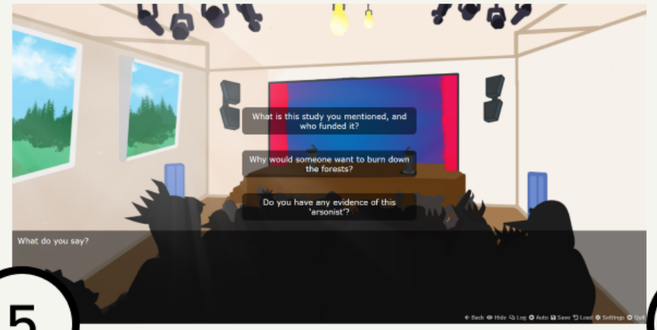
4

4. Enter your name when asked

ILLUSTRATED SET UP

HOW TO PLAY UP IN SMOKE

5. Play through until you are presented with a choice, then make your decision.



5

6

6. After three choices you will be presented with an ending based on what you chose.

7. If you find the ending unsatisfactory, or you wish to continue playing, the game can be replayed for different endings.

7

KNOWN ISSUES

ISSUES AND BUGS

- When transitioning between scenes the settings background is displayed. This barred us from customising the settings screen because it broke the flow of the game by having a random image pop up between scenes. Therefore the settings screen has deliberately been left in low-fidelity until a solution can be reached.

- When playing on the mobile version, characters appear larger than intended, and when multiple characters are on screen, overlap each other. To fix the issue of overlap would require rewriting a large amount of code so that only one character is on the screen at a time, which we believe would make the desktop version suffer. Since the majority of users are desktop based, it has been left as is for the time being.

- Ideally we would have liked to have centered the buttons on the title screen but we struggled to make this happen. We tried using the relevant code in different sections within Monogatari but were unsuccessful.

- Save/Load is unnecessary. Our game is only a 5 minute experience so we wished to remove the functionality of save games, but the system itself seems integral to the games engine, so the time investment needed to remove it safely was not worth the cost.

FUTURE WORK

- Work needs to be done to make it more mobile friendly
- Research into the possibility of idle animations, which could add more life to the characters and world
- Could be built out into a longer experience closer to industry standard, including a deeper story and professional voice acting
- Original music

THANK YOU

REFERENCES

- Carstens-Peters, G. (2017, February 5). person using MacBook Pro. Retrieved November 22, 2020, from Unsplash.com website: https://unsplash.com/photos/npxXWgQ33ZQ
- Knaus, C. (2020, January 7). Bots and trolls spread false arson claims in Australian fires 'disinformation campaign.' Retrieved November 19, 2020, from the Guardian website: https://www.theguardian.com/australia-news/2020/jan/08/twitter-bots-trolls-australian-bushfires-social-media-disinformation-campaign-false-claims
- Nielsen, J. (2000, March 18). Why You Only Need to Test with 5 Users. Retrieved from Nielsen Norman Group website: https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/

APPENDIX

Up In Smoke Game:

- Game link: https://up-in-smoke.netlify.app/

Planning:

- Video Plan: https://docs.google.com/document/d/1eWCIRC_UxBHAZZAB8LvQ9HTyUuvuca-rVT_SxcESHoY/edit
- To Do List: https://docs.google.com/document/d/18EGlTvsApJaGqEpsQggdKD6k1EMD4r2mYIjzTVEOe1k/edit
- Story: https://docs.google.com/document/d/1pnQcUXf4DsuYlZv2meBo8oblgFPTakw7sPGPGOSroPA/edit?usp=sharing
- Character Art: https://docs.google.com/document/d/1iCoMaUBWLF5ZMeJeDkwFtRiXujLYUwbDSZWMHbIJiTE/edit?usp=sharing