# Visual BLS (Blue Ball) Upgrade – Developer Instruction for Replit

## Objective

We are upgrading the Visual BLS (blue ball) in the EMDRise app to improve smoothness, control, and timing accuracy. The following outlines exactly what needs to be implemented.

## 1. Remove Current Speed Buttons

• Delete the existing Slower / Normal / Faster buttons shown during BLS.  
• These will be fully replaced by a slider-based control.

## 2. Add Speed Slider (1.0 – 10.0 with 0.5 steps)

• Add a horizontal slider ranging from 1.0 to 10.0, in 0.5 increments (20 total levels).  
• Users should be able to adjust the ball speed intuitively via this slider.  
• No need to display Hz, BPM, or time values — just the slider itself.  
• Suggested label: “Adjust Speed”.

## 3. Default Speed + Memory Logic

• Default the slider to 7.0 when Visual BLS starts.  
• If the user changes the speed:  
 – The new value should be remembered across screens during that session.  
• After the session ends, the speed should reset back to 7.0 when the user next launches BLS.

## 4. Technical Speed Mapping (Required)

Each slider value below corresponds to the movement speed (time per pass, Hz, BPM):

## 5. Ball Animation Requirements

• Ball must move left to right and back in a straight line.  
• Avoid curves, jumps, or easing – use linear, fluid animation.  
• Target 60 FPS for smoothness.  
• Use requestAnimationFrame or CSS transform where possible, or whatever is easiest for you to implement.

## 6. Visual Design Constraints

• Ball colour: blue  
• Ball size: fixed (no user resizing)  
• Portrait orientation only (for now)  
• Optional future update: allow landscape orientation

## Summary of Developer Actions

• Remove Slower / Normal / Faster buttons  
• Add 1.0–10.0 speed slider (0.5 increments)  
• Default speed = 7.0  
• Persist user-set speed during session  
• Reset to default (7.0) post-session  
• Implement accurate speed mapping  
• Improve animation: smooth, horizontal, linear, 60 FPS  
• Maintain current ball size/colour; portrait only

Slider Value | Time/Pass (s) | Frequency (Hz) | BPM (visual)

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| --- | --- | --- | --- |
| Slider Value | Time/Pass (s) | Frequency (Hz) | BPM (visual) |
| 1.0 | 8.75 | 0.11 | 7 |
| 1.5 | 6.57 | 0.15 | 9 |
| 2.0 | 4.38 | 0.23 | 14 |
| 2.5 | 3.65 | 0.27 | 16 |
| 3.0 | 2.92 | 0.34 | 20 |
| 3.5 | 2.56 | 0.39 | 23 |
| 4.0 | 2.19 | 0.46 | 28 |
| 4.5 | 1.97 | 0.51 | 31 |
| 5.0 | 1.75 | 0.57 | 34 |
| 5.5 | 1.6 | 0.63 | 38 |
| 6.0 | 1.46 | 0.68 | 41 |
| 6.5 | 1.36 | 0.74 | 45 |
| 7.0 | 1.25 | 0.8 | 48 |
| 7.5 | 1.17 | 0.85 | 51 |
| 8.0 | 1.09 | 0.92 | 55 |
| 8.5 | 1.03 | 0.97 | 58 |
| 9.0 | 0.97 | 1.03 | 62 |
| 9.5 | 0.92 | 1.09 | 66 |
| 10.0 | 0.88 | 1.14 | 69 |