# CS2 Task 3 - Requirements

## User requirements

The User attaches the Personal Insulin Pump to a catheter placed under his skin in the stomach area. The Insulin Pump measures periodically the blood sugar level of the user and computes the required insulin dose which is then administered. A display on the pump shows the current blood sugar levels, the quantity of insulin in the reservoir and battery level.

## System requirements

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| Functional Requirements | | |
| N° | **Roll** | **Description** |
| 1 | User | User can turn pump on and off |
| 2 | System | Periodically read blood sugar values of patient |
| 3 | System | Display blood sugar level |
| 4 | System | Display shows battery level |
| 5 | System | Administer insulin |
| 6 | System | The amount of insulin to be delivered shall be computed according to the current sugar reading as measured by the sensor |

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| Non-Functional Requirements | | |
| N° | **Roll** | **Description** |
| 1 | System | Simple maintenance |
| 2 | System | System has to be operational 99.99% of time |
| 3 | System | The system shall perform reliably and deliver the correct amount of insulin to counteract the current level of blood sugar |
| 4 | User | The user shall be able to use all the system functions after two hours of training |
| 5 | System | The audible alarm shall be sounded when any error condition is discovered and a diagnostic message should be displayed |
| 6 | System | On loss of power, a battery backup must ensure power for another 8 hours |
| 7 | System | The system shall be available to deliver insulin when required |
| 8 | System | Display should show a lower battery level than the actual level |
| 9 | System | PIP needs to follow all medical standards and regulations |
| 10 | System | User needs to be able to carry the pump with him |

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| Domain Requirements | | |
| N° | **Roll** | **Description** |
| 1 | System | The used materials must not cause any allergic reactions |
| 2 | System | The pump has to be built to withstand physical impacts |
| 3 | System | Pump needs to be water proof |