

LAPORAN PROYEK AKHIR PRAKTIKUM ALGORITMA DAN PROGRAM PEMROGRAMAN DASAR

Aplikasi Pemantauan Kesejahteraan Mental (Mental Health) Berbasis
Check-in Harian WHO-5 Well Being Index Pengembangan dan
Evaluasi Berbasis Aplikasi Python



Disusun oleh:

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PROGRAM STUDI INFORMATIKA

UNIVERSITAS MULAWARMAN

SAMARINDA

2025

1. LATAR BELAKANG

Krisis kesehatan mental global pasca-pandemi menunjukkan angka yang mengkhawatirkan, di mana data terbaru *WHO* dan *UNICEF* (2024) mencatat 1 dari 7 remaja di dunia mengalami gangguan mental. Di Indonesia, urgensi ini terkonfirmasi oleh *Indonesia National Adolescent Mental Health Survey (I-NAMHS)* tahun 2022 yang menemukan bahwa satu dari tiga remaja (34,9%) memiliki masalah kesehatan mental, dan studi terbaru pada mahasiswa Indonesia tahun 2025 menunjukkan prevalensi gejala depresi mencapai 51,3% dan kecemasan 38,9% (Center for Reproductive Health, 2022; Ekawati et al., 2025). Sayangnya, metode pemantauan konvensional yang mengharuskan pasien datang ke klinik setiap hari untuk *check-up* sangat tidak efisien dari segi waktu dan biaya, sementara data fluktuasi suasana hati harian sangat krusial bagi dokter untuk menegakkan diagnosis yang akurat tanpa bias ingatan pasien.

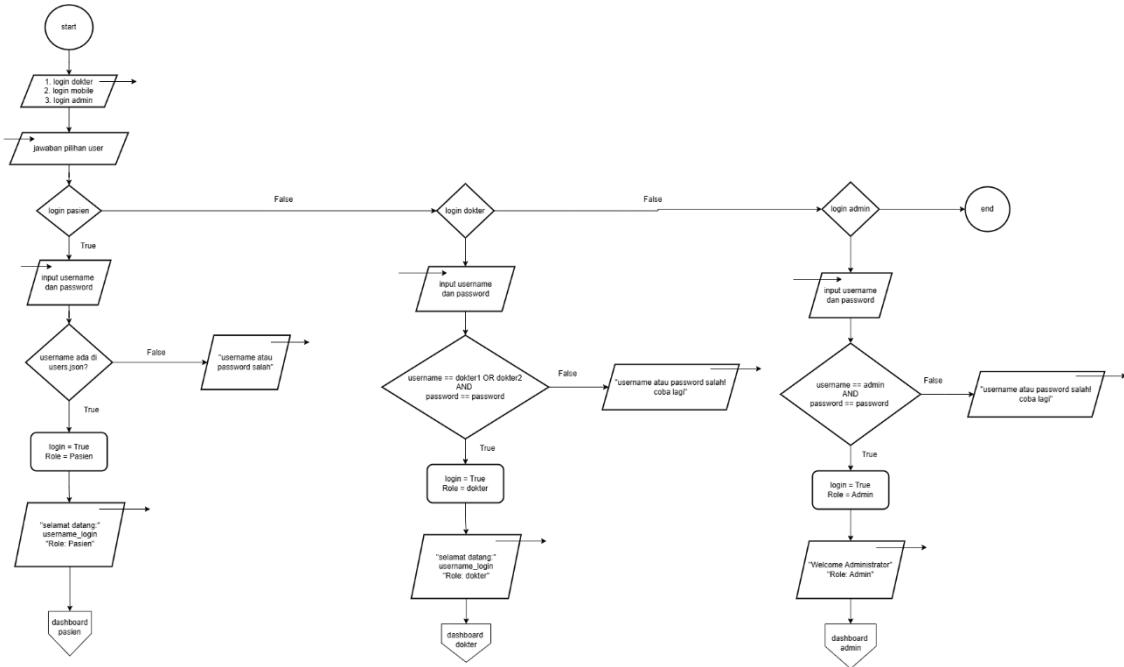
Secara konseptual, aplikasi ini dirancang sebagai "jurnal kesehatan digital" yang menjembatani kesenjangan informasi antara jadwal kunjungan dokter dengan memanfaatkan teknologi untuk efisiensi klinis. Aplikasi ini terbagi menjadi dua antarmuka utama, yaitu *mobile* untuk pasien guna kemudahan akses harian dan *desktop* untuk dokter serta admin guna analisis data mendalam. Cara kerjanya berpusat pada sistem pengolah data otomatis yang mengubah input harian pasien—seperti skor kesejahteraan subjektif atau keluhan fisik menjadi visualisasi grafik tren yang terorganisir, sehingga mempermudah pembacaan pola kesehatan mental tanpa perlu membuka tumpukan catatan manual yang rentan hilang atau rusak (Sischka et al., 2025).

Skenario penggunaan aplikasi ini disimulasikan untuk pasien kejiwaan rawat jalan yang perlu memantau kondisinya secara intensif namun mandiri. Pengguna akan membuka aplikasi setiap sore atau malam hari setelah beraktivitas untuk mengisi suasana hati dan menjawab pertanyaan *screening* singkat, di mana data tersebut akan langsung tersimpan ke dalam sistem penyimpanan berbasis JSON. Proses ini dilakukan berulang setiap hari, dan saat jadwal kontrol tiba (misalnya setiap 2 minggu), dokter akan membuka *dashboard* khusus untuk menarik seluruh rekapitulasi data dalam bentuk grafik, menjadikan proses konsultasi lebih efisien karena dokter langsung mendapatkan gambaran perkembangan pasien secara riil tanpa menghabiskan waktu sesi untuk mengingat-ingat kejadian dua minggu lalu (Kumar et al., 2020).

Aplikasi ini dilengkapi fitur navigasi *sidebar* responsif dan fitur inti Health Tracker yang mengadaptasi instrumen WHO-5 Well-being Index dengan pendekatan *Ecological Momentary Assessment* (EMA). Meskipun WHO-5 secara tradisional mengukur rentang waktu dua minggu, aplikasi ini memodifikasinya menjadi *daily check-in* untuk mengatasi fenomena *peak-end bias*, yaitu kecenderungan pasien untuk hanya mengingat momen terburuk atau terakhir saat ditanya secara retrospektif (Hellman et al., 2023). Studi validasi terbaru menunjukkan bahwa pemantauan digital harian memiliki tingkat kepatuhan 94% dibandingkan metode kertas, dan WHO-5 terbukti valid secara psikometrik untuk mengukur kesejahteraan pada populasi remaja dan dewasa muda ((Kumar et al., 2020); (Sischka et al., 2025)), sehingga fitur Riwayat Skor di Dashboard Dokter dapat menyajikan data rata-rata harian yang lebih objektif untuk evaluasi medis.

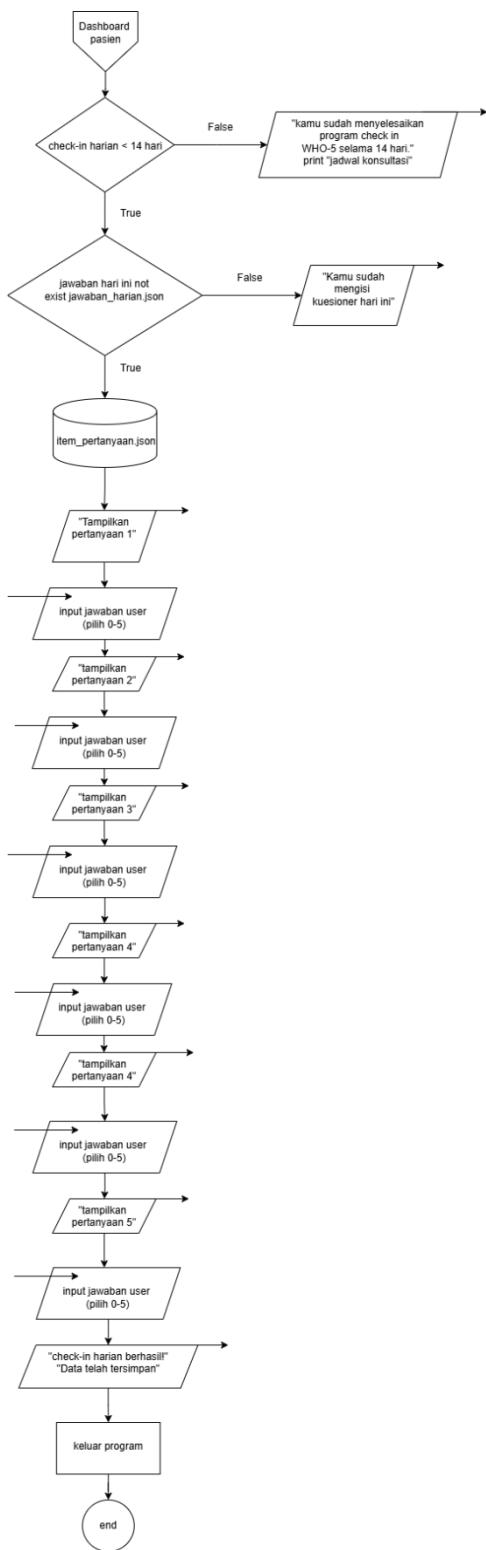
2. FLOWCHART

2.1 Main Flowchart



Gambar 2.1 Flowchart (1)

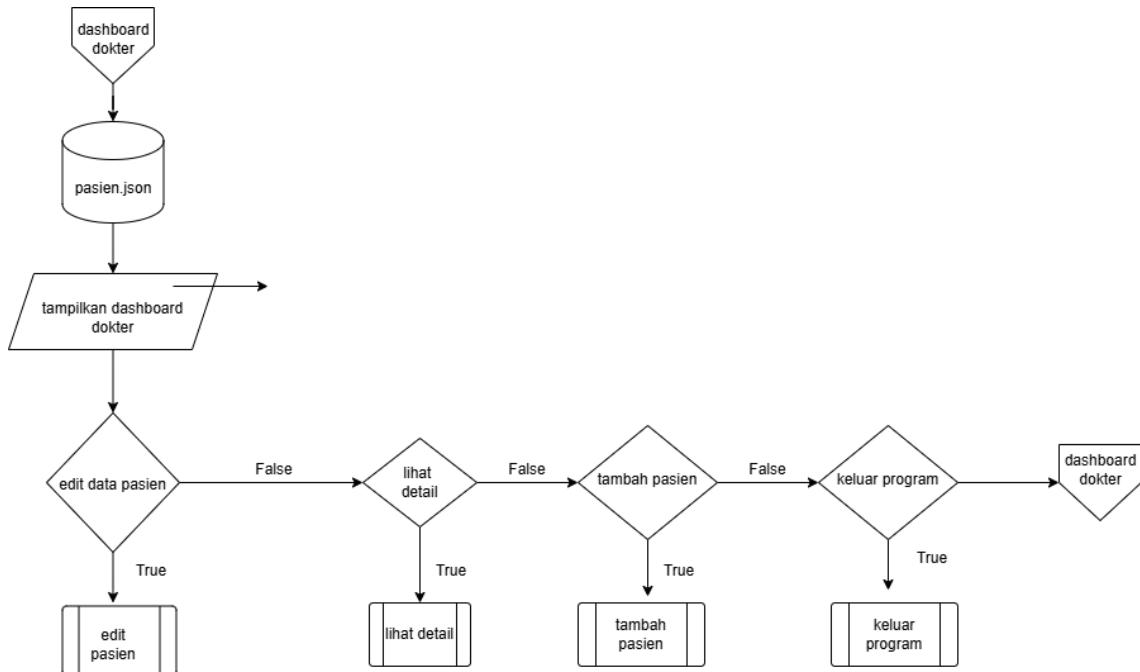
2.2 Pasien



Gambar 2.2 Flowchart (2)

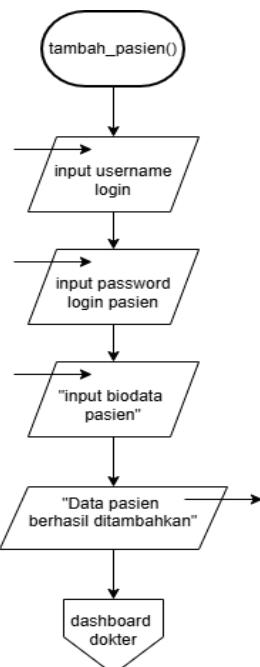
2.3 Dokter

A. Dashboard Dokter



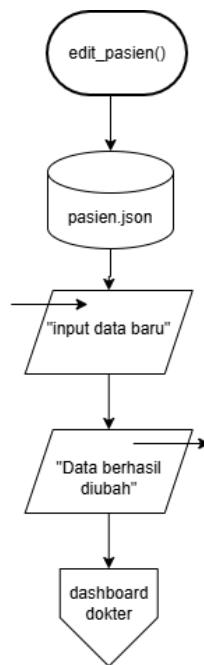
Gambar 2.3 Flowchart (3)

B. Tambah Pasien



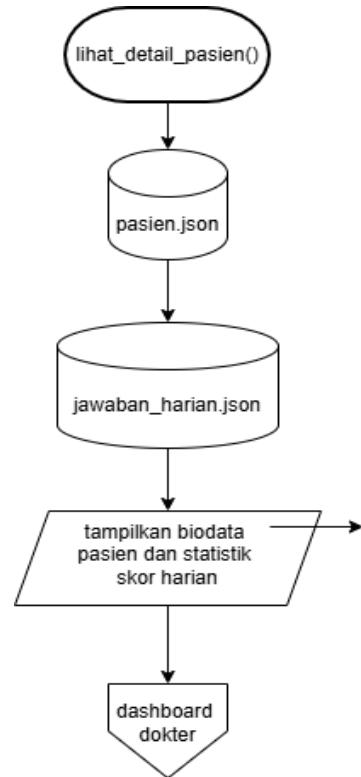
Gambar 2.4 Flowchart (4)

C. Edit Pasien



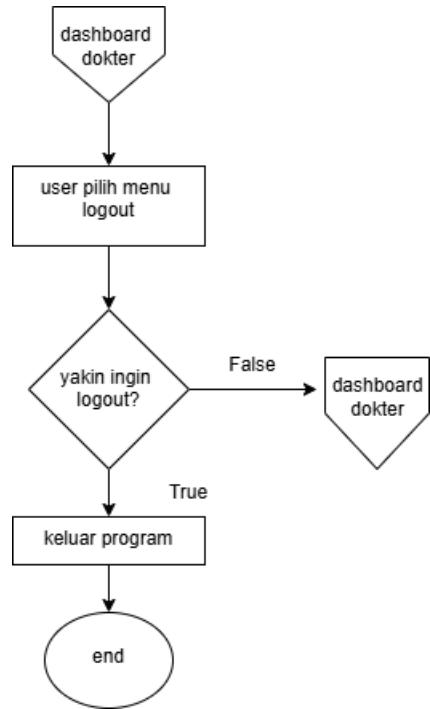
Gambar 2.5 Flowchart (5)

D. Lihat Detail Pasien



Gambar 2.6 Flowchart (6)

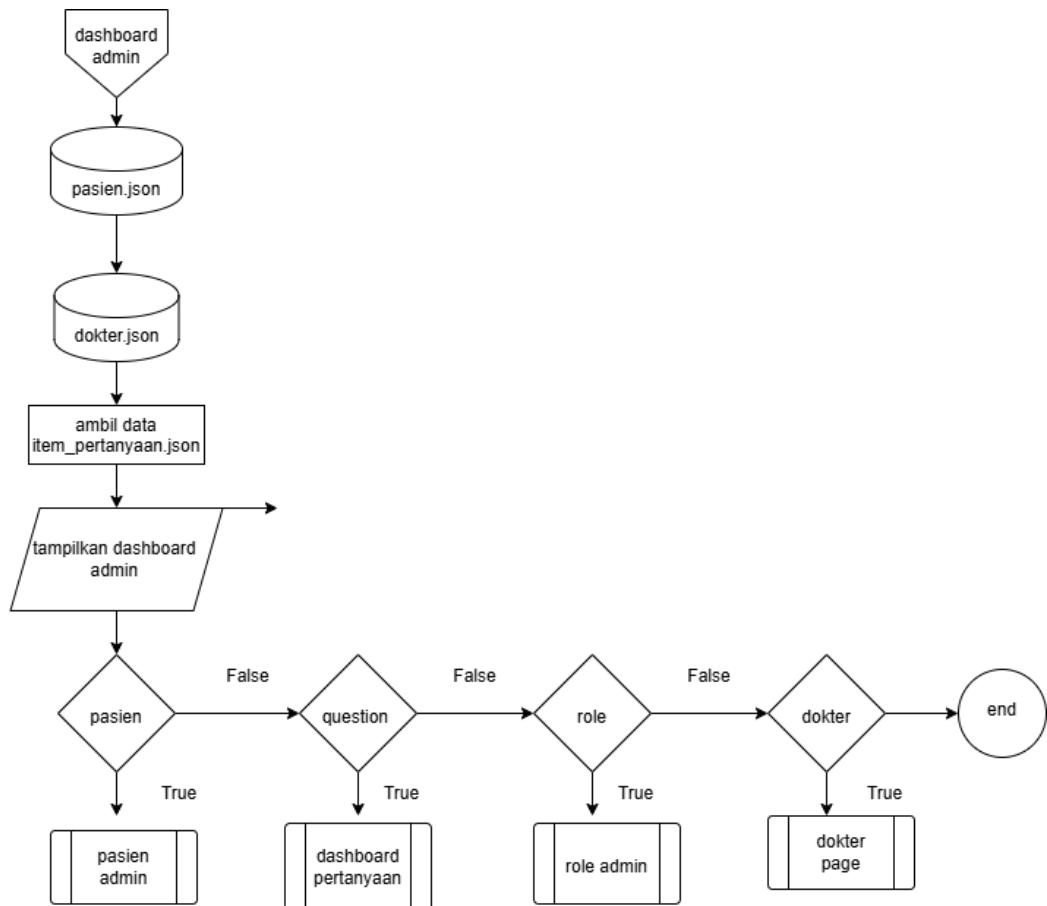
E. Keluar Program (Dokter)



Gambar 2.7 Flowchart (7)

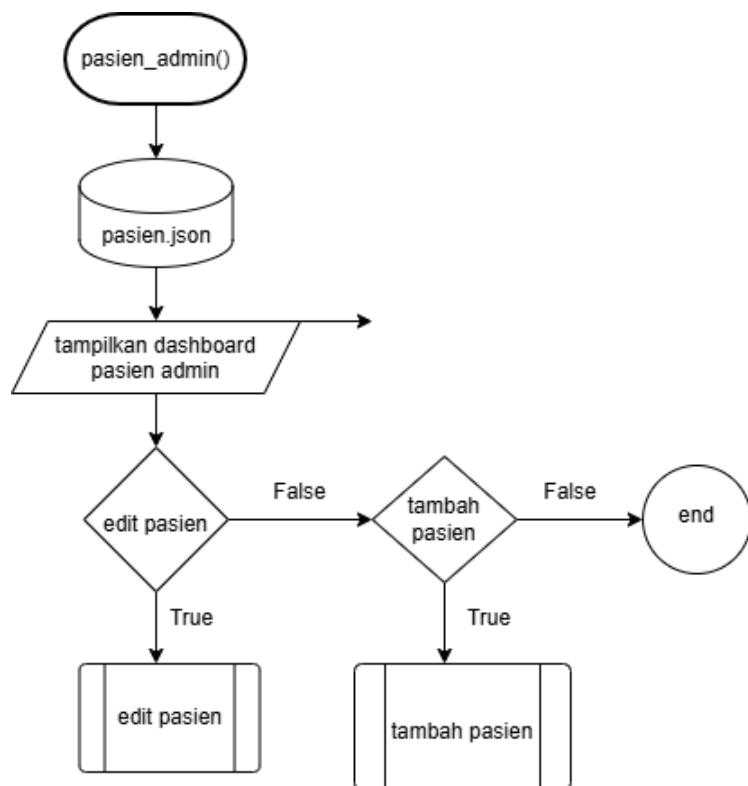
2.4 Admin

A. Dashboard Admin



Gambar 2.8 Flowchart (8)

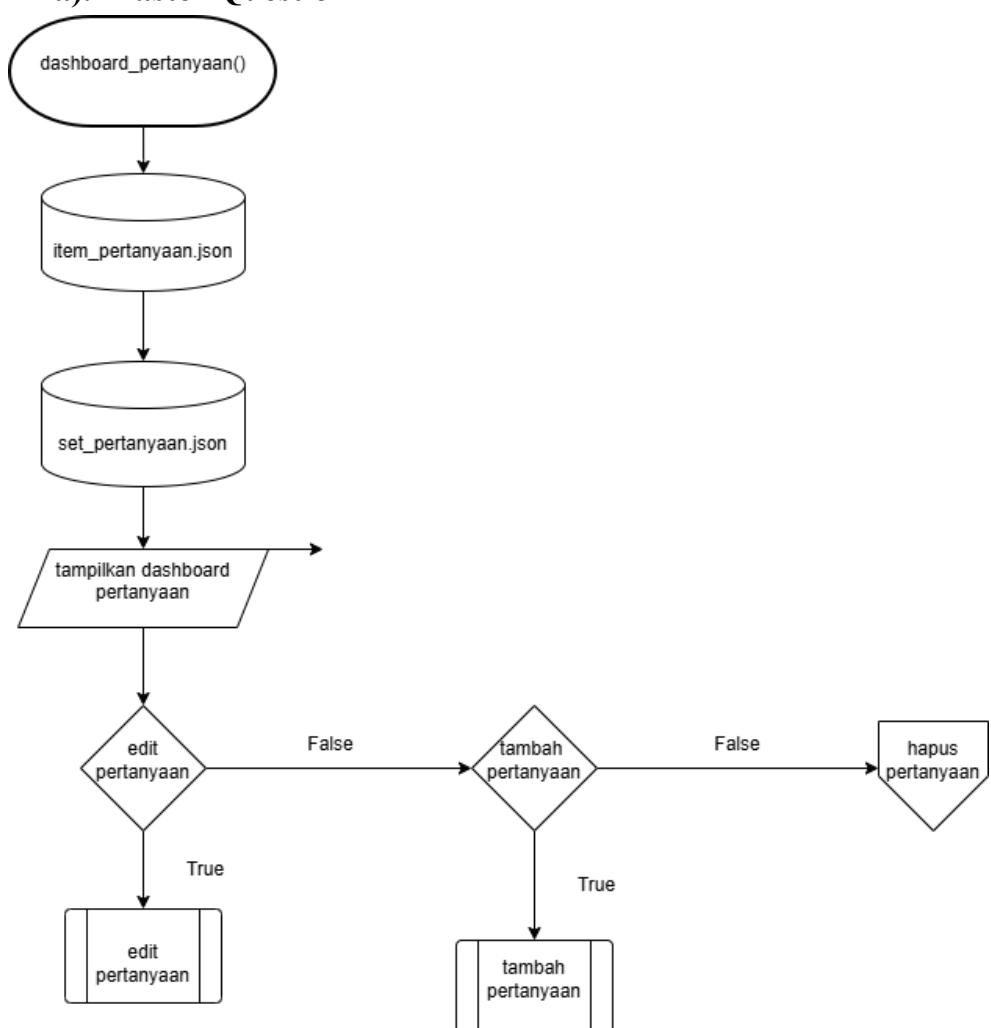
B. Master Pasien



Gambar 2.9 Flowchart (9)

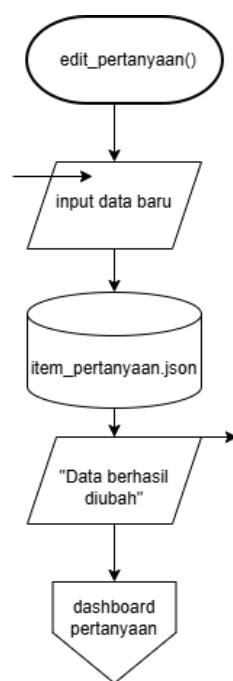
C. Question

a). Master Question



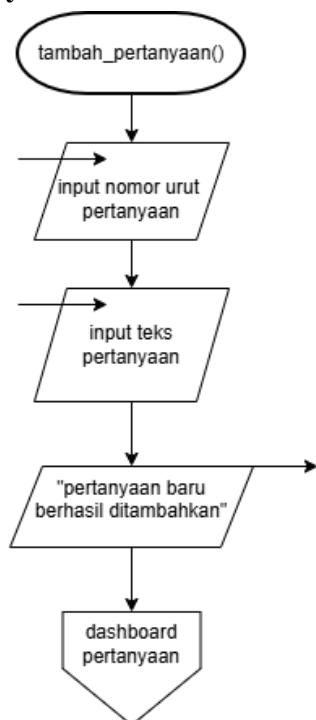
Gambar 2.10 Flowchart (10)

b). Edit Pertanyaan



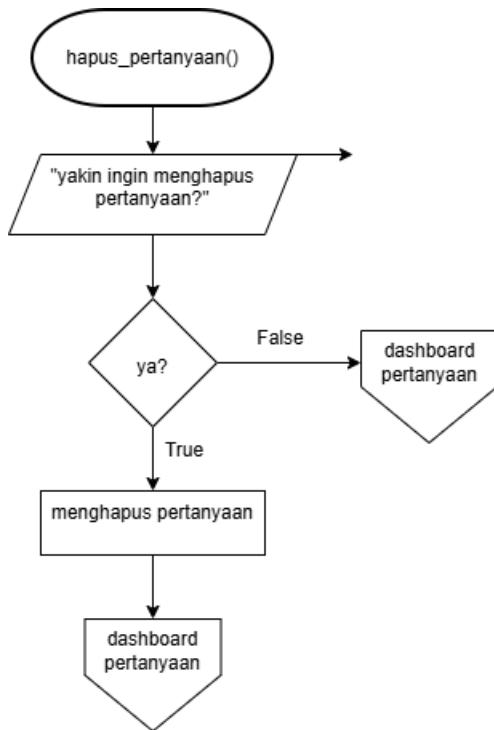
Gambar 2.11 Flowchart (11)

c). Tambah Pertanyaan



Gambar 2.12 Flowchart (12)

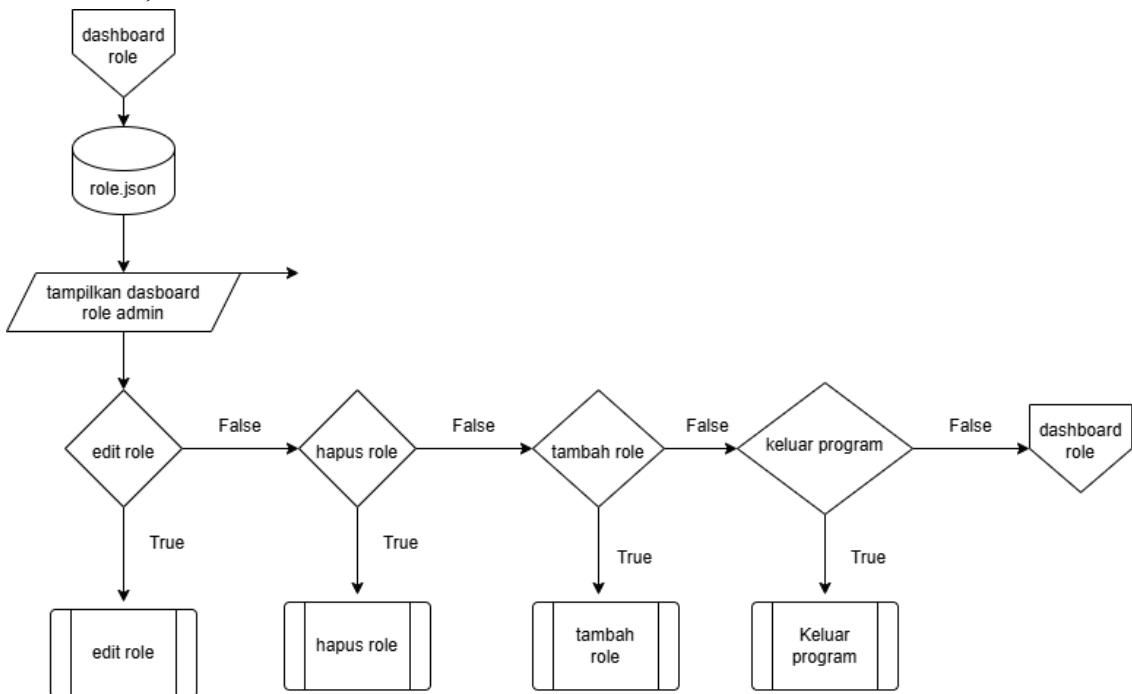
d). Hapus Pertanyaan



Gambar 2.13 Flowchart (13)

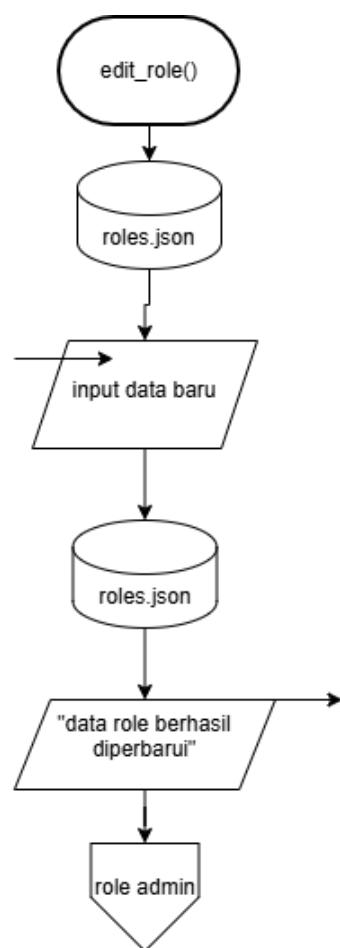
Role

a). Master Role



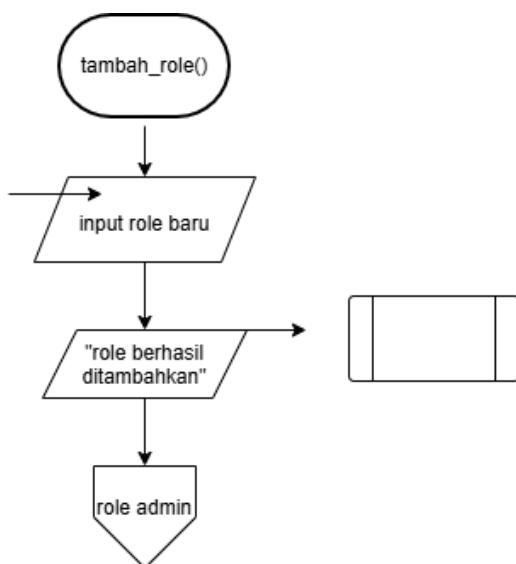
Gambar 2.14 Flowchart (14)

b). Edit Role



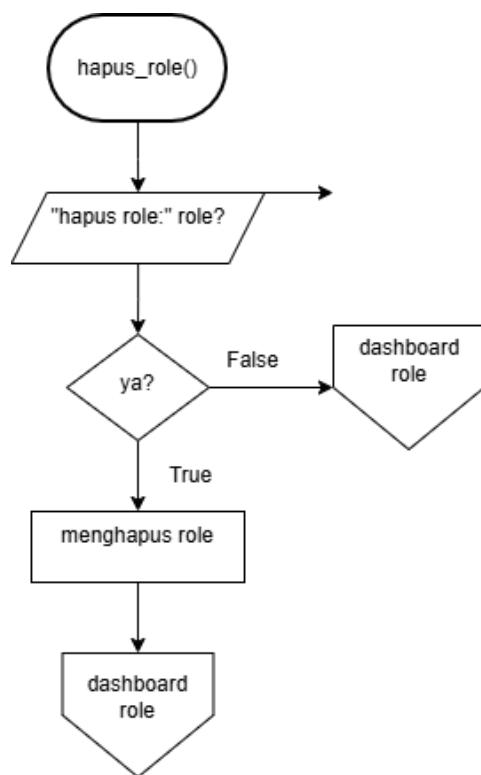
Gambar 2.15 Flowchart (15)

c). Tambah Role



Gambar 2.16 Flowchart (16)

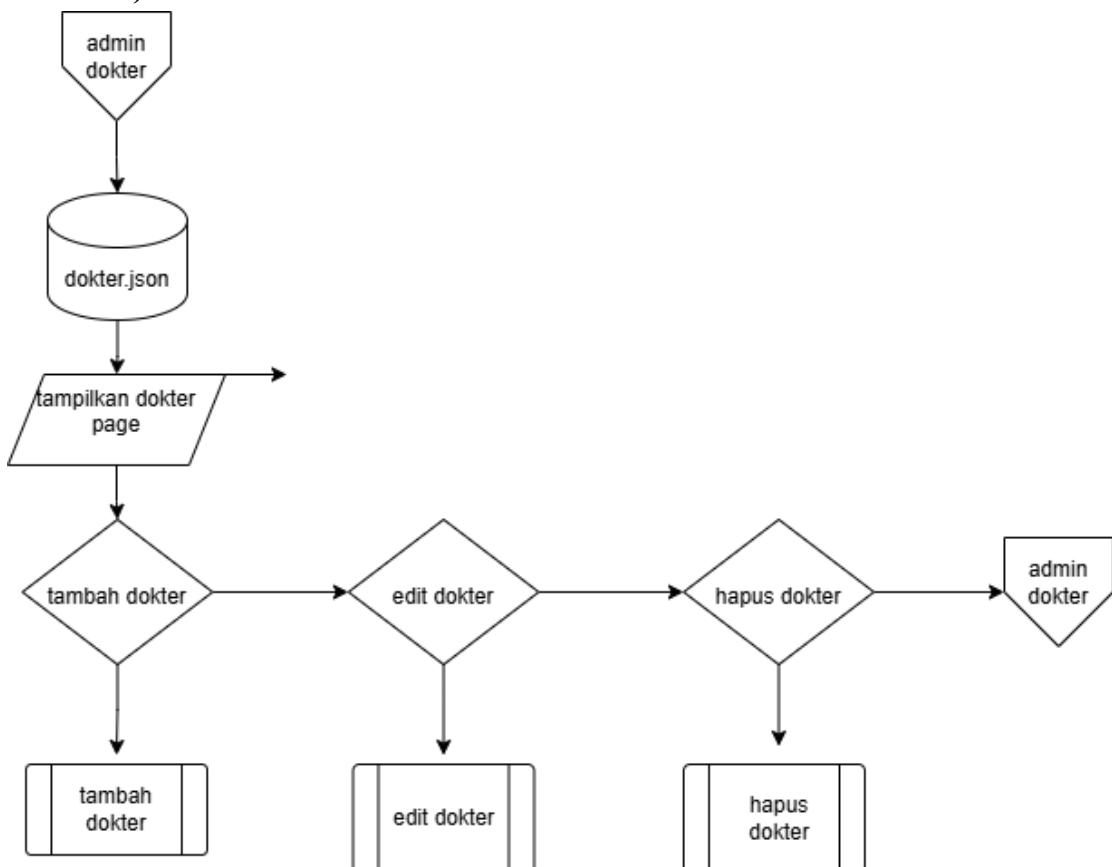
d). Hapus Role



Gambar 2.17 Flowchart (17)

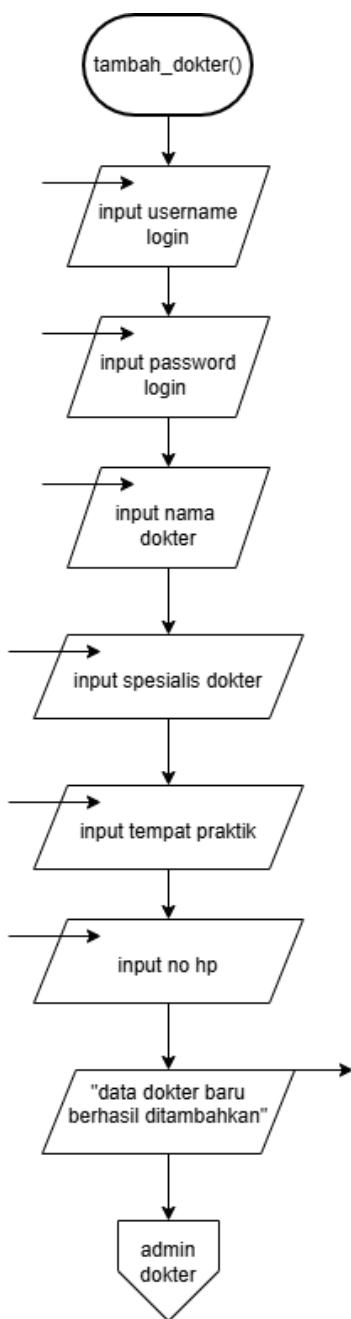
D. Dokter

a). Master Dokter



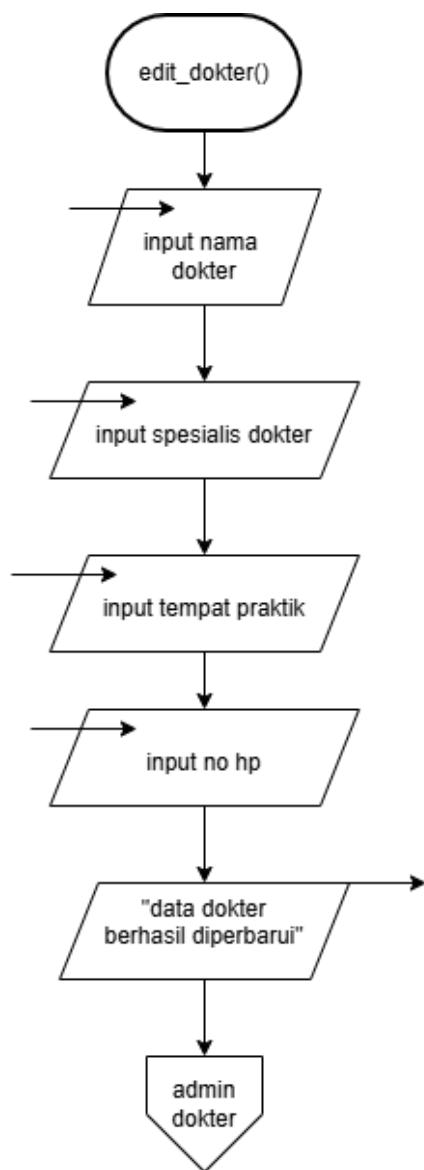
Gambar 2.18 Flowchart (18)

b). Tambah Dokter



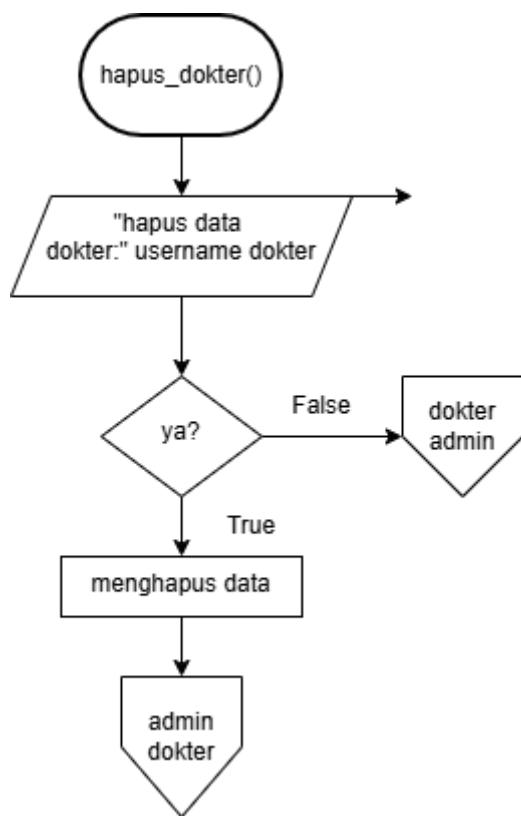
Gambar 2.19 Flowchart (19)

c). Edit Dokter



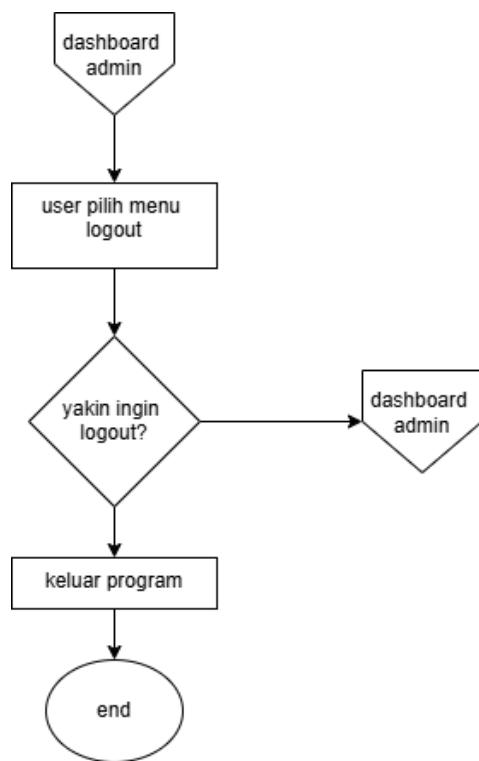
Gambar 2.20 Flowchart (20)

d). Hapus Dokter



Gambar 2.21 Flowchart (21)

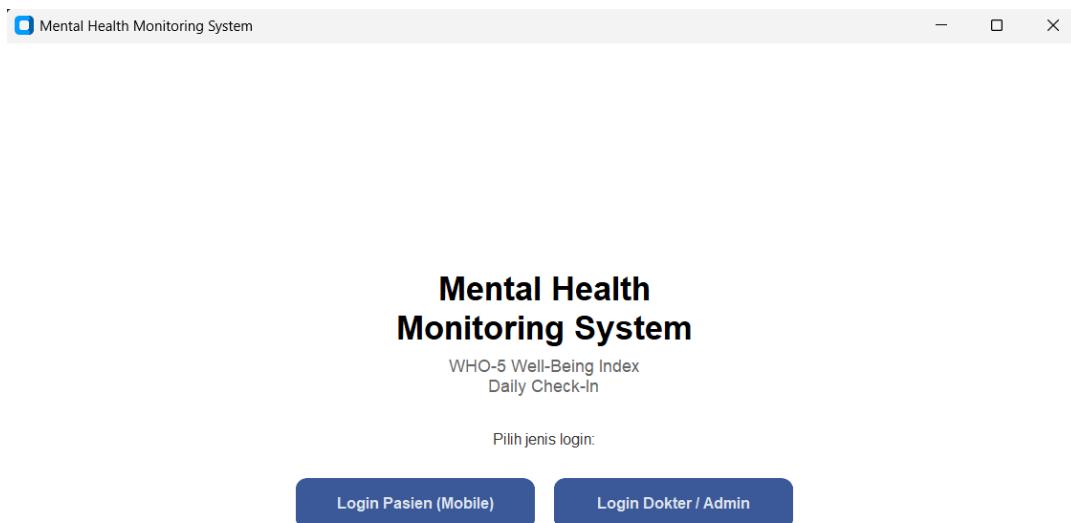
E. Keluar Program (Admin)



Gambar 2.22 Flowchart (22)

3. OUTPUT PROGRAM

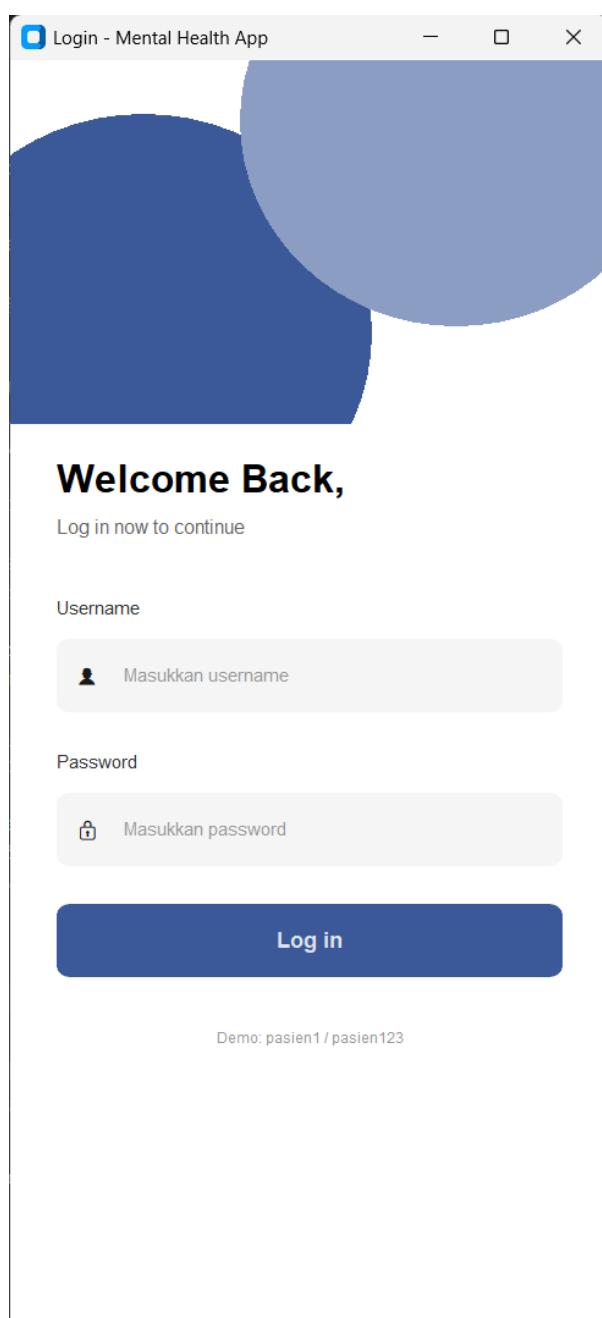
3.1 Pilih Jenis Login



Gambar 3.1 Output Program (1)

3.2 Pasien

A. Login



Gambar 3.2 Output Program (2)

B. Pertanyaan

The screenshot shows a window titled "Daily Check-In - WHO-5". Inside, a message says "Hai, alyar" and "Ayo mulai sesi hari ini". Below that, it says "WHO-5 Well-Being Index (2 minggu terakhir)". A large central box contains the question "Saya merasa ceria dan bersemangat" with a rating scale from 0 to 5. The scale has six blue buttons labeled 0, 1, 2, 3, 4, and 5. Above the scale, it says "0 = Tidak pernah" and "5 = Sepanjang waktu". Below the scale, the progress is shown as "Progress 2 minggu: 0/14" with a progress bar. At the bottom, it says "Jadwal Konsul: -" and has two buttons: "Kembali" and "Lanjut".

Hai, alyar

**Ayo mulai sesi
hari ini**

WHO-5 Well-Being Index
(2 minggu terakhir)

Pertanyaan 1 dari 5

Saya merasa ceria dan bersemangat

0 = Tidak pernah
5 = Sepanjang waktu

0 1 2 3 4 5

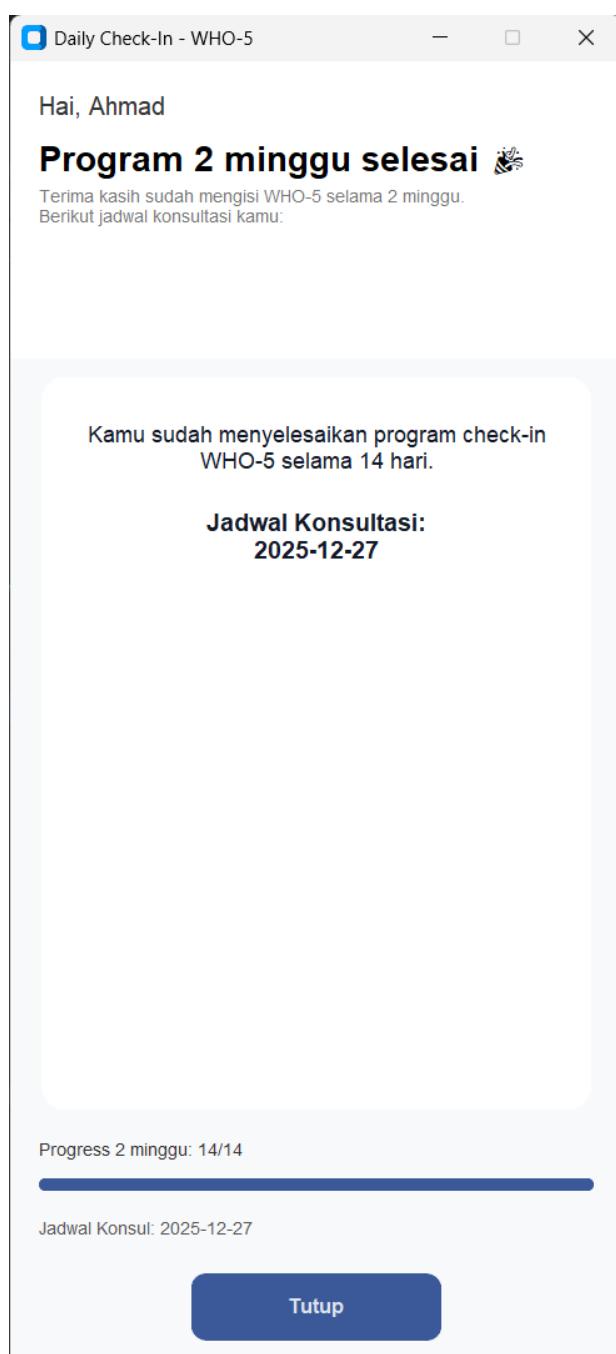
Progress 2 minggu: 0/14

Jadwal Konsul: -

Kembali Lanjut

Gambar 3.3 Output Program (3)

C. Jadwal Konsultasi



Gambar 3.4 Output Program (4)

3.3 Dokter

A. Dashboard Dokter

The screenshot shows a Windows application window titled "dashboard dokter". On the left, there's a sidebar with a logo and a "Logout" button. The main area displays a table of patient information:

	Nama Pasien	Diagnosa	Jenis	Kategori	Progress 2 Minggu	Tanggal Konsul	Aksi
-	Ahmad	Gangguan Kecemasan Umum	Tidak Bekerja	kuning	15/14	2025-12-27	
+	Siti Nurhaliza	Depresi Ringan	Karyawan Swasta	kuning	1/14	-	
	Athasyahri Syawal Fahrezy	Stress Akut	Tidak Bekerja	-	0/14	-	
	Athasyahri	Gatau	Pegawai Swasta	-	0/14	-	

Gambar 3.5 Output Program (5)

B. Tambah Pasien

The screenshot shows a Windows application window titled "Tambah Pasien Baru". The window contains the following fields:

- Username Login Pasien (Text input field)
- Password Login Pasien (Text input field)
- Nama Lengkap (Text input field)
- Jenis Kelamin (A dropdown menu currently showing "Pilih Jenis Kelamin")
- Tanggal Lahir (Three separate input fields for Day, Month, and Year, labeled HH, BB, and TTTT respectively)
- Pendidikan (A dropdown menu currently showing "Pilih Pendidikan")
- Pekerjaan (A dropdown menu currently showing "Pilih Pekerjaan")
- Alamat (A large text area for address)
- No. HP (Text input field)

Gambar 3.6 Output Program (6)

C. Edit Pasien

Edit Pasien - Ahmad

Edit Data Pasien

Nama Lengkap

Jenis Kelamin

Laki-laki

Tanggal Lahir

12 10 2007

Pendidikan

SMA/Sederajat

Pekerjaan

Tidak Bekerja

Alamat

No. HP

Diagnosa (opsional)

Gangguan Kecemasan Umum

Simpan Perubahan

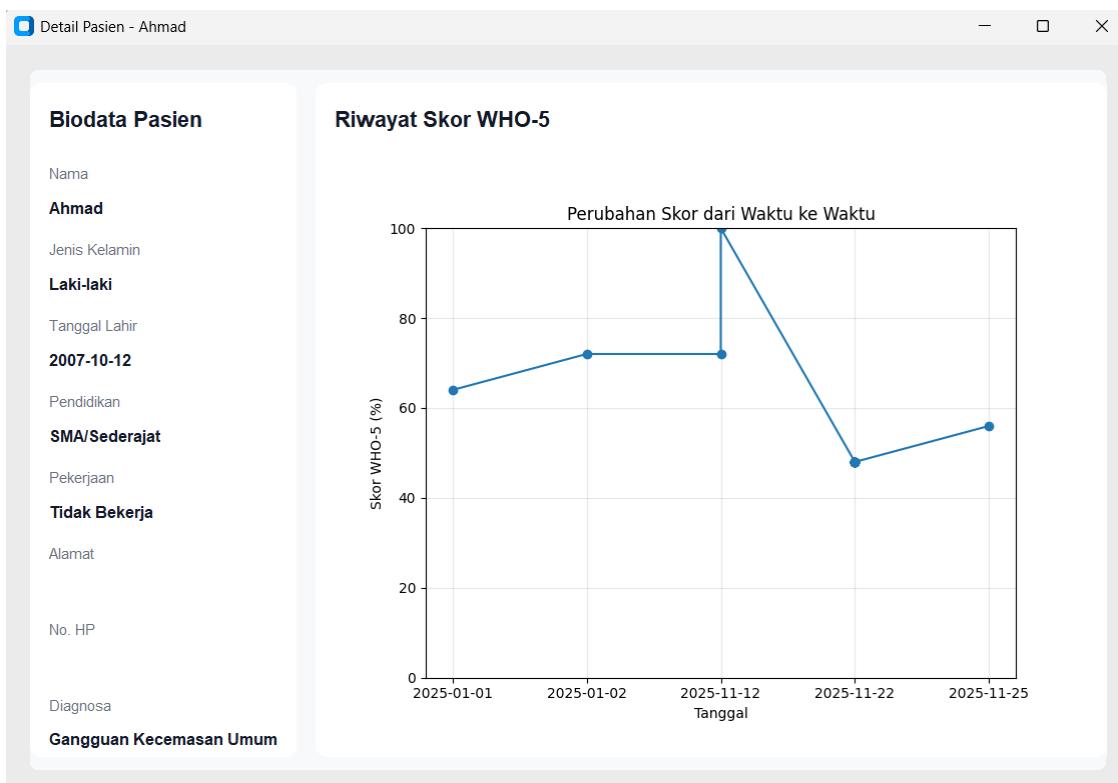
The screenshot shows a Windows application window titled "Edit Pasien - Ahmad". The main title is "Edit Data Pasien". The form contains the following fields:

- Nama Lengkap: Ahmad
- Jenis Kelamin: Laki-laki
- Tanggal Lahir: 12/10/2007
- Pendidikan: SMA/Sederajat
- Pekerjaan: Tidak Bekerja
- Alamat: (empty text area)
- No. HP: (empty text area)
- Diagnosa (opsional): Gangguan Kecemasan Umum

A green button at the bottom right is labeled "Simpan Perubahan".

Gambar 3.7 Output Program (7)

D. Statistik Pasien



Gambar 3.8 Output Program (8)

3.4 Admin

A. Pasien

The screenshot shows a dashboard titled "Dashboard" with a sidebar menu including "Pasien", "Dokter", "Questions", and "Role". The main area displays a table of patients with columns: "Nama Pasien", "Diagnosa", "Jenis", "Kategori Mingguan", and "Aksi". There are four entries:

Nama Pasien	Diagnosa	Jenis	Kategori Mingguan	Aksi
Ahmad	Gangguan Kecemasan Umum	Tidak Bekerja	Rendah	[Edit, Delete]
Siti Nurhaliza	Depresi Ringan	Karyawan Swasta	Memadai	[Edit, Delete]
Athasyahri Syawal Fahrezy	Stress Akut	Tidak Bekerja	Berisiko	[Edit, Delete]
Athasyahri	Gatau	Pegawai Swasta	Rendah	[Edit, Delete]

Gambar 3.9 Output Program (9)

B. Dokter

Nama Dokter	Spesialis	Tempat Praktik	Status	Aksi
Dr. Budi Santoso, Sp.KJ Psikiater	Psikiater	-	Aktif	[Edit] [Delete]
Dr. Siti Aminah, M.Psi Psikolog Klinis	Psikolog Klinis	-	Aktif	[Edit] [Delete]

Gambar 3.10 Output Program (10)

C. Question

No.	Pertanyaan	Set Pertanyaan	Aksi
1	Saya merasa ceria dan bersemangat	WHO-5 Well-Being Index	[Edit] [Delete]
2	Saya merasa tenang dan rileks	WHO-5 Well-Being Index	[Edit] [Delete]
3	Saya merasa aktif dan energik	WHO-5 Well-Being Index	[Edit] [Delete]
4	Saya bangun dengan segar dan beristirahat dengan baik	WHO-5 Well-Being Index	[Edit] [Delete]
5	Kehidupan sehari-hari saya penuh dengan hal yang menarik	WHO-5 Well-Being Index	[Edit] [Delete]

Gambar 3.11 Output Program (11)

D. Role

ID Role	Nama Role	Aksi
1	Admin	
2	Dokter	
3	Pasien	

Gambar 3.12 Output Program (12)

4. LANGKAH-LANGKAH GIT

4.1 GIT Init

```
PS D:\pa-aplikasi-mental-health> git init
Reinitialized existing Git repository in D:/pa-aplikasi-mental-health/.git/
PS D:\pa-aplikasi-mental-health>
```

4.2 GIT Remote

```
PS D:\pa-aplikasi-mental-health> git init
Reinitialized existing Git repository in D:/pa-aplikasi-mental-health/.git/
PS D:\pa-aplikasi-mental-health> git remote -v
origin https://github.com/asyaress/pa-aplikasi-mental-health.git (fetch)
origin https://github.com/asyaress/pa-aplikasi-mental-health.git (push)
```

4.3 GIT Add

```
KeyboardInterrupt
PS D:\pa-aplikasi-mental-health> git add .
warning: in the working copy of 'backup/admin/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/app.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/config.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/core/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/core/datastore.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/core/helpers.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/dokter/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/dokter/add_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/dokter/edit_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/dokter/table.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/layout/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/layout/actionbar.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/layout/sidebar.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/pasien/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/pasien/add_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/pasien/edit_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/pasien/table.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/questions/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/questions/question/add_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/questions/question/edit_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/questions/question_table.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/roles/_init_.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/roles/role/add_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/roles/role/edit_form.py', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'backup/admin/roles/role_table.py', LF will be replaced by CRLF the next time Git touches it
PS D:\pa-aplikasi-mental-health>
```

4.4 GIT Commit

```
PS D:\pa-aplikasi-mental-health> git commit -m "push terakhir, bismillah PA lancar, habis PA gas healing"
[main 1b6da3a] push terakhir, bismillah PA lancar, habis PA gas healing
148 files changed, 2378 insertions(+), 384 deletions(-)
create mode 100644 backup/admin/_init_.py
create mode 100644 backup/admin/_pycache_/_init_.cpython-312.pyc
create mode 100644 backup/admin/_pycache_/_init_.cpython-313.pyc
create mode 100644 backup/admin/_pycache_/_app.cpython-312.pyc
create mode 100644 backup/admin/_pycache_/_app.cpython-313.pyc
create mode 100644 backup/admin/_pycache_/_config.cpython-312.pyc
create mode 100644 backup/admin/_pycache_/_config.cpython-313.pyc
create mode 100644 backup/admin/app.py
create mode 100644 backup/admin/config.py
create mode 100644 backup/admin/core/_init_.py
create mode 100644 backup/admin/core/_pycache_/_init_.cpython-312.pyc
create mode 100644 backup/admin/core/_pycache_/_init_.cpython-313.pyc
create mode 100644 backup/admin/core/_pycache_/datastore.cpython-312.pyc
create mode 100644 backup/admin/core/_pycache_/datastore.cpython-313.pyc
create mode 100644 backup/admin/core/_pycache_/helpers.cpython-312.pyc
create mode 100644 backup/admin/core/_pycache_/helpers.cpython-313.pyc
create mode 100644 backup/admin/dokter/_init_.py
create mode 100644 backup/admin/dokter/_pycache_/_init_.cpython-312.pyc
create mode 100644 backup/admin/dokter/_pycache_/_init_.cpython-313.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/add_form.cpython-312.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/add_form.cpython-313.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/edit_form.cpython-312.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/edit_form.cpython-313.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/table.cpython-312.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter/table.cpython-313.pyc
create mode 100644 backup/admin/dokter/_pycache_/dokter_dokter.add_form.py
create mode 100644 backup/admin/dokter/_pycache_/dokter_dokter.edit_form.py
create mode 100644 backup/admin/dokter/_pycache_/dokter_dokter.table.py
create mode 100644 backup/admin/layout/_init_.py
```

4.5 GIT Push

```
PS D:\pa-aplikasi-mental-health> git push origin main
Enumerating objects: 147, done.
Counting objects: 100% (147/147), done.
Delta compression using up to 12 threads
Compressing objects: 100% (100/100), done.
Writing objects: 100% (100/100), 103.37 KiB | 3.69 MiB/s, done.
Total 100 (delta 49), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (49/49), completed with 40 local objects.
To https://github.com/asyaress/pa-aplikasi-mental-health.git
  e934d2e..1b6da3a  main -> main
```

5. DESKRIPSI PEMBAGIAN TUGAS

1. Diftya Azzahra = *Front End, Flowchart*
2. Alya Kamila Fauziyah = Desain Aplikasi (Figma), Laporan, *Front End*
3. Athasyahri Syawal Fahrezy = *Backend Gue*, Tema Aplikasi, Desain Data

6. DAFTAR PUSTAKA

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