Framer Motion - Parent & Child Variants with Staggered Animations

1. Parent Variants & Staggered Animations

- To implement staggered animations, the parent must have at least one variant.

- The property staggerChildren (and delayChildren) must be defined inside the transition object of a parent's variant.

- The parent does not need to animate itself; its variant can exist solely to orchestrate children.

2. Parent Animation Necessity

- Parent does not need to undergo animation; only children do.

- Parent may animate if desired, but it's optional.

3. Where to Define staggerChildren / delayChildren

- These properties must be inside the transition object of a parent's variant, not directly in the parent's transition prop.

Example:

```
const parentVariants = {
  show: { transition: { staggerChildren: 0.2, delayChildren: 0.5 } }
};

const childVariants = {
  hidden: { opacity: 0, y: 20 },
  show: { opacity: 1, y: 0 }
};

<motion.div variants={parentVariants} initial="hidden" animate="show">
  <motion.div variants={childVariants}>Child 1</motion.div>
  <motion.div variants={childVariants}>Child 2</motion.div>
</motion.div>
```

4. Matching Variant Names

- Children need a variant with the same name as the parent's active animate key.

- They do not need to match the specific parent variant that holds staggerChildren.

5. General Variant Propagation Rule

- Children always look for variants that match the parent's current initial/animate/exit values.

- This rule applies in all situations, not only when stagger is used.

- If a child doesn't have a variant with that name, it simply won't animate.

- Children can override parent values by specifying their own initial/animate/exit props directly.

6. Exit Animations

- If parent uses exit="X", children will look for variant "X".

- Children can also override exit independently.

7. Bottom Line

- Parent must have at least one variant containing transition with staggerChildren for staggering to work.

- Children must have variants matching whatever value parent passes to animate/initial/exit.

- Parent's own animation is optional.

- Variant matching works the same with or without staggerChildren; stagger only changes timing.

Flow Diagram: Parent orchestrating staggered children

Parent
(variant: show)
transition: { staggerChildren }

stagger 0s

Child 1
(hidden → show)

stagger +0.2s

Child 2
(hidden → show)

stagger +0.4s

Child 3
(hidden → show)