




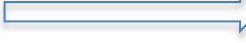

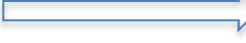



Section 3: ARTIFACTS/OBJECTS

User Stories	User	Object
<p>#1 As a diabetic patient, I want to be able to <i>monitor</i> my blood glucose levels accurately so that I can effectively and actively monitor my condition to prevent its complications, which leads to having a sense of control and engagement in my own health.</p>	<p>Patient </p>	<p>BloodGlucoseLevel Diagnosis Complication</p>
<p>#2 As a diabetic patient, I want to be able to <i>receive</i> real-time feedback and alerts based on my blood glucose monitoring so that I can effectively utilize my anti-diabetic medications.</p>	<p>Patient </p>	<p>AlertSystem GlucoseLevelMeasurement</p>
<p>#3 As a diabetic patient, I want to be able to <i>store</i> my blood glucose monitoring securely in the cloud storage of GlucoTech and to be able to <i>access</i> them easily through their website so that I will limit having errors writing them manually and not have a hard time remembering them.</p>	<p>Patient </p>	<p>GlucoseLevelMeasurement GlucoTechWebsite</p>
<p>#4 As a diabetic patient, I want to be able to <i>share</i> my blood glucose monitoring with my clinicians and permitted relatives/family members so that whenever I encounter symptoms (e.g., fatigue, weakness, unconsciousness) from extremely high or low blood glucose levels, they will be</p>	<p>Patient </p>	<p>Clinician PermittedRelative/FamilyMember GlucoTechWebsite</p>

<p>able to act accordingly (e.g., provide medication if extremely high blood glucose level or provide sugar if extremely low blood glucose level).</p>		
<p>#5 As a permitted relative/family member, I want to be able to <i>access and receive</i> blood glucose monitoring with alerts and notifications of my debilitated family members suffering from diabetes so that I can provide them with proper care (e.g., intake of medication, diet, etc.).</p>	<p>Permitted relative/Family member </p>	<p>AlertSystem GlucoTechWebsite Patient</p>
<p>#6 As a physician, I want to be able to <i>track and monitor</i> my patient's blood glucose levels and to <i>receive</i> real-time alerts and notifications about their abnormal blood glucose levels remotely so that I can adjust and personalize the treatment and provide insights and recommendations (e.g., tests and referrals).</p>	<p>Physician </p>	<p>GlucoTechWebsite Patient AlertSystem Recommendation</p>
<p>#7 As a physician-researcher, I want to be able to <i>use</i> the anonymized data information with consent about blood glucose monitoring so that I can understand and provide innovative works regarding diabetes.</p>	<p>Physician-Researcher </p>	<p>GlucoTechWebsite</p>
<p>#8 As a nurse, I want to be able to <i>access</i> my patient's blood glucose monitoring so that I can help them be reminded of the proper</p>	<p>Nurse </p>	<p>GlucoTechWebsite Patient Recommendation</p>

fingerstick method, the intake of their medications, and their diet.		
#9 As a dietician, I want to be able to <i>access</i> my patient's blood glucose monitoring so that I can provide an individualized dietary recommendation and be able to collaborate with other clinicians regarding dietary needs.	Dietician 	GlucoTechWebsite Patient Physician

Section 4: BUSINESS RULES

The business rules pertaining to the GlucoTech Project are the following:

BR 1. The clinicians with access to the patient’s stored blood glucose level monitoring in the website and the cloud storage are physicians, researchers, nurses, and dieticians.

BR 2. The non-clinicians who have access to the patient’s stored blood glucose level monitoring in the website and the cloud storage are the patient and permitted relatives/family members.

BR 3. Individuals with access to the patient’s data information have been provided with education on how to navigate the application and cloud through specific usernames and passwords.

BR 4. Physicians alone can modify the patient's treatment regimen, recommend new diagnostic tests, and advise/refer consultations with other specialists to prevent common diabetes mellitus complications.

BR 5. Physicians and dieticians alone can recommend individualized diets to patients.

BR 6. Nurses report to the physician and refer the patients with abnormal blood glucose level monitoring.

BR 7. The system must comply with all relevant data privacy and security regulations and must maintain high standards of data protection.

BR 8. The GlucoTech must provide customer support to address any technical issues or concerns raised by users.

BR 9. An individual is considered diabetic if [please refer to the table below (Mayo Clinic, 2023)]:

Test	Result
HbA1C	Diabetes - more than 6.5% Prediabetes - 5.7% - 6.4% Normal - less than 5.7%
Random blood sugar	Diabetes - more than 200 mg/dL Prediabetes - *** Normal - less than 200 mg/dL
Fasting blood sugar	Diabetes - more than 126 mg/dL Prediabetes - 100 mg/dL - 125 mg/dL Normal - less than 100 mg/dL
Glucose tolerance	Diabetes - more than 200 mg/dL Prediabetes - 140 mg/dL - 199 mg/dL Normal - less than 140 mg/dL

BR 10. The GlucoTech will provide alert messages to the individuals in BR 1 and BR 2 sections when the patient's blood glucose level is more than 100 mg/dL or less than 50 mg/dL.