AMS 1: Dance competition phase 1

**MOSCOW**

**Must Have:**

1. Ability to stitch together video feed of 4 kinect cameras.
2. Accurate capture of audio synced with the dance.
3. Create a 3D model of the dance from the combined video feed.
4. Functional UI to allow full playback of dance from 3D model from multiple angles.
5. Floor plan design: Kinect placements, maximum room dimensions.

**Should Have:**

1. Ability to manipulate playback of model by varying level of zoom.
2. Support for partner based dancing.
3. Ability to track multiple dancers.
4. Skeletal tracking to capture the technical aspects of the dance and musicality (their time with the beat and how well they dance).

**Could Have:**

1. Identify and separate a participant from their competitors.
2. Analyse dance model and generate a likeness score.
3. Ability to use an alternate depth camera, most likely the Intel Realsense d435.
4. Ability to track multiple pairs of dancers.

**Won’t Have:**

1. Ability to create a networked competition by merging multiple live streams of competitors into one networked competition.
2. Ability to determine between male and female dancers.

| ID | Requirements | Priority | State | Contributors |
| --- | --- | --- | --- | --- |
| 1 | Ability to stitch together video feed of 4 kinect cameras. | Must | ✔ | James, John, Muna |
| 2 | Accurate capture of audio synced with the dance | Must | **x** | James, John, Muna |
| 3 | Create a 3D model of the dance from the combined video feed. | Must | ✔ (50%) | James, John, Muna |
| 4 | Functional UI to allow full playback of dance from 3D model from multiple angles. | Must | ✔ | James |
| 5 | Floor plan design: Kinect placements, maximum room dimensions. | Must | ✔ | Muna |
| 6 | Ability to manipulate playback of model by varying level of zoom | Should | ✔ | James |
| 7 | Support for partner based dancing | Should | **x** |  |
| 8 | Ability to track multiple dancers | Should | **x** |  |
| 9 | Skeletal tracking to capture the technical aspects of the dance and musicality (their time with the beat and how well they dance) | Should | ✔ | James, John, Muna |
| 10 | Identify and separate a participant from their competitors | Could | **x** |  |
| 11 | Analyse dance model and generate a likeness score. | Could | **x** |  |
| 12 | Ability to track multiple pairs of dancers | Could | **x** |  |
| 13 | Ability to use an alternate depth camera, most likely the Intel Realsense d435. | Could | **x** |  |
| Key Functionalities (Must Have + Should Have) | | 67% Complete | | |
| Optional Functionalities (Could Have) | | 0% Complete | | |