



www.aicare.co

+1 925 900 6009

info@aicare.co

197 E. Hamilton Ave Suite 203,
Campbell, CA 95008

AiCare- Physical Activity White Paper (AiCare-W03)



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Revision History

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Physical Activity (AiCare-W03)

1) Background/Challenge

A moderate amount of physical activity every day can significantly benefits seniors' health conditions [1]. In addition, lacking of physical activity is one of major risk factors for seniors who have chronic diseases including high blood sugar, high blood pressure, high blood cholesterol, and mental health issue [2].

There is a great need to monitor the patient for activity levels to ensure that they are adequately moving around and are performing most daily activities such as eating, going to the restroom, and or other appropriate activities. Key problem is that there is no easy method without extra caregiver's efforts to monitor, record and analyze senior's physical activity level in daily routines.

2) Solution provided by AiCare

Figure 1 shows core elements of AiCare's solution that include AiPortal, Rockband, and Rockbox. Direct integration with Rockband and Rockbox hardware, AiPortal provides unprecedented flexibility and accuracy to help facility managers or staffs for making informed decisions based on the analyzed physical activity patterns and trending by AiCare's AI assisted tools. Real-Time facility status on AiPortal shows each resident's location and movements throughout the facility.

In addition, the individual reporting for each senior resident or aggregated data view can provide you with powerful tools to provide value-add services and give the family members an extra peace of mind via 24/7 data collection and detection.




		
<p style="text-align: center;">AiPortal</p> <p>AiPortal is the enterprise-ready senior home management system that helps facilities managers and staff members provide the maximum care to senior residents.</p>	<p style="text-align: center;">Rockband</p> <p>Rockband is a personal wrist device with lightweight, durable and water-resistant features for the most difficult-to-please senior users. This device can be used 24/7 for up to 12 weeks without replacing the battery</p>	<p style="text-align: center;">Rockbox</p> <p>Rockbox is the intelligent IoT device that bridges the Rockbands and AiPortal. It automatically scans for data and uploads it to AiPortal without any effort.</p>

Fig 1. Core elements of AiCare’s solution

3) Solution features, benefits, and other services

Solution features:

- Daily daytime (wake-up time) and nighttime (bedding time) energy level
- Daily daytime active/resting percentage; Daily nighttime active/resting percentage
- Resting and activity detection
- High impact detection
- Real-time location tracking, historical location display
- Remote portal access to dash board and real-time facility map
- Email/App alert push and subscription

Benefits:

- Easy to use: RockBand and RockBox come preconfigured and are ready to use, just wear the RockBand and plug in the RockBox.
- High quality: RockBand is manufactured using industry leading hypoallergenic materials to ensure no adverse reaction happens.

- Support: AiCare’s engineering team are available to help by email or support forum.
- Warranty: AiCare’s products are backed by a one year industry standard warranty.

Other services (depending on the subscription plan):

- Wander management. Please refer to the white paper (AiCare-W01) for more details
- Emergency alert. Please refer to the white paper (AiCare-W02) for more details

4) How it works

- Each resident wears a RockBand.
- All the data collected from senior will be transmitted to AiCare’s cloud platform.
- Real-time physical activity level, analyzed physical activity patterns and trending can be seen on AiPortal and Apps.
- The indoor location tracking function on AiCare’s cloud platform will locate the residents in real-time to help them get assistance quicker if needed.



5) References

1. Physical Activity and Health - Older Adults, Centers for Disease Control and Prevention
2. Physical Activity Prevents Chronic Disease, Centers for Disease Control and Prevention