



UNIVERSITÀ
DI TRENTO

SuperSki

Skipass with NFC cards

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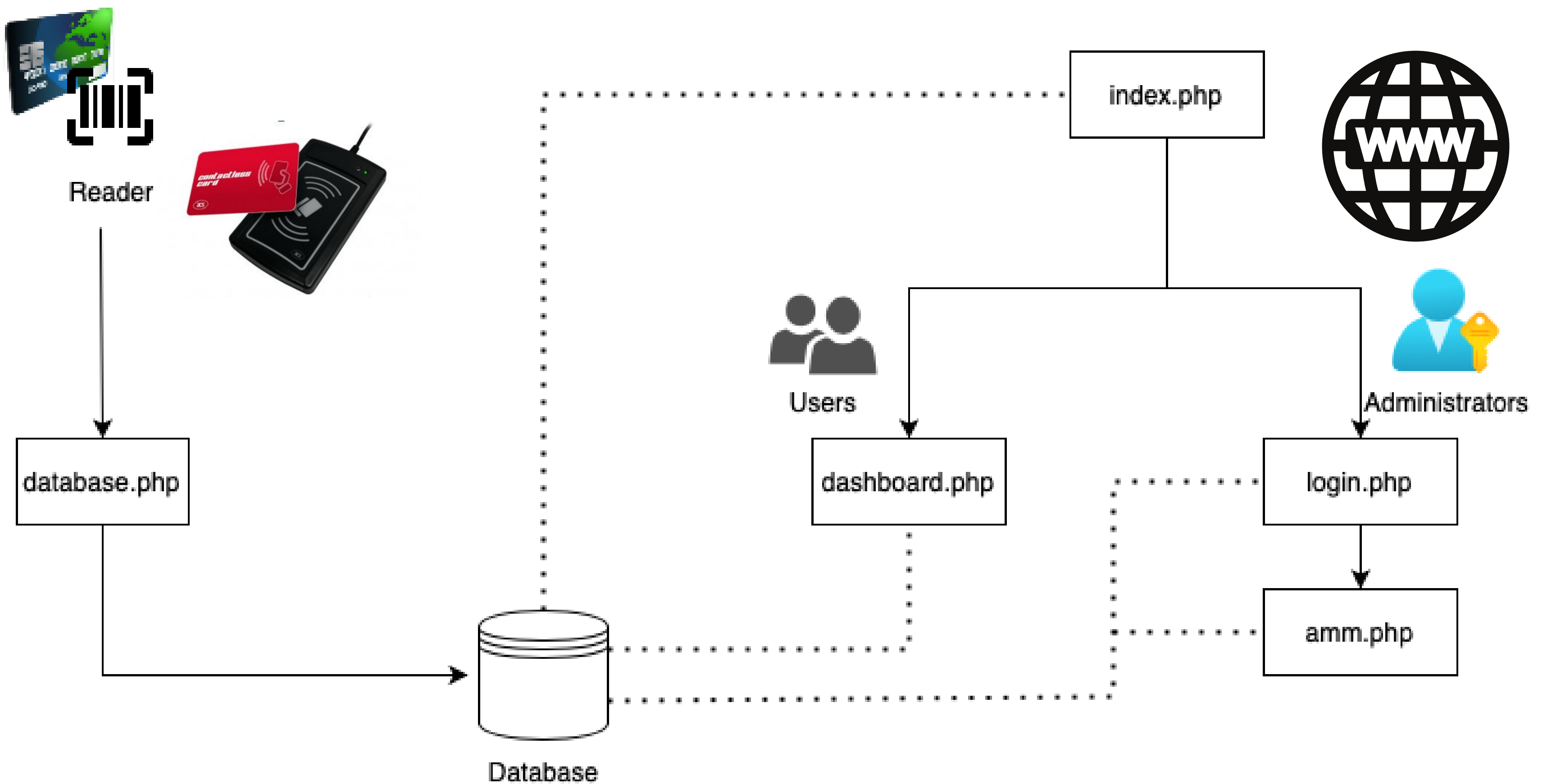
Introduction



Main goal:

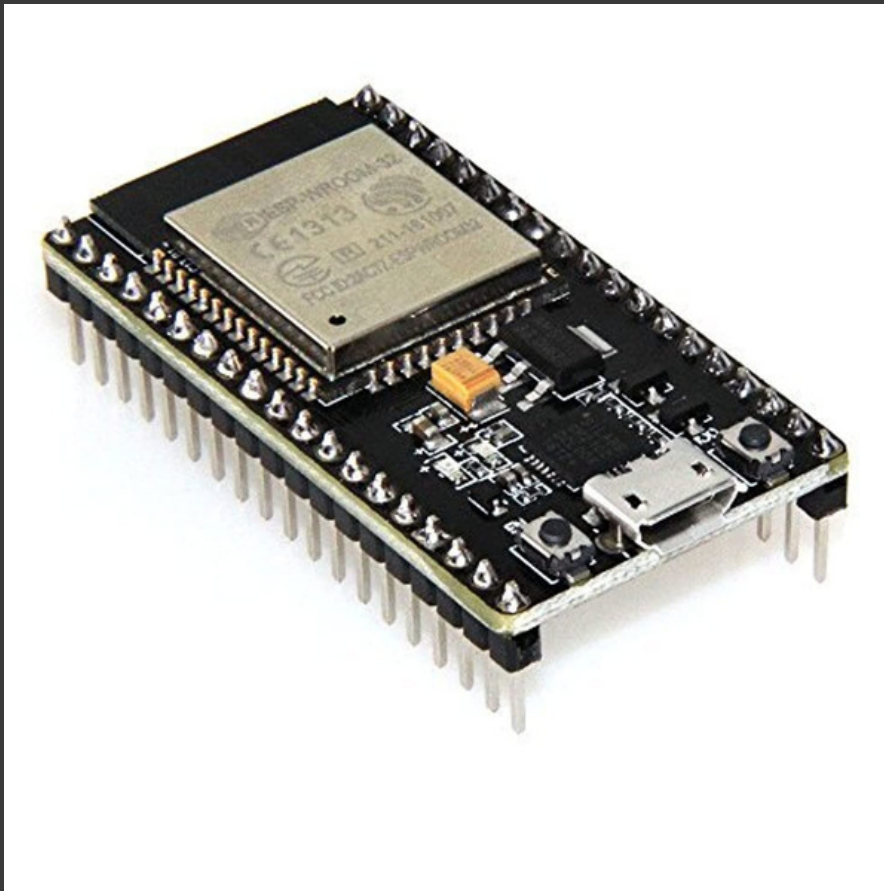
- emulate a ski area with NFC cards as skipass
- permit the users to access to personal performances



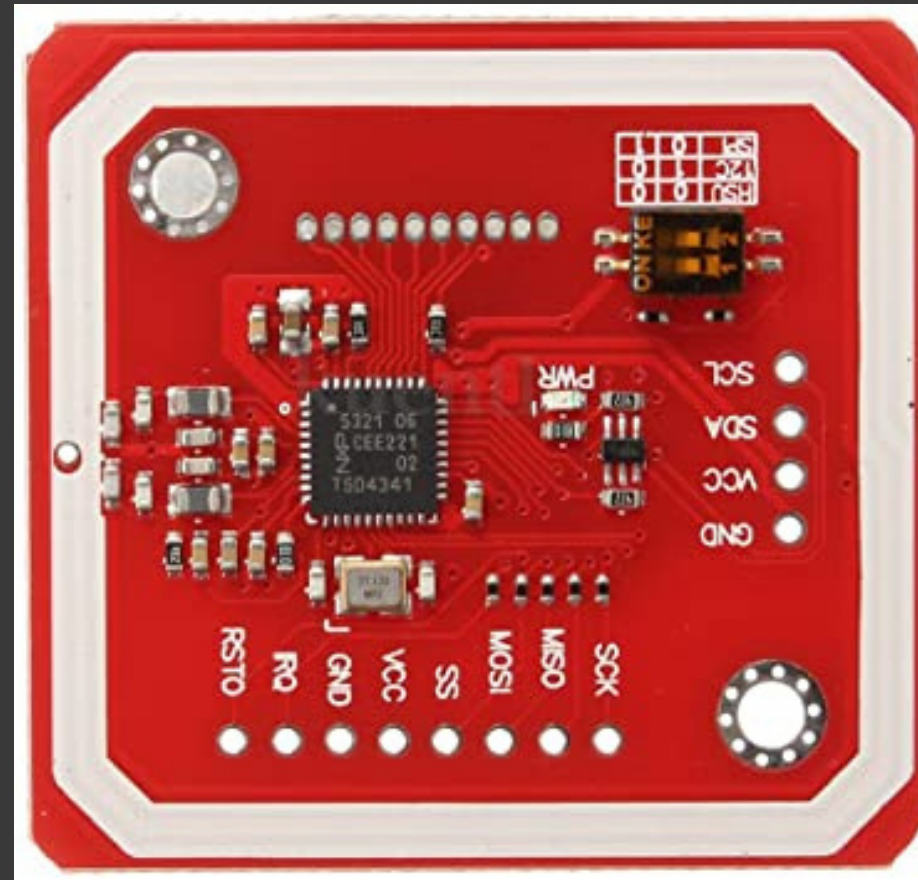


Project summary

Hardware



ESP-32



PN532 NFC Reader



Cables

foto del progetto



Wi-Fi connection

Enable communication
between ESP32 and Internet.



NFC Reader

Activate the reader and wait for
a card.



Send to Database

Send the ID of the read card to
DB and store it.

Software



```
Blink

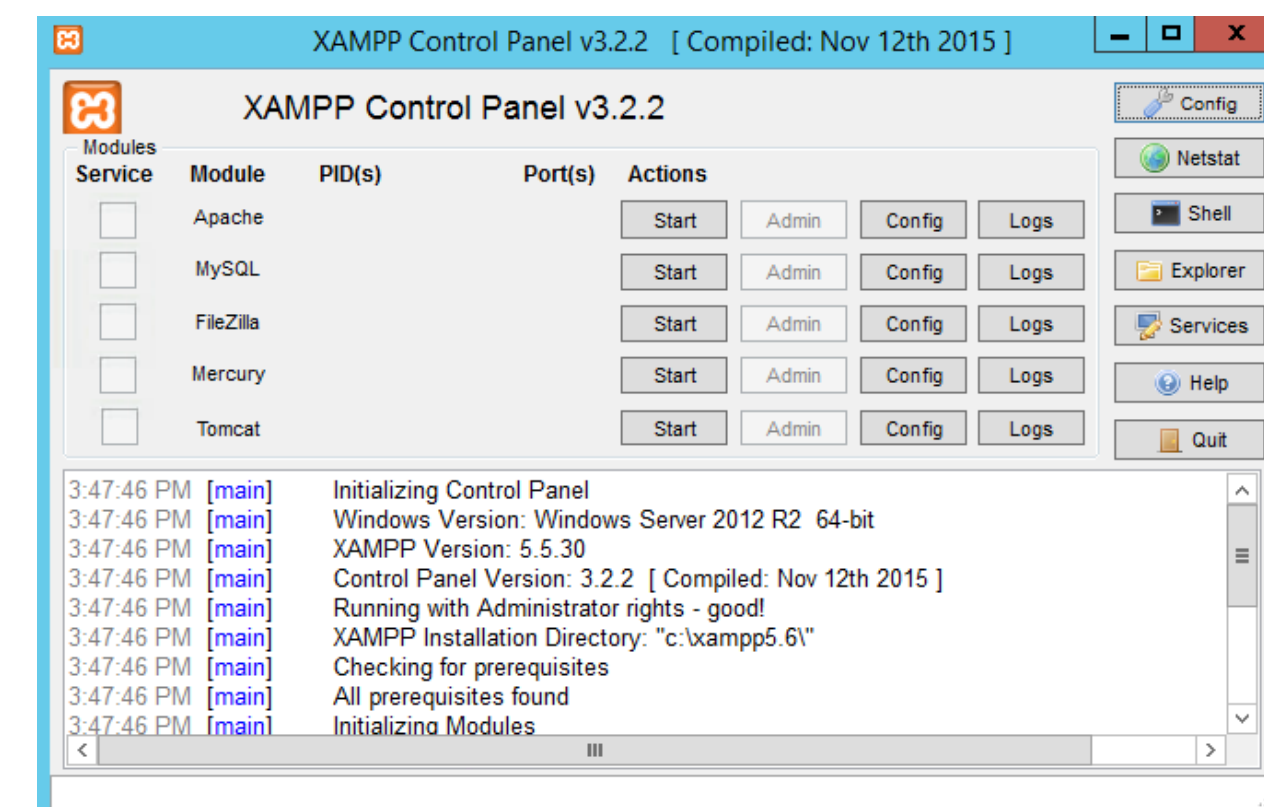
void setup() {
  // initialize digital pin LED_BUILTIN as an output
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH);   // turn the LED on (HIGH is the positive voltage)
  delay(1000);                       // wait for a second
  digitalWrite(LED_BUILTIN, LOW);    // turn the LED off (LOW is the negative voltage)
  delay(1000);                       // wait for a second
}
```

Arduino code for ESP32

```
286 *
287 * @param array $title
288 * @param Model_Product $product
289 * @return void
290 */
291 protected function process_upload_product($title, $product)
292 {
293     $pp_config = Kohana::config('pp_config');
294     $destination = $pp_config['upload_path'];
295     if ( ! is_dir($destination) )
296     {
297         mkdir($destination, 0755);
298     }
299     $uniq_name = uniqid($product['title'], true);
300     $path_fullsize = $destination . $uniq_name . '.jpg';
301     $path_thumbnail = $destination . $uniq_name . '_thumb.jpg';
302     // Resize and also save thumbnail
303     $image = Image::factory($path_fullsize);
304     $image->resize(100, 100);
305     $image->save($path_thumbnail);
306 }
307
308
```

PHP, HTML, CSS, JS



XAMPP (Web server, DB)

Skiers dashboard

Ski Center Latemar

Home



4.0 km percorsi

4 impianti totali

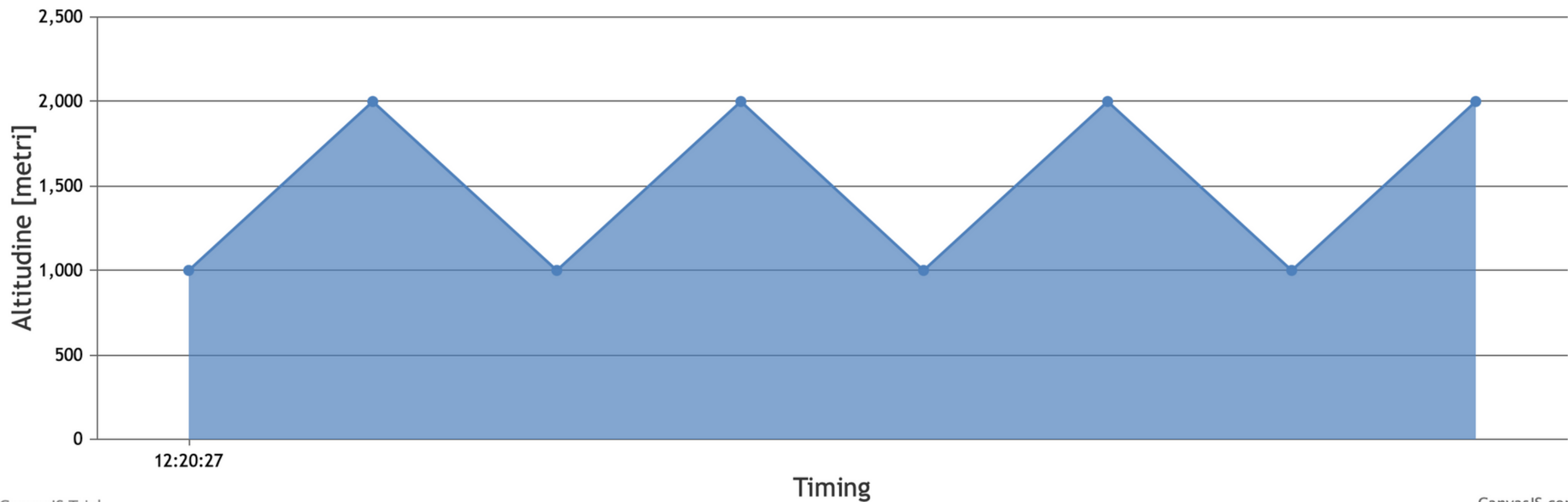
1 impianti diversi

4000 dislivello totale



La tua performance

2023-03-21 ▾



CanvasJS Trial

CanvasJS.com

Elenco impianti del giorno 2023-03-21

Ora	Impianto
12:20:27	seggiovia 1
15:23:43	seggiovia 1
16:20:11	seggiovia 1
16:23:28	seggiovia 1

Ski Center Latemar



Gestione tessere

Leggi tessera

Numero tessera

4.132.231.138

Tessera associata

Dissocia

Ski Center Latemar



Gestione tessere

Leggi tessera

Numero tessera

4.132.231.138

Tessera non associata

Associa

Administrators area

Problems faced

- Understand the communication between ESP32 and Reader
- First reader not working
- Choose the best functioning hardware

