

FREE BIRDS

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ABSTRACT: Free Birds is a game about freedom. It is playable in select war and resistance musea with an iPad. The game responds to the objects on display in the museum using bluetooth beacon technology. While playing the game the player meets an array of characters who they need to help by taking pictures in the museum and by advising them about difficult decisions. Every choice can have severe consequences for the player and the characters.



This is the chapter from the book “Designing Conversational Interfaces” detailing the design and implementation of Free Birds.

The entire book is available at:
<http://convbook.com>

1. INTRODUCTION

Free Birds (**Vrije Vogels** in Dutch) is a conversational game that Hubbub created in 2015. It turned out to be prescient where the conversational interfaces trend is concerned.

We prototyped the game in spring of 2015 and settled on the conversational loop not long after. Interestingly enough, conversational interfaces and bots weren't a thing back then. We thought this trend would have some lasting power, but we had no idea how big it would become.

This chapter is about the context, concept, design, and development of Free Birds. Many aspects of this game serve to inform the wider theme of conversational interfaces. I'm also rather proud of what we achieved with Free Birds in its particular niche.

2. AIRBORNE MUSEUM

Free Birds was created as an assignment for the Dutch Museums Association (**Nederlandse Museumvereniging**) — specifically for the Airborne Museum ‘Hartenstein’ in Oosterbeek in the Netherlands.

The Airborne Museum is situated in a building called Hartenstein. Hartenstein was the headquarters of the British 1st Airborne Division during Operation Market Garden. It was here that Allied soldiers launched an operation to overwhelm German forces. They wanted to push through, across the Rhine, and into the German industrial Ruhr area. During the operation, they were met with far heavier

resistance than they expected, and the delays in their advancement allowed Germany to mount a counter-offensive. The British paratroopers were overrun and had to be evacuated.

This operation had a huge impact on the armed forces fighting there, as well as on the people living in the area. The Airborne Museum exists to commemorate the victims, and it also shows the circumstances of the battle and the effects of the occupation and the war on the local people.

3. BRIEF

We made Free Birds based on a brief we received and a pitch we gave specifically for the Airborne Museum. However, the game can be adapted to work in other museums as well.

The target audience of the game is children between the ages of 8 and 10. The initial idea also proposed that the game would be played on a mobile device and use Bluetooth beacon technology.

Free Birds uses objects from the museum to talk with kids about freedom. More specifically, it lets them play with different notions of freedom and how they relate to events that took place in the past.

4. FREEDOM

Translating the abstract concept of freedom into something children can play with was challenging. For instance, we discovered that it's not immediately obvious to kids why freedom is a good thing in the first place. Wouldn't it be better if everybody followed the rules?

In this sense, Free Birds serves both as a game and a conversation starter for kids and their parents, as it helps them develop their thinking about freedom. Politics in Europe were also radically different when we started developing Free Birds, and the issues of freedom that our game is concerned with have unfortunately become more relevant in the short amount of time since its creation.

5. MESSAGING LOOP

The main conceit of Free Birds is that kids use their mobile device to communicate with a fictional world. This world has issues with

freedom and is inhabited by people who look like animals.

Katja the cat is a reporter and the main character of the game. She calls the device, and after the players answer her call, they can chat with her. The interface used to communicate with Katja is similar to that of current messengers.

In these chats, Katja does most of the talking. Sometimes she swaps her camera perspective to show full-screen scenes from the game world. The player's options consist of pressing multiple choice buttons with canned responses. Often, there's just one button, labeled "OK," that advances the story.

Multiple choices occur mainly in two cases:

1. Where players need to demonstrate that they've looked at the exhibits in the museum. This is a classic quiz-like knowledge test.
2. Where players need to make a moral choice that has an impact on things that happen in the game world.

Katja writes short news reports, which she publishes in her world. These reports are based on things she and the children find and discuss together in the museum. Players take pictures of these objects and send them to Katja so she can use them in her reports. They also discuss how these objects should inform the reports that Katja writes.

6. MORAL CHOICES

The moral choices in the game are prompted by events in the fictional world. We linked these events to objects in the museum, and in doing so, they're also linked to historic events in the real world. In this way, the game can be used to talk about things that have really happened and make them stick.

The game consists of three episodes, and there are three events in the game world that prompt a player choice:

1. A bird has written a message on a wall. This is, of course, not allowed, but the message is kind of cool. What should the player do with the message and the bird?
2. The government is evicting the birds because the houses of the birds are deemed to be unsafe. The birds don't seem to agree with this assessment. What should happen?

3. One bird comes forward as a source. He reveals that there's a campaign going on to systematically oppress the birds. The source wants to stay anonymous because he's afraid for his safety. How should the player publish this information and who should they attribute it to?

Katja writes a report based on the choices the player made. She links it to events that have happened in our world (the real world) to serve as an example, such as: 'The inhabitants of Arnhem had to leave their houses because it was dangerous just like here. That's wrong, because people should be allowed to determine themselves whether they want to leave or stay.' These reports change the course of events in the game world, and the player gets to see what happens.

While the player is busy with Katja, there's also a police officer who keeps calling the player. He wants information about Katja's whereabouts and what was discussed with her, because he wants to control the things Katja's writing about. This adds a backstory about surveillance to the game; it also confronts the players with more important decisions that they'll have to make.

In the end, everything turns out well, but all the characters involved have some close calls and learn a lot.

7. BEACONS

One of the client's requirements was that we should locate players in the museum with Bluetooth beacon technology.

Bluetooth beacons have been getting a lot of industry push, but we haven't seen many interesting deployments yet. They can be deployed easily, and they promise to offer indoor positioning to application developers. These factors together make them a technology that museums are eager to experiment with.

There's no shortage of resellers of beacons online. Most of these are people who've rebranded a couple of thousand devices from China. During our research, we found that there are just a couple of providers with a serious offering. We settled on Kontakt (pictured above) for our beacon needs.

We chose Kontakt for their reliability, responsiveness, and proximity. They also have their own application to manage the beacons with, which is an essential indicator for how serious a beacon provider is.

8. BEACONS

We decided to build Free Birds in Unity 3D. We'd worked with Unity in the past, and we thought it would be a good fit for this project, for reasons I'll detail in a moment. Right now, Unity is the engine of choice for most people doing something with games.

There are several reasons why we chose Unity:

- Unity is suitable for cross-platform development. We wanted to keep our options open for this project. Unity has a build pipeline that can run the same project on iOS, Android, and other platforms.
- Unity has, for a long time, been one of the best tools for prototyping interactive experiences. The Unity editor lets you run your application in place and change its variables while it's running. This is a feature other environments are only now starting to incorporate.
- The Unity environment is so accessible that everybody on the team can try things out. Unity has native support for many file formats, which lets artists throw in anything they want. Team collaboration and version control are not straightforward, but that's the same in other tools as well.
- Unity is particularly well-g geared toward applications that use 3D models and animation features. We didn't use either of those in our project, but for the reasons mentioned above, we still consider Unity the right choice.

9. CONVERSATION

The conversations in Free Birds are mostly linear. The player is called by a character, who they then talk to using the chat interface. Each call is an episode that needs to complete before anything else can happen. The order of the calls is fixed, but they're triggered depending on proximity to the correct beacon.

We ended up deciding on this flow to limit the complexity of the game. Even in our linear setup, there are multiple choice answers that have consequences both for the episode we're in and for the game as a whole. Those possibilities are manageable if the game isn't too long.

We agreed on the objects from the museum that we wanted to use and the issues they would signify. The writer on our team wrote a narrative for each object and an encompassing story. After some back and forth in Quip, we ended up with a script we could implement.

Below is a small excerpt from what turned out to be a massive text file.

Katja: Walk through the museum and see what you can learn about freedom. I'll call you if I have a question.

[OK]

Player: That's ok!

What this script does is it lists what each character says. It also occasionally lists buttons in square brackets, along with the dialogue the player inserts when they press each button. When the script branches, it lists a number of options, with responses and consequences for each option.

Once it was written, we then went through the script and implemented it using the conversational engine we made. This conversational engine facilitated support for chat messages and buttons, which made translating the script a fairly straightforward process.

Below is the exact script above translated into computer code:

```
cw.AddNPCBubble("Walk through the museum and see what you can learn about freedom. I'll call you if I have a question.");

yield return new WaitForSeconds(0.5f);

GameObject ok = cw.AddButton ("OK");
ok.GetComponentInChildren<Button>().onClick.AddListener(() => {
    cw.ClearButtons();
    cw.AddPlayerBubble("That's ok!");

    StartCoroutine (ShowInstruction());
});
```

We chose to turn the conversation into code instead of putting it into a dialogue format for the code to read. This was, in part, because of our unfamiliarity with the limitations of the Unity programming model. Moreover, the

complexity we needed would severely stress a dialogue format. That's something we wanted to avoid in what was still the exploratory stage of the project.

A major disadvantage of this approach is that we ended up with multiple versions of the same information. I'll talk about this later in the chapter on writing. For us, the text file would serve as the master copy until we translated it into code. After that, anybody on the team could make their minor tweaks in the code itself. When there were larger changes that our writer wasn't confident making himself, he marked them in the script file and created an item for the team to-do list.

In the later stages, when Free Birds was nearing completion, we had to extract all the copy back into a script. This step is necessary for a client to be able to check the text and be sure that everything is covered. Any project involving multiple stakeholders will have to figure out a way for everybody to sign off on it. In our case, we copied the text over by hand, a process that was tedious but good enough for the situation.

10. CONVERSATION

Playtesting is an integral part of the game-making process at Hubbub, and it was for Free Birds as well. We wanted to know how kids would deal with the chat paradigm. We wanted to know whether they could follow the fairly complicated story. And we needed to see whether finding the objects using the beacons would be a good enough experience.

An interactive experience needs to be tested with the intended target audience in the intended context. Without doing so, it's impossible to know whether or not it works as intended. Tests always result in interesting findings. Some of these will point toward improvements that you need to make, and others may give you confidence that you're on the right path.

We playtested with kids in the museum after we completed a single episode. This test served to validate our general approach. We did another test after we had all the game content in place. That one surfaced final issues that we needed to address in the last sprints of the project.

The playtests taught us a lot of things, ranging from specific features that needed changing, to insights about how kids experience this museum and games in general.

Some interesting findings:

- Dutch kids in this age group all have, at the very least, feature phones. They usually get their first smartphone when they're a bit older. They all text or message and they understand exactly how Free Birds works. They don't need any explanations.
- Kids usually skip any text they find in a game to get to the gameplay quicker. Free Birds is a text-heavy game by design, but the kids read everything in it diligently. We think this is because they're conditioned to read messages in this format that normally originate from another human. We piggybacked on this behavior to get young kids to read a story of moderate length and complexity.
- We asked them about the games they play. They listed lots of different games, but none of them mentioned Minecraft. They all turn out to play Minecraft, but none of them consider it to be a game. Rather, it's just an activity that's universal.
- Some kids also didn't consider Free Birds to be a game because it didn't have 3D objects and lots of action. Despite that, and to their surprise, the kids did think Free Birds was fun.

Free Birds can be downloaded from the App Store and played in the Airborne Museum in Oosterbeek. It will possibly be deployed to other museums in the future.