

搬运，提高了人工成本的同时效率十分低下，并且一般的快递驿站无法实现 24 小时营业，给用户取件带来不便。因此对快递驿站进行智能化、现代化改造，提高运作效率迫在眉睫。



图 2 传统快递驿站外景



图 3 传统快递驿站内景

由于快递驿站存在的效率低下的问题，当前市面上有采用自助取件的运营模式：用户可以自行在快递货架上挑拣自己的快递，最后在出库口扫码出库即可。这种运营模式去除了工作人员代为挑拣快递的流程，可以在一定程度上提高了运作效率。但取件时不需要验证用户的身份信息即可取件存在快递丢失的风险，安全性差。



图 4 自助快递驿站

UDK 338

面向单板滑雪竞速训练的数字孪生系统

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Summary. Project study to snowboarding movement process as the main body, aiming at high speed, track complex competitive athletes, based on ali cloud server, the integrated use of motor intelligent precise perception technology, sensor data fusion and synchronous positioning technology, digital technology and the perception and fusion twin, cloud computing, cloud edge techniques and so on, can realize the connection between people and things management, The athletes' movement was intelligently sensed, the filtering algorithm was used to

preliminarily process the data, the fastAPI asynchronous framework was used to build the database-cloud-end framework, the snowboarding process motion simulation model was formed, and the digital twin system was developed, that is, the intelligent optimization and visualization tool of the whole process glide trajectory. The construction of a unified quantified data set of movement parameters, the perception and monitoring of athletes' state, is helpful to realize the optimization and analysis of athletes' posture, and increase the scientific nature of training guidance.

1. Accurate sensing technology for high-speed motion in complex outdoor environment:

Through snowboarding intellisense technology and snowboarding sport awareness and synchronization technology, data fusion for high speed, track complex competitive athletes, on the premise of not affect athletic performance, high speed, accurate and real-time motion perception data, and the present, on the basis of digital twin and provide data for optimization design of training scientific guidance and track support.

2. Data-driven digital twin technology:

The web interface of the digital twin system is built based on vue3.0, Javascript and echarts, which can realize the synchronization of data and motion trajectory, and realize the dynamic display and monitoring of trajectory and various kinds of data.

3. Build data sets and cloud applications based on Huawei Cloud IoT full stack cloud service:

To realize the one-button cloud on the device, to realize the summary and processing of a large number of experimental data with cloud computing as the core, and to develop some cloud applications such as snowboarding digital twin system.

4. fastAPI asynchronous framework was used to build the database-cloud-side framework:

Based on fastAPI, a python web asynchronous framework, the connection between the back end and the front end is built more efficiently and quickly. Using http protocol, the front end can fetch arbitrary data quickly and efficiently.

Sensing layer: rtk real-time differential positioning device.

Transport layer: 4G network.

Control layer: Huawei cloud data center.

Software and software development environment: MySQL database, Ubuntu18.04, windows10 (64-bit).

Cloud Application: snowboarding digital twin system.

Snowboard slalom chase and other snow events with high speed and complex trajectories. In the future, it can also be applied to water conservancy industry, such as water area planning, water conservancy monitoring and water conservancy management. The use of UAV +RTK system in the field of water conservancy can improve the accuracy of information collection and timeliness of transmission of rain, water, drought and disaster information, make timely and

accurate prediction and forecast of its development trend, and formulate flood control and drought control scheme. Digital twin technology can also be applied to smart cities to achieve green transportation, urban planning, urban illegal construction supervision, engineering environmental management, smart logistics, smart transportation, etc.

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DIGITAL INNOVATION OF CHINA AND BELARUS LANGUAGE AND CULTURE IN THE CONTEXT OF INTERNATIONAL COOPERATION

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***Summary.** With the acceleration of globalization, cultural exchange and cultural integration have become one of the main ways of communication between countries. Digital innovation technology built in the Internet era helps language learners make full use of fragmented time to improve their HSK level independently, conveniently and efficiently, and achieve dual learning of “Chinese + skills”. This move can not only promote mutual understanding and respect between different cultures around the world, but also inject new vitality into the development of language and culture.*

The arrival of the “Internet +” and big data era in the 21st century has promoted information reform in various fields and made up for the increasingly exposed shortcomings of the traditional institutional model. Internet + education is the cross-border integration of the Internet and the education field. It aims to realize richer connections between schools, teachers, parents, and students under the conditions of information technology and various intelligent platforms, and to achieve a co-creation experience with real individual participation based on personalized needs. Therefore, this design focuses on Chinese international education apps. The current trends are:

1 The demand for Chinese international education APPs continues to be strong, and Chinese learning is intelligent.

2 Mobile learning is closely integrated with classroom teaching, and the teaching models are diversified.

3 Chinese international education APP continues to develop and gradually becomes market-oriented. In order to further alleviate the problems of low overall level of teachers, relatively backward teaching material system, and insufficiently diversified teaching methods aggravated by the epidemic, and to adapt to the development trend of “Chinese + vocational education” and the requirements of the “New Standard” for Level 3 and Level 9, we have produced a The 2023 version of the multilingual HSK APP can meet the current urgent needs for a learning platform in the Chinese international education market. The production and promotion of the APP involves computer technology, Chinese international