

Problem

FunPod helps kids with diabetes monitor their blood sugar and deliver the appropriate amount of insulin in a fun, engaging manner.

List of Violations

Thomas Zhao - [T]

Mark Ulrich [K]

Mikala Streeter [M]

- [H2-2. Match between system and the real world] [Severity 3] [T,K,A]**

The phrase "Current Blood Sugar" is used on both the first screen and in the "Check Blood Sugar" screen. The "Current Blood Sugar" value is obtained from a Continuous Glucose Monitor System, but as the specification states, some users might not have this. For users who need to manually check their blood sugar and do not have a continuous measurement, it should be clear how stale the value is so that users do not have a false sense of security. Instead of simply 73 make it 73 (4 hours ago).
- [H2-7. Flexibility and efficiency of use] [Severity 1] [T]**

The blood sugar value on the homepage is large, bolded and in blue font. Users naturally expect that such an emphasized element is a link to something. However, tapping on the value does not do anything. Instead, the system should respond to touching the blood sugar value by showing the blood sugar history page.
- [H2-6. Recognition rather than recall] [Severity 3] [T,A,K]**

There is a graph view of the blood sugar history, which is very helpful and informative to someone living with diabetes. However, the only way to access this screen is to tap "Check Blood Sugar" on the home screen, which is not an obvious place to look for this functionality due to the misleading label. Instead, there should be a dedicated button with a label like "Blood Sugar History"
- [H2-8. Aesthetic and minimalist design.] [Severity 2] [M,A]**

Is this app mainly for kids or for kids and parents also? Most children (well, most people) aren't good at reading graphs so the graph that maps out their blood sugar over several days will likely be lost on them. I would consider making this screen immediately go into instructions about how to check blood sugar, with seeing your map of blood sugar a secondary options that's mainly used when parents are in the app or when kids are at the doctor. Another option would be to use simple language or icons to help kids understand how their blood sugar is tracking - like, thumbs up or down, or a short sentence. This screen might be a good place to use Buddy to help explain to kids.
- [H2-1. Visibility of system status] [Severity 3] [K]**

I have no way of visualizing my history of insulin shots. Or is that the yellow dots on the "Check Blood Sugar" page? It seems like perhaps the yellow dots represent meals, maybe you should pick a different logo for that and make them tapable, and add logos representing the insulin shots that you could tap to view time and number of shots.
- [H2-1. Visibility of system status] [Severity 4] [T,A]**

One of the screens informs the user that their blood sugar is 300 mg/dL, which is considered "severe" and may require immediate intervention. However, the text that indicates the level is very high is in small print and in the same color as everything else. The character is also onscreen with a smile. This gives the user a false impression that nothing is wrong, especially if they do not understand the number or if they don't bother to read the explanation. To fix this, the explanatory text should be in red or some other highly visible color, and the font size should be increase. Alternatively, the 'buddy' itself could be an indicator of blood sugar levels (changing color and facial expression when blood sugar levels reach critical levels)
- [H2-1. Visibility of system status] [Severity 4] [T,K]**

When using the "Insulin" feature, after choosing "Yes" to Exercise, there is no way to go back and adjust the value for Eat. Clicking "Continue" immediately brings the user to a page where the amount of insulin is given, but there is no way to adjust how much food will be eaten. To address this, have the continue button bring the user back to the "Exercise"/"Eat" page so that both values can be adjusted before continuing.
- [H2-2. Match between system and the real world] [Severity 2] [T]**

When adjusting the exercise value for the Insulin portion of the app, there is a slider labeled "When?". It is not obvious if this means: "When did you exercise," "In how long will you exercise," "How long did you exercise." or "How long will you exercise". To fix this, the label for the slider should be more clear as to what duration of time it indicates, such as "For how long?" or "x hours from now".
- [H2-9. Help users recognize, diagnose, and recover from errors] [Severity 3] [T,K,A]**

The confirmation page has a change button, which most people would expect to perform the same action as going back so that the user can make changes to their inputs. However, it brings up a manual entry screen instead. This is confusing and unexpected. To fix this, the change button could be renamed "I'll enter it" like the other screens.

10. **[H2-4. Consistency and standards] [Severity 2] [T,M]**
The values given for the insulin take into account the amount of exercise the user *will* do, and the amount of carbs the user *has* eaten. However, the label "Are you about to:" makes it seem like the user has not yet eaten, and the camera feature represents this view of the timeline as well. This is confusing, since it is unclear whether the app takes into account the carbs eaten previously, the carbs that will be eaten or both. To fix this, another line could be added that explains what the app takes into account, or how many carbs the user will eat.
11. **[H2-9. Help users recognize, diagnose, and recover from errors] [Severity 4] [T]**
It is very easy to accidentally hit the "Stop" button while receiving insulin. However, it is not easy to undo this action. The continue button navigates the user away from that page, instead of continuing to dispense insulin. To fix this, there should be a button that allows the user to receive the rest of the specified dose of insulin.
12. **[H2-4. Consistency and standards] [Severity 3] [T, A]**
It isn't clear how to proceed from the manual entry page when using the Carb Counter. It is also not obvious whether or not the data from the camera capture is included in the insulin calculation after using the manual entry. Finally, the manual entry does not seem to actually provide a carb count, so the name of that feature is misleading. To fix this, the manual mode should be clearly separated from the automatic mode, or the automatic mode should lead into the manual mode, where the user can proceed and adjust values. In addition, the manual mode should list the carb counts for all of the chosen food products.
13. **[H2-8. Aesthetic and minimalist design] [Severity 2] [T,K]**
The furry blue character is present on nearly every screen, but seems to serve no functional purpose on most. It takes up a lot of space, and is misleading as to the functionality it represents, since tapping on it on the home screen performs a different action than anywhere else. To fix this, the character could be combined with the money icon in the top right and made so that it always brings the user to the same page.
14. **[H2-10. Help and documentation] [Severity 2] [T,K,M]**
The settings page is designed for parents and is thus locked with a passcode. However, this is not explained, and there are highly technical terms such as "Basal Rate" onscreen with no explanation. Since the target audience is young children, a simple note like "Parents only" can make this portion of the interface easier to use and prevent mistakes. There should also be help explaining the meaning of the technical terms, so that parents don't make potentially disastrous mistakes through misunderstandings.
15. **[H2-10. Help and documentation.] [Severity 2] [M]**
Who is Buddy? Why is it an activity to change his clothes or color? There should be an initial explanation of who Buddy is. Another option would be to put the food dropping game first because it more clearly connects Buddy to the rest of the app, by saying that he's there to teach you about how to eat healthy and live well with diabetes.
16. **[H2-1. Visibility of system status] [Severity 2] [K]**
I'm not very clear what the 500 COINS means at the top. Maybe as I complete more tasks or have good blood sugar I should immediately see "+X coins for doing Y" pop up on the top so I understand how that number changes.
17. **[H2-8 Aesthetic and minimalist design] [Severity 1] [A]**
Within the Insulin menu, having a tick and a cross button for each option seems superfluous. I'm not sure when or how the cross button would be used. Perhaps they could be removed from the interface completely
18. **[H2-7. Flexibility and efficiency of use.] [Severity 3] [M]**
The carb counter screens are really cool and make it easy for users to add carbs by taking pictures. For the manual entry, it helps to be able to search for the food you ate. But it would take quite a while. I'd suggest remembering what foods people have selected recently, like a food/carb history, because people generally tend to eat the same foods. The user would be able to select from among the other foods they've eaten recently, instead of having to enter the same foods in again. You could also, like Foursquare, recognize when the user is in a food place (restaurant, grocery store, etc) and prompt the user to enter their food in the moment, so they don't have to remember later. In that prompt, you could even suggest healthy food at the restaurant for the user to consider eating.
19. **[H2--7. Flexibility and efficiency of use] [Severity 4] [A]**
Given that insulin dosage often needs to be on scale of 1-100 units. an up down arrow layout might be less than optimal. Perhaps allow the typing in of units with the keypad.

Summary of Violations

Evaluation	Number of
------------	-----------

	Problems
H2-1. Visibility of system status	4
H2-2. Match between system and the real world	2
H2-3. User control and freedom	0
H2-4. Consistency and standards	2
H2-5. Error prevention	0
H2-6. Recognition rather than recall	1
H2-7. Flexibility and efficiency of use	2
H2-8. Aesthetic and minimalist design	3
H2-9. Help users recognize, diagnose, and recover from errors	2
H2-10. Help and documentation	2
Total	19

Evaluation Table

Each percentage is calculated by (number violations for level)/(number violations found by tester) * 100%

severity/evaluator	A	K	M	T
level 0	0%	0%	0%	0%
level 1	12.5%	0%	0%	8.3%
level 2	12.5%	37.5%	80%	33.3%
level 3	50%	50%	20%	33.3%
level 4	25%	12.5%	0%	25%
total (levels 3 & 4)	75%	62.5%	20%	58.3%
total (all levels)	100%	100%	100%	100%

Evaluation Graph

Evaluator	Problems Found	Unique Findings
A	6	2 (4 Shared)
K	8	2 (6 Shared)
M	5	2 (3 Shared)
T	12	3 (9 Shared)

