Phase 3: Designing Alternatives

Team One

Kai Theobald-Coates, Camila Castillo, River Williams-More,
Tyler Pomietlarz

Table of Content

Scenario

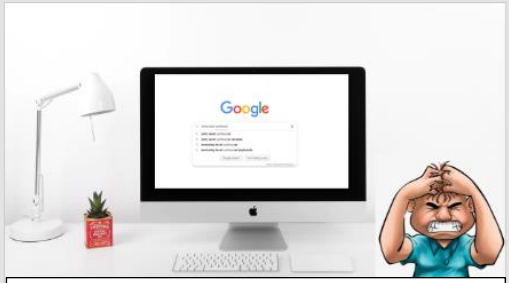
- Jim (32), is an aspiring music producer, his love and passion for music came from music festivals he has attended for many consecutive years and a love for house music. On the weekends Jim plays with his band. Jim can play the guitar and the piano.

  His band is looking to branch out their sounds and have been discussing options. As a starting point, one of Jim's group members suggest they start using audio synthesizers to augment their acoustic foundation. As the band surfs the internet looking for good entry-level synthesizers, they soon discover that there are very limited options and the synthesizers they find are very intimidating. After a few hours of searching, Jim and his band come across an audio synthesizer that claims to be beginner-friendly and easy to learn.

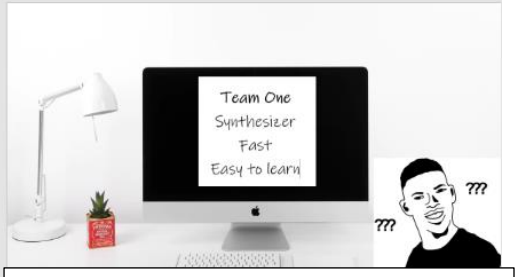
  Jim decides to download the software and start learning. Upon loading, Jim notices that he only has access to certain blocks of functionalities. As Jim explores buttons and knobs, he starts to understand the essence of synthesizers and starts creating combinations. Jim is relieved and excited to be learning. As Jim hovers over the buttons, tooltips appear explaining what each set of buttons do. After a few hours of working through, Jim is feeling confident about his new skills and asks his band members to come over so they can record some new music. The audio synthesizer loads into their music production software and Jim starts creating brand new sounds. The team couldn't be more excited.

Storyboard

Jim(32) is an aspiring music producer. With his band they have decided to start working with synthesizers, neither of them have a clue of how to use one and what they find online was very intimidating

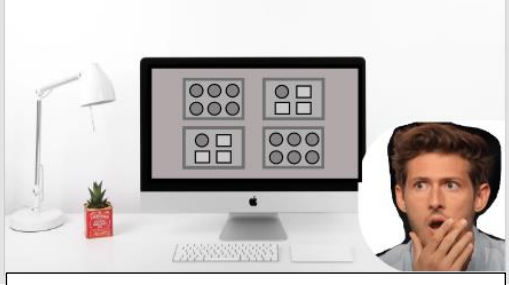


The band surfs the internet looking for good entry-level synthesizers, they soon discover that there are very limited options

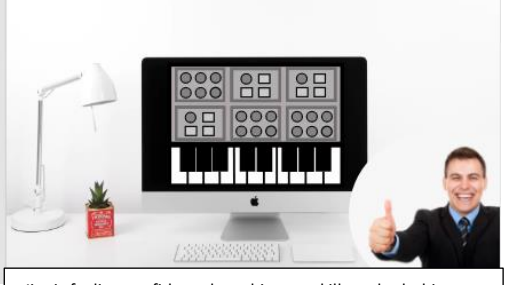


After a few hours of searching, Jim and his band come across an audio synthesizer that claims to be beginner-friendly and easy to learn. Jim decides to download the software and start learning.

As Jim explores buttons and knobs, he starts understanding functionalities and creating combinations. Jim is relieved and excited to start learning.



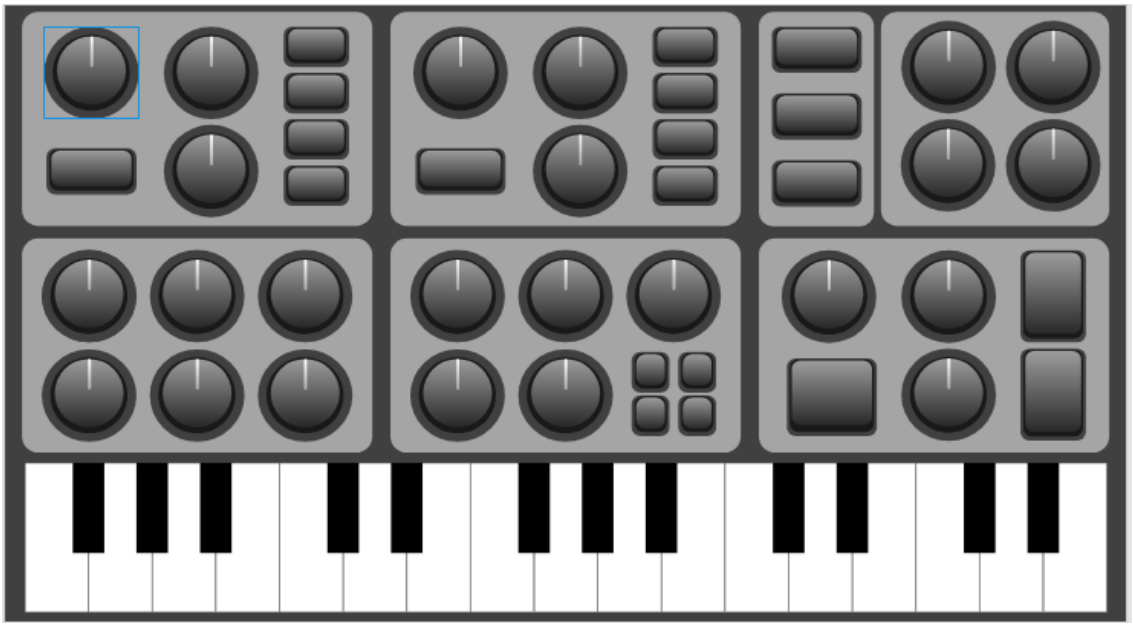
Jim realizes that he can start working with this and different synthesizers to produce music faster than he ever thought.



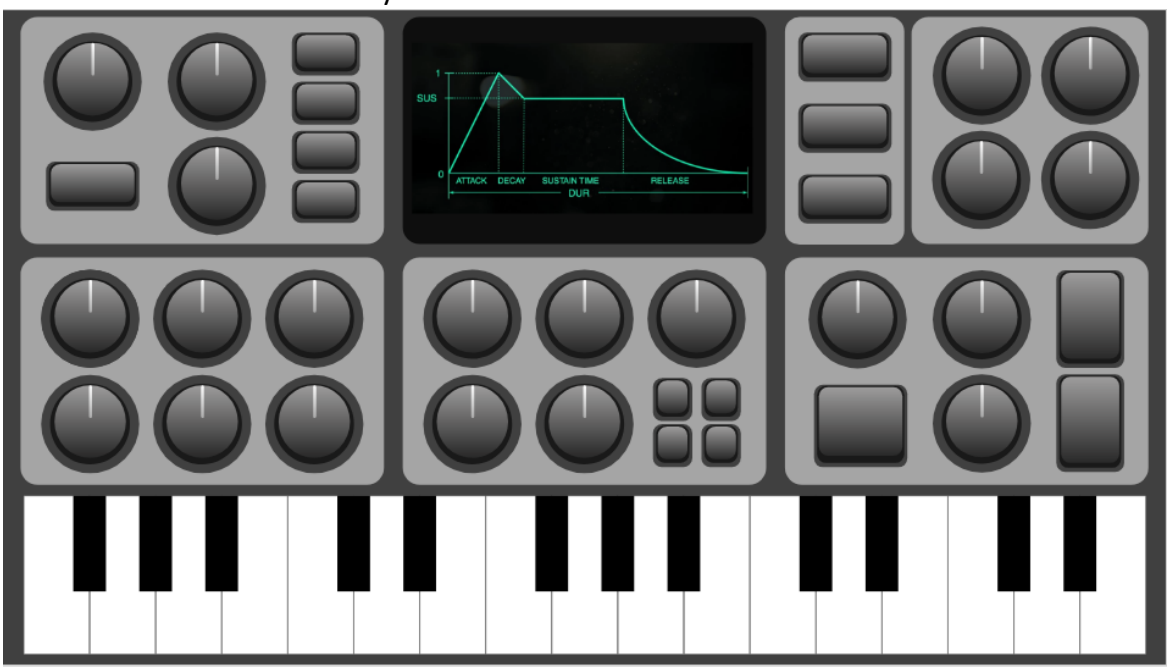
Jim is feeling confident about his new skills and asks his band members to come over so they can record some new music. The audio synthesizer loads into their music,. The team couldn't be more excited.

Design alternatives

1. One design alternative our group considered was to have an interface which did not follow any kind of progression. This idea had the components grouped together based on similarity of functionality on one big interface rather than split into smaller progressive interfaces. Although the components were grouped logically, having everything on one interface made the synthesizer look more complicated. For this reason, we chose to use the progressive design.



2. Another design alternative was similar to our first but included a screen that had the waveform on it. Although the interface still did not follow any progression having a form of visual feedback for the synthesizer



Reasons for your choice of the design (prototype)

- Based on the data gathering (survey and interviews) we put together all the elements people liked and wanted on a synthesizer. For instance:
    - We used a combination of sliders and knobs, as people preferred mixed interfaces. For our pitch/frequency slider we chose a slider to visually represent higher and lower pitch. For other parameters, we chose knobs for efficient use of space.
    - We split the interface into multiple pages, constraining the user so they are only presented with a few options at a time
    - The order of our pages matches both the order in which it is easiest to learn synthesizer components, and the general order that you would modify elements in if you were making a new sound
    - We added clear labelling with no acronyms

How to use the prototype

- The prototype interface is designed to lead the user to experiment with a constrained set of parameters and discover what they do through that experimentation.
- We chose to horizontally compromise with our prototype and the function blocks within.
    - Due to the constraints within Adobe XD, we were only able to provide true functionality to one component per page. This really restricted our prototype from a demo perspective.
    - We had to choose between full interface implementation with less functionality, or deep functionality with very little breadth. Because the class is about interaction design, we chose to implement our prototype with horizontal compromises instead. With that in mind, this is an explanation of the prototype:

1. The user is first presented with a splash screen, with a large **play** button.
2. Upon clicking this button, they are sent to the first page, the Oscillator.
    - We limited the user to three parameters - they can select a waveform, they can change the pitch/frequency, and (when the square/pulse waveform is selected) they can change the pulse width.
    - Our one animated element is the pitch/frequency slider.
3. The next page is the Filter page.
    - On this page, the user is presented with only two parameters, the Filter Cutoff (animated) and the Resonance.
    - The filter is a very important element of the synthesizer to understand, so we limited the user to only two parameters on this page.

4. The next page is the Filter Envelope.
    - To show that this is directly related to the Filter, the background colour is the same.
    - Envelopes are a more difficult concept to teach and understand, so this will require more experimentation in the future when we have a prototype with audio feedback.
5. After this, we have the Amplifier Envelope.
    - This is very similar to the Filter Envelope, but it controls the amplitude (volume) of the sound instead of the filter cutoff.
    - To show that the usage is the same, we have the same layout as the Filter Envelope page.
6. The final page is the Low Frequency Oscillator.
    - The Low Frequency Oscillator is often the most difficult part of a synthesizer to understand for newcomers, so like the Envelope pages, we will need to experiment when we have a prototype with audio feedback.
    - The animated element is the waveform selector.

Prototype

- Please refer to attached Adobe XD prototype demonstration.

Users' feedback on your prototype, scenario, and storyboard

- User One:
    - The first user that tested our prototype enjoyed the look of the prototype and overall flow of the interface. Using the data gathered through interviews in phase two of our project we modelled each page. User one instinctively tried interacting with the most important components before the lesser components for each page. User one also enjoyed how each page was a different colour and expressed that it helped cut the complexity as there was a visual cue to show that they were changing a different aspect through the synthesizer.

- User Two:
    - The second user to test the prototype said they liked the progressive interface of function blocks. The number of pages reduced the initial shock factor that they faced when testing the alternative designs. Based on the key requirements we had gathered in the previous assignment, the functional requirements gathered prove to be the most consequential. First and foremost, the user appreciated that the basic synthesizer structure was in place. That is, the progression from oscillator, filter, filter envelope, amplifier envelope and low frequency oscillator were all there in a friendly and encouraging manner. Our usability goals for transferable concepts were met when the user mentioned that they had seen similar function structure in other synthesizers they had worked with. The user did not like the generalized color palette that we used and suggested we used something with more contrasting colors.

- User Three:
    - User three enjoyed the look and aesthetic of the prototype. They were confused about how the interfaces flowed together due to the roughness of the prototype. When asked how we could fix this problem they responded with having a more polished version. This means that the problem was the fact it was a very rough prototype. Other than this they liked the overall look and simplicity of the interface.

- User Four:
    - User four liked the simple colour scheme and the clear labelling of the prototype. There was confusion about the parameters because of the lack of audio feedback, so we had to walk them through the interface. They appreciated the limited number of parameters, because it made the interface less threatening. However, they said they would appreciate tooltips, hints, or some brief description of what the parameters do.

- User Five:
    - User five had had some previous experience with synthesizers, so they were familiar with the basic functionality. They said that if they had this interface while they were learning synthesis, it may have been much easier to learn the functions of a synthesizer. They appreciated the pages layout, but thought that the colour scheme could be improved, and thought that maybe a more traditional synthesizer colour/scheme or design may be better (for example, more photorealistic knobs and sliders).

Things to consider for future development based on feedback

- Based on the prototype, the alternative designs, and the feedback we received from the testing group of users, we decided the full implementation of our synthesizer interface will have functionality for every button, knob and dial. The visual feedback we received suggested more contrasting color palettes for each interface would help guide the eyes to the proper areas. A more modular drag and drop interface was suggested which would be hard to implement but we agreed having variable modularity would be a very good feature. The users all agreed that a better description for each section and feature of the interface would facilitate faster learning.